DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

MANTECA FAMILY ENTERTAINMENT ZONE

(SCH: 2014022008)

JULY 2014

Prepared for:

Manteca Community Development Department, Planning Division
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A Land Use Planning, Design, and Environmental Firm

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INTRODUCTION

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

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

PROJECT DESCRIPTION

The City of Manteca has prepared a plan for a comprehensive multi-purpose public use zone called the Manteca Family Entertainment Zone (FEZ). The Plan will encompass multiple projects and parcels that in the aggregate will provide an extensive park and recreation complex featuring 189 acres of new and existing recreational, park, water, sports and other leisure amenities. The FEZ planning area will be open and accessible to the general public, and will be designed to serve the state, region, and the Manteca community as a multipurpose recreation center and public park facility. The FEZ will feature a wide range of active and passive open space and developed uses that will support short term and longer term activities and community events for users ranging from local citizens, day and weekend regional visitors, as well as destination tourists.

The Master Plan for the FEZ was developed in cooperation with the two private sector developers who are proposing to design and build the facility. The Master Plan will provide the zoning designation of the FEZ as well as provide development standards to implement future development. Projects and uses in the FEZ may be constructed and operated through a series of third party agreements, concessions and/or licensing agreements which may include ground leases of up to 55 years, with some uses needing longer lease terms up to 99 years. Projects and uses may be constructed and operated through a series of private-public partnerships whereby private sector operators and vendors of various public facilities are selected to develop and operate components of the FEZ. These components may include: public active and passive recreation and park facilities and sports amenities, and various commercial operations that are ancillary to the foregoing public facilities.

The FEZ will include public active and passive recreation and sporting facilities to be operated by public agencies and/or private sector vendors or operators, including the addition of the ball fields

adjacent to Big League Dreams (BLD) Park, as well as the addition of multi-purpose playfields, primarily for soccer.

Certain project components of the FEZ will be public visitor serving in support of the extended use of the various public recreation and sporting amenities (such as hotels and conference centers). Proposed and future development projects will include recreation tourism facilities such as overnight lodging, conference/convention/exhibition facilities and specialized recreation attractions such as an indoor water park available to overnight guests and community members. The primary objective of such uses is to expand the access to current and future public sports and recreation facilities, and expand access for out of area public participation in tournaments and training camps. These features will enable and increase the number and duration of extended stay periods for visitors, and help facilitate public access for broader uses, such as special events and on-site educational activities. Certain components and phases of the FEZ may include commercial retail and restaurant uses that serve park facility patrons and tournament participants and spectators, as well as local clientele.

Formation of one or more Community Facilities Districts (CFD) is also anticipated for the FEZ. The objective in forming CFDs is to provide financing for public improvements associated with the project, which may supplement funds available from former redevelopment bond proceeds.

The general components of the project include:

- Construction of a 500 room hotel (potential to expand by 200 rooms with a future application/site review), with indoor waterpark, convention/meeting/exhibition facility, and approximately 1,100 to 1,430 parking spaces.
- Construction of 5-10 playfields, open to the public for soccer and other outdoor tournament team sporting events and practice activities.
- Construction of restaurants, food and beverage, retail, amusements, arcades and other visitor amenities.
- Construction of an outdoor adventure area offering a variety of climbing and other exercise options for the public.
- Construction of a lake/detention basin to accommodate the storm drainage needs of the development, and also serve as an amenity for public visits, activities and gatherings.
- Construction of public parking facilities to accommodate sports tournament participants, spectators, convention attendees and other visitors to the site.
- Construction of roadways, pedestrian pathways, sewers, storm drainage and other public infrastructure to allow for access to and development of the site.

The project consists of the following three entitlements:

1) Rezone of all parcels, APN's 241-31-53, 241-31-44, 241-31-18, 241-31-32 and portions of APN 241-31-16, 241-30-48, 241-31-48, 241-30-62 and 241-30-61 (Figure 2-5) from

Public/Quasi Public (PQP) to Master Plan (MP). A Master Plan will be developed concurrently with the environmental document.

2) Large Lot Tentative Parcel Map, to promote the various phases of development the 189 acre site will be subdivided into large lots available for individual development. The large lot map will include approximately 19 parcels, which will roughly resemble the layout of the Planning Areas.

3) Site Plan Review for Phase 1 of the project, which will be constructed on 30 acres within the FEZ and includes various public visitor serving uses including a 500 room, 290,000 square foot hotel.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

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

During the NOP process, comments were received from the following: SJCOG, Inc. (February 7, 2014), Central Valley Regional Water Quality Control Board (February 25, 2014), California Department of Transportation (March 3, 2014), San Joaquin County Public Works (March 3, 2014), San Joaquin Valley Air Pollution Control District (March 4, 2014). These comments are addressed in the Draft EIR.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. Three alternatives to the proposed Project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following four alternatives in addition to the proposed Project.

- **No Build Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current condition.
- **Reduced Project Alternative:** Under this alternative, the Project site would be developed with the same components as described in the Project Description, but the area utilized for the industrial and commercial uses would be reduced.
- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance.

Alternatives are described in detail in Chapter 5. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other SLSP. As shown in the table, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project and Agricultural Alternatives both rank higher than the proposed Project. Comparatively, the Agricultural Protection Alternative would result in less impact then the Reduced Project Alternative because it provides the greatest reduction of potential impacts in comparison to the proposed Project. It should be noted that the Agricultural Protection Alternative and Reduced Project Alternative do not meet all of the project objectives.

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

ENVIRONMENTAL ISSUE	NO BUILD ALTERNATIVE	REDUCED PROJECT ALTERNATIVE	AGRICULTURE PROTECTION ALTERNATIVE
Aesthetics and Visual Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Agricultural and Forest Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Biological Resources	Less (Best)	Less (2nd Best)	Less (3rd Best)
Cultural Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Less (3rd Best)	Less (2nd Best)
Greenhouse Gases and Climate Change	Less (Best)	Less (3rd Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Less (3rd Best)	Less (2nd Best)
Hydrology and Water Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Land Use & Population	Equal (--)	Equal (--)	Equal (--)
Mineral Resources	Equal (--)	Equal (--)	Equal (--)
Noise	Less (Best)	Less (3rd Best)	Less (2nd Best)
Public Services and Recreation	Greater (Worst)	Greater (3rd Worst)	Greater (2nd Worst)
Transportation and Circulation	Less (Best)	Less (3rd Best)	Less (2nd Best)
Utilities	Less (Best)	Less (3rd Best)	Less (2nd Best)

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

SUMMARY OF IMPACTS AND MITIGATION MEASURES

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

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

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS			
Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character (Significant and Unavoidable)	PS		SU
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant)	LS		--
Impact 3.1-3: Project implementation may result in light and glare impacts (Less than Significant with Mitigation)	PS	***Mitigation Measure 3.1-1****: A lighting plan shall be prepared prior to the installation of the project's lighting for each phase. The lighting plan shall demonstrate that the field lighting systems and other exterior lighting throughout the Project site have been designed to minimize light spillage onto adjacent properties to the greatest extent feasible. The lighting plan shall include the following:* • *Design of site lighting and exterior building light fixtures to reduce the effects of light pollution and glare off of glass and metal surfaces;* • *Lighting shall be directed downward and light fixtures shall be shielded to reduce upward and spillover lighting;* • *Where it is not feasible to fully shield light fixtures from light pollution, such as the field lights, the lighting shall be directed downward and of the minimum wattage and height suitable for illuminating the playing surfaces and immediately surrounding areas.* • *Lighting for each playfield, parking area, and structure shall have control boxes that allow operation of specific areas of lighting in order to only illuminate the field(s) and parking area(s) in use at any given time.* • *Lights shall be turned off when the fields, parking areas, and structures are not*	LS

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

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		in use.	
AGRICULTURAL RESOURCES			
Impact 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. (Significant and Unavoidable)	PS	**Mitigation Measure 3.2-1:** *Prior to the conversion of important farmland on the Project site, the project applicant shall participate in the City's agricultural mitigation fee program and the SJMSCP by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City's program shall be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation.*	SU
Impact 3.2-2: The proposed project would not conflict with existing zoning or Williamson Act Contracts (no impact)	--		--
Impact 3.2-3: The proposed project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands (less than significant)	LS	**Mitigation Measure 3.2-2:** *Prior to approval of improvement plans for each phase of the Project, the Project applicant shall demonstrate that the Project site plans include adequate measures to buffer adjacent agricultural uses from urban uses on the Project site and to reduce adverse impacts to neighboring agricultural uses. Such measures shall include, but not be limited to:* • *The Project shall provide adequate and secure fencing at the interface of the Project site, or any individual phase of the Project, and adjacent agricultural uses.* • *The Project shall provide buffers, which may include parking areas, roadways and streets, drainage channels, and landscaped corridors, to buffer adjacent agricultural uses from the Project, including any individual phase of the Project, from proposed urban uses.* • *The Project shall provide notifications to all operators of uses on the Project site that are adjacent or in the vicinity of existing agricultural land of the City's Right-*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		to-Farm Ordinance.	
AIR QUALITY			
Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	PS	***Mitigation Measure 3.3-1**: Prior to final approval for each individual phase or project component, the project proponent shall submit an Air Impact Assessment (AIA) application to the San Joaquin Valley Air Pollution Control District for District Rule 9510 Indirect Source Review (ISR) to obtain AIA approval from the District for the phase or project component that is to be constructed. Prior to the issuance of a building permit of each individual phase or project component, the project proponent shall incorporate mitigation measures into the proposed Project and demonstrate compliance with District Rule 9510 including payment of all fees.* ***Mitigation Measure 3.3-2**: Prior to the approval of improvement plans for each individual phase or project component, the project proponent shall incorporate the following features into project plans:* • *Bus turnouts and transit improvements where requested by the San Joaquin RTD.* • *Continuous public sidewalks adjacent to all proposed public streets.* • *Pavement and striping for bike lanes/paths.* • *Street lighting.* • *Pedestrian signalization, signage and safety designs at signalized intersections.* • *Shade trees to shade sidewalks in street-side landscaping areas.* • *Require low-VOC cleaning supplies to be used by businesses and cleaning services within the Project site.* ***Mitigation Measure 3.3-3**: Prior to the approval of improvement plans for each individual phase or project component, the project proponent shall prepare and implement a transportation demand management (TDM) plan that includes, but is not limited to, the following measures subject to the review and approval of the City of Manteca:* • *Provide secure bicycle parking in conjunction with each individual phase or*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		project component. • *Provide designated vanpool parking spaces within the parking lots.* • *Provide on-site amenities that encourage alternative transportation modes such as locker, shower, and secure bike storage facilities.* • *Coordinate SJCOG's Commute Connection Program* ***Mitigation Measure 3.3-4****: Prior to the approval of a Building Permit for each individual phase or project component, the project proponent shall provide the City of Manteca with confirmation that they have met with the SJVAPCD to explore the potential of entering into a Voluntary Emissions Reduction Agreement (VERA) as a method to achieve emissions reductions in excess of District Rule 9510 (Indirect Source Review) requirements and other mitigation measures required for the proposed Project. The City shall confirm that the project proponent has made a good-faith effort to reduce emissions through a VERA taking into consideration whether emissions reductions through a VERA can be accomplished in a successful manner within a reasonable period of time, and taking into account economic, environmental, legal, social, and technological factors.*	
Impact 3.3-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	PS	***Mitigation Measure 3.3-5:*** *Prior to the commencement of construction activities, the project proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.* ***Mitigation Measure 3.3-6:*** *During all construction activities, the project proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.* ***Mitigation Measure 3.3-7:*** *During all construction activities, the project proponent shall*	SU

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (San Joaquin Valley APCD, 2002): *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.* *d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.* *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.* *f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.* *g. Limit traffic speeds on unpaved roads to 15 mph; and* *h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.* ***Mitigation Measure 3.3-8:** Architectural coatings applied to all structures in the Project*	

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		site shall meet or exceed volatile organic compound (VOC) standards set in APCD Rule 4601. The ODS shall submit to the APCD a list of architectural coatings to be used and shall indicate how the coatings meet or exceed VOC standards. If the APCD determines that any architectural coatings do not meet VOC standards, the ODS shall replace the identified coatings with those that meet standards. ***Mitigation Measure 3.3-9:*** *To reduce impacts from construction related exhaust emissions, the project proponent shall utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.* ***Mitigation Measure 3.3-10:*** *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*	
Impact 3.3-3: The proposed project has the potential to have carbon monoxide hotspot impacts	LS		--
Impact 3.3-4: The proposed project has the potential for public exposure to toxic air contaminants	LS		--
Impact 3.3-5: The proposed project has the potential for exposure to odors	PS		SU
BIOLOGICAL RESOURCES			
Impact 3.4-1: The proposed project has the potential to have a direct or indirect effect on	PS	***Mitigation Measure 3.4-1****: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
special-status invertebrate species		*covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.*	
Impact 3.4-2: The proposed project has the potential to have direct or indirect effects on special-status reptile and amphibian species	PS	*Implement* ***Mitigation Measure 3.4-1.***	LS
Impact 3.4-3: The proposed project has the potential to have direct or indirect effects on special-status bird species	PS	*Implement* ***Mitigation Measure 3.4-1.*** ***Mitigation Measure 3.4-2:*** *If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the project site or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a survey on the project site or Offsite*	LS

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		Infrastructure Corridor, including the French Camp Outlet Canal and adjacent wetlands, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Project site and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Project site or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.	
Impact 3.4-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species	PS	*Implement* ***Mitigation Measure 3.4-1.***	LS
Impact 3.4-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species	PS	*Implement* ***Mitigation Measure 3.4-1.***	LS
Impact 3.4-6: Effects on Protected Wetlands and Jurisdictional Waters	PS	***Mitigation Measure 3.4-3****: Prior to any construction activities that would disturb protected wetlands and/or jurisdictional areas on the project site, the appropriate state and federal authorizations (Streambed Alteration Agreement, Section 404 permit, Section 401 water quality certification) shall be obtained. All requirements of these authorizations shall be adhered to throughout the construction phase.* ***Mitigation Measure 3.4-4****: The project applicant shall compensate for any authorized disturbance to protected wetlands and/or jurisdictional areas to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of protected wetlands and/or*	LS

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		jurisdictional areas disturbed. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements). ***Mitigation Measure 3.4-5**: Project plans shall exclude the approximately 2.2 acre wetland area located at the very northern boundary of the Project site adjacent to the Manteca WQCF. This area was initially proposed for development of a parking area and roadway; however, after discovering the presence of this wetland area within the project site, it was decided to be avoided. Any development of this area would require a wetland delineation, verification, and permit authorization by a regulatory agency.*	
Impact 3.4-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community	PS	***Implement Mitigation Measure 3.4-3 through 3.4-5.***	LS

Impact 3.4-8: Interference with the Movement of Native Fish or Wildlife Species or with Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites	PS	***Mitigation Measure 3.4-6**: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*
		
		• *Pollution Prevention/Good Housekeeping*
		  ○ *A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.*
		  ○ *Streets and parking lots shall be swept at least once every two weeks.*
		• *Operation and Maintenance (O&M) of Treatment Controls*
		  ○ *An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An*
			LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan. ***Mitigation Measure 3.4-7**: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Manteca:* • *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Project site that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the storm drainage system. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.* • *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed Project area where feasible in the landscape design to treat parking lot runoff.* • *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*	
Impact 3.4-9: Conflict with an Adopted Habitat	PS	*Implement **Mitigation Measure 3.4-1.***	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Conservation Plan			
Impact 3.4-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	PS	***Mitigation Measure 3.4-8**: Prior to the issuance of a grading permit for phase one, the applicant shall provide tree planting specifications established by the Manteca Municipal Code (17.19.060) for the replacement of the trees to be removed. Replacement trees shall be planted on-site at a location in the general vicinity that is agreeable to the City.* ***Mitigation Measure 3.4-9**: Prior to the issuance of a grading permit for later phases, a tree survey shall be conducted by a qualified arborist to enumerate and evaluate all trees on the proposed project site that meet the standards in the applicable Manteca Municipal Code. Trees that are subject to protection but are proposed to be removed as a result of project implementation shall be replaced in accordance with tree planting specifications established by the Manteca Municipal Code (17.19.060). The project applicant shall meet the replacement guidelines outlined in the City's tree ordinance. Replacement trees shall be planted on-site at a location in the general vicinity that is agreeable to the City.*	LS
CULTURAL RESOURCES			
Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as Defined in CEQA Guidelines §15064.5	PS	***Mitigation Measure 3.5-1:** If any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until the an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).* *Work cannot continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource .* *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and,*	LS

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		if required, shall be retained at the Applicant's expense.	
Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as Defined in CEQA Guidelines §15064.5	PS	***Implement Mitigation Measure 3.5-1***	LS
Impact 3.5-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource	PS	***Mitigation Measure 3.5-2:*** *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Manteca shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it should be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where they could be curated and displayed for public education purposes.*	LS
Impact 3.5-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries	PS	***Mitigation Measure 3.5-3:*** *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains until he San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:* • *The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.* • *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface*	LS

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		disturbance when any of the following conditions occurs: ○ *The Native American Heritage Commission is unable to identify a descendent.* ○ *The descendant identified fails to make a recommendation.* ○ *The City of Manteca or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
GEOLOGY AND SOILS			
Impact 3.6-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure	LS		--
Impact 3.6-2: Implementation and construction of the proposed project may result in substantial soil erosion or the loss of topsoil	PS	***Mitigation Measure 3.6-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Manteca and the RWQCB. The*	LS

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		SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.	
Impact 3.6-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse	PS	***Mitigation Measure 3.6-2****: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*	LS
Impact 3.6-4: Potential for expansive soils to create substantial risks to life or property	PS	***Implement Mitigation Measure 3.6-2***	LS
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3.7-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	***Mitigation Measure 3.7-1****: To reduce Greenhouse Gas Emissions and Energy Consumption, the project applicant shall institute measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. As the individual projects are designed and undergo Design Review by the City of Manteca, there should be an explanation as to why certain measures were incorporated in the individual projects and why other measures were dismissed.* • *Increase transit accessibility in the Plan Area by ensuring a minimum distance of 0.2 miles to transit stops* • *Ensure that the pedestrian network within the Plan Area connects to offsite pedestrian networks*	LS

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		• *Provide traffic calming measures on all street segments and intersections* • *Exceed Title 24 by 15%* • *Install high efficiency lighting and appliance within all buildings* • *Apply a water conservation strategy to achieve a 15% reduction in indoor and outdoor water usage* • *Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)* • *Install low faucets, toilets, and showers as applicable* • *Use water-efficient irrigation systems throughout the Plan Area* • *Institute Recycling and Composting Services to achieve a 50% reduction in waste disposal*	
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	PS	***Mitigation Measure 3.8-1****: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. If surface staining is found to extend to a depth of more than six inches in soil, a hazardous waste specialist (Phase 2) shall be engaged to further assess the stained area. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.* ***Mitigation Measure 3.8-2***: *The applicant shall hire a qualified consultant to perform a Phase 2 ESA prior to the issuance of grading permits or demolition permits for construction activities in the following areas that have been deemed to have potential hazardous conditions present:*	LS

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		• *Prior to grading activities in areas previously used for agricultural uses.* • *Prior to removal of the single-wide mobile home unit that was formerly used in conjunction with the Manteca Police Department shooting range.* • *Prior to grading activities on the shooting range site.* • *Prior to removal of the remnant construction and/or farming materials (i.e. remnant pipes, etc.) on the project site, most notably those located on the north-south farm-road that is located just north of the shooting range.* • *Prior to grading activities in the area on the western side of the project near McKinley that historically served as a farm yard for agricultural equipment, implements, etc.* *The intent of the Phase 2 ESA is to: 1) sample the soils for residual agrichemicals, 2) sample any areas that appear stained, and 3) investigate whether any of the buildings or facilities contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If toxic levels of residual agrichemicals are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If any stained soils are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.* ***Mitigation Measure 3.8-3**: Prior to bringing hazardous material onsite, the applicant shall*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Division (CUPA) for review and approval. If the inventory of reportable hazardous materials include fuels stored in Aboveground Storage Tanks (AST) that exceed 1320 gallons (in containers >55 gallons) the applicant must file documents required by the California Aboveground Storage Tank Act (APSA). If one of the AST's is larger than 20,000 gallons or the accumulative storage capacity exceeds 100,000 gallons a Spill Prevention and Countermeasures Plan (SPCC) will be required. If during the construction process the applicant or his subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).	
Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS		--
Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS		--
Impact 3.8-4: Potential for the project to result in a safety hazards for people residing or working on the project site as a result of public airport or public use airport	LS		--
Impact 3.8-5: Potential for the project to result in safety hazards for people residing or working on the project site as a result of a private airstrip	LS		--

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

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.8-6: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS		--
Impact 3.8-7: Potential to expose people or structures to a risk of loss, injury or death from wildland fires	LS		--
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The proposed project has the potential to violate water quality standards or waste discharge requirements during construction	LS	*Implement* ***Mitigation Measure 3.6-1***	--
Impact 3.9-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during operation	LS	*Implement* ***Mitigation Measure 3.4-6 and 3.4-7***	--
Impact 3.9.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge	LS		--
Impact 3.9-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff	LS		--
Impact 3.9.5 The proposed project has the potential to otherwise substantially degrade	LS	*Implement* ***Mitigation Measure 3.6-1*** *and* ***Mitigation Measures 3.4-7 and 3.4-8***	--

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
water quality			
Impact 3.9.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map	LS		--
Impact 3.9.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow	LS		--
LAND USE AND PLANNING			
Impact 3.10-1: The proposed Project would not physically divide an established community	--		--
Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect	LS		--
Impact 3.10-3: The proposed Project would not significantly conflict with an applicable habitat conservation plan or natural community conservation plan	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.10-4: The proposed Project has the potential to induce substantial population growth in an area	LS		--
Impact 3.10-5: The proposed Project has the potential to displace substantial numbers of people or existing housing	LS		--
MINERAL RESOURCES			
Impact 3.11-1: The project would result in the loss of a known mineral resource that would be of value to the region	LS		--
Impact 3.11-2: The project would result in the loss of a locally important mineral resource recovery site delineated on a local general plan	LS		--
NOISE			
Impact 3.12-1: The proposed project has the potential to increase traffic noise levels at existing receptors	LS		--
Impact 3.12-2: The proposed project has the potential to increase noise levels associated with construction activities	LS		--
Impact 3.12-3: The proposed project has the potential to increase noise vibration association with construction activities	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.12-4: The proposed project has the potential to expose new sensitive receptors to excessive transportation noise	PS	***Mitigation Measure 3.12-1:*** *A detailed interior noise analysis would be required for the proposed hotel use to ensure that interior noise levels will comply with the City of Manteca 45 dB Ldn interior noise level standard. This analysis would also be required for future sensitive uses located within a distance of 846 feet from the centerline of SR 120. This analysis should specify required sound ratings for glazing as well as any modification to be the building envelope to meet the City's interior noise level standard. This analysis shall be prepared by a qualified noise control engineer.*	LS
Impact 3.12-5: The proposed project has the potential to increase stationary noise at sensitive receptors	PS	***Mitigation Measure 3.12-2:*** *Proposed uses which include extensive noise generating uses shall be reviewed by the City of Manteca to ensure that exterior noise levels would not exceed the applicable City of Manteca noise standards. The Table 3.12-12 data shall be used as a screening tool to determine which uses may exceed the City's standards. The City shall prohibit the approval of a use that would cause an exceedance of the noise standards at a sensitive receptor unless sufficient noise control measures are implemented in the project design. The specific development proposals within the project site shall be reviewed by the City of Manteca when the detailed information is available for the individual development/construction approvals, which may occur during Architectural Design Review and/or Building Permit.*	LS
PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: The proposed project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.13-2: The proposed project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-3: The proposed project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-4: The proposed project has the potential to have effects on other public facilities	LS		--
Impact 3.13-5: The proposed project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-6: Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated	LS		--
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: The proposed project (Phase 1) would not cause significant impacts at intersections	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.14-2: The proposed project (Phase 1) would result in a significant impact to freeway facilities	PS	***Mitigation Measure 3.14-1:*** *The following mitigation measures would improve SR 120 operations to an acceptable level:* • *The project applicant shall pay the appropriate San Joaquin Regional Traffic Impact Fee (RTIF), which is collecting fees from new developments to help fund widening of SR 120 to six lanes.*	SU
Impact 3.14-3: The proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities	PS	***Mitigation Measure 3.14-2:*** *The project applicant shall include Class II bicycle lanes in each direction of Daniels Street westerly from its existing terminus to McKinley Avenue.*	LS
Impact 3.14-4: The proposed project (Phase 1) would not adversely affect transit services or facilities	LS		--
Impact 3.14-5: The proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings	LS		--
Impact 3.14-6: Under cumulative conditions, the proposed project (Phase 1) would cause significant impacts at intersections	PS	***Mitigation Measure 3.14-3:*** *The project applicant shall pay its fair share toward the following improvements at the SR 120/Airport Way interchange:* • *Relocate the westbound ramp-terminal intersection approximately 180 feet south of its current location, which will increase the spacing to the Airport Way/Daniels Street intersection.* • *Construct loop on-ramps.* • *Widen overcrossing to include two northbound and three southbound lanes.* • *Widen SR 120 eastbound and westbound off-ramps to include two left-turn lanes and two* right-*turn lanes approaching Airport Way.* ***Mitigation Measure 3.14-4:*** *The project applicant shall pay its fair share cost of adding the*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		following improvements to the Airport Way/Daniels Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted: • *Reconfigure the southbound approach to add a third through lane.* • *Restripe the eastbound Daniels Street approach to include one left-turn, one shared left/through lane, and two right-turn lanes with right-turn overlap phasing.* ***Mitigation Measure 3.14-5:*** *The project applicant shall pay its fair share cost of installing a traffic signal at the Airport Way/Wawona Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted.* ***Mitigation Measure 3.14-6:*** *The project applicant shall pay its fair share cost of adding the following improvements to the Airport Way/Yosemite Avenue intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted:* • *Widen the eastbound and westbound Yosemite Avenue approaches to include dual left-turn lanes.*	
Impact 3.14-7: Under cumulative conditions, the proposed project (Phase 1) would result in a significant impact to freeway facilities	PS	*Implement* ***Mitigation Measure 3.14-3.***	SU
Impact 3.14-8: Under cumulative conditions, the proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities	PS	*Implement* ***Mitigation Measure 3.14-2.***	LS
Impact 3.14-9: Under cumulative conditions,	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
the proposed project (Phase 1) would not adversely affect transit services or facilities			
Impact 3.14-10: Under cumulative conditions, the proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings	LS		--
Impact 3.14-11: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities	PS	***Mitigation Measure 3.14-7:*** *Supplemental phases of the proposed project shall be subject to additional traffic studies to analyze potentially significant transportation system impacts and identify mitigation measures that lessen their significance.*	SU
UTILITIES			
Impact 3.15-1: The proposed project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	LS		--
Impact 3.15-2: The proposed project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	PS	***Mitigation Measure 3.15-1:*** *Prior to occupancy of any building that would require wastewater treatment services; the project proponent shall secure adequate wastewater treatment capacity.*	LS
Impact 3.15-3: The proposed project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
cause significant environmental effects			
Impact 3.15-4: The proposed project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS		--
Impact 3.15-5: The proposed project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources	LS		--
Impact 3.15-6: The proposed project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS		--
Impact 3.15-7: The proposed project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste	LS		--
CUMULATIVE IMPACTS			
Impact 4.1: project implementation may substantially damage scenic resources within a State Scenic Highway	LS and LCC		--

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

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC		--
Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	LS and LCC		--
Impact 4.14: Cumulative Impacts Related to Flooding	LS and LCC		--
Impact 4.15: Cumulative Impact on Communities and Local Land Uses	LS and LCC		--
Impact 4.16: Cumulative Impacts on Population and Housing	LS and LCC		--
Impact 4.17: Cumulative Impacts Resulting in the Loss of a Known Mineral Resource	LS and LCC		--
Impact 4.18: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	LS and LCC		--
Impact 4.19: Cumulative Impact on Other Public Services	LS and LCC		--
Impact 4.20: Under cumulative conditions, the proposed project (Phase 1) would cause significant impacts at intersections	PS	*Implement* ***Mitigation Measure 3.14-3*** *through* ***Mitigation Measure 3.14-6***	CC and SU
Impact 4.21: Under cumulative conditions, the proposed project (Phase 1) would result in a	PS	*Implement* ***Mitigation Measure 3.14-3.***	CC and SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
significant impact to freeway facilities			
Impact 4.22: Under cumulative conditions, the proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities	LS and LCC		--
Impact 4.23: Under cumulative conditions, the proposed project (Phase 1) would not adversely affect transit services or facilities	LS and LCC		--
Impact 4.24: Under cumulative conditions, the proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings	LS and LCC		--
Impact 4.25: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities	PS	*Implement* ***Mitigation Measure 3.14-7.***	CC and SU
Impact 4.26: Cumulative Impact on Wastewater Utilities	LS and LCC		--
Impact 4.27: Cumulative Impact on Water Utilities	LS and LCC		--
Impact 4.28: Cumulative Impact on Stormwater Facilities	LS and LCC		--
Impact 4.29: Cumulative Impact on Solid Waste Facilities	LS and LCC		--

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1.1 PURPOSE AND INTENDED USES OF THE EIR

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

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

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

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168; however, it includes a project-level analysis for Phase 1 (Lodging Facility). The program-level analysis considers the broad environmental effects of the proposed Project as a whole. The EIR examines the planning, construction and operation of the Project. The program-level approach is appropriate for the proposed Project because it allows comprehensive consideration of the reasonably anticipated scope of the development plan; however, not all aspects of the future development phases (other than the Lodging Facility - Phase 1) are known at this stage in the planning process. Subsequent development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared. This EIR includes a project-level analysis of the Phase 1 Lodging Facility, which has

current development applications filed with the City of Manteca. Subsequent phases do not have development applications filed.

CEQA Guidelines Section 15168 states that 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.

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed Project or an aspect of the proposed Project (CEQA Guidelines Section 15381). There are no Responsible Agencies for this project.

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

- California Department of Fish and Game - Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act,
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Water quality certification pursuant to Section 401 of the Clean Water Act.
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Permitting of State jurisdictional areas, including isolated wetlands pursuant to the Porter-Cologne Water Quality Act;
- United States Army Corps Of Engineers – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act;
- San Joaquin Council of Governments (SJCOG): Coverage/Incidental Take Authorization under the San Joaquin County Multi Species Habitat Conservation and Open Space Plan

1.4 ENVIRONMENTAL REVIEW PROCESS

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

NOTICE OF PREPARATION

The City of Manteca circulated a Notice of Preparation (NOP) of an EIR for the proposed Project on February 4, 2014 to responsible agencies, trustee agencies, the State Clearinghouse, the Native American Heritage Commission, and the public. A public scoping meeting was held on February 20, 2014 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This 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. Additionally, the City of Manteca will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of 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, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Mark Meissner, Planning Manager
Manteca Community Development Department, Planning Division
1001 West Center Street
Manteca, CA 95337

RESPONSE TO COMMENTS/FINAL EIR

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

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

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

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

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

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

1.5 ORGANIZATION AND SCOPE

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

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

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

CHAPTER 1.0 – INTRODUCTION

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

CHAPTER 2.0 – PROJECT DESCRIPTION

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

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

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

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

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

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

The following environmental topics are addressed in this section:

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

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

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

CHAPTER 5.0 - ALTERNATIVES TO THE PROJECT

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

CHAPTER 6 - REPORT PREPARERS

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

APPENDICES

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

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Manteca received five written comment letters on the NOP for the proposed Project. A copy of each letter is provided in Appendix A of this Draft EIR. A list of each commenting agency/citizen is provided below. The City also held a public scoping meeting on February 20, 2014. No written or verbal comments were provided at that scoping meeting.

- SJCOG, Inc. (February 7, 2014)
- Central Valley Regional Water Quality Control Board (February 25, 2014)
- California Department of Transportation (March 3, 2014)
- San Joaquin County Public Works (March 3, 2014)
- San Joaquin Valley Air Pollution Control District (March 4, 2014)

2.1 PROJECT LOCATION

The Project site is located to the north and west of the Stadium Shopping Center, to the west of Milo Candini Drive, to the east of McKinley Avenue, to the south of the City of Manteca Wastewater Quality Control Facility (WQCF), and to the north of State Route 120. The property is comprised of approximately 189 acres. (Figure 2-1 and 2-2). The site includes 189 acres to be developed with various public serving regional and local recreation, parks and sporting facilities including visitor serving commercial uses and public infrastructure to be developed in phases. The Project site is within the City's Sphere of Influence and General Plan area and has been identified by the City of Manteca to receive services from the City in the 2008 Municipal Services Review.

2.2 PROJECT SETTING

EXISTING LAND USES

The Project site currently has a General Plan Land Use designation "Public/Quasi-Public" (PQP), and a zoning designation of PQP. The land is owned entirely by the City of Manteca. The vacant land portion of the site is currently used for land application of treated effluent from the Water Quality Control Facility (WQCF).

Big League Dreams ballpark is located on the eastern side of the Project site. The 28-acre site is fully developed with six replica ballparks, an indoor soccer facility, two restaurants and other supporting facilities all of which are open to the public and operated by private sectors parties pursuant to ground leases.

SURROUNDING LAND USES

North: The boundary on the north of the Project site is primarily occupied by the WQCF. The property to the north is zoned PQP (Public/Quasi-Public).

East: The parcels to the east of the Big League Dreams portion of the Project site, across Milo Candini Drive, are zoned M1 Light Industrial and PQP.

South: The Project site is bordered on the south by SR 120. There is some additional vacant land lying to the south of the westernmost portion of the site. The Project site that lies to the south of Big League Dreams is occupied by the Stadium Shopping Center, and is zoned CG (General Commercial).

West: To the west, the Project site is bounded by McKinley Avenue and the Union Pacific Railway right-of-way. The parcels located to the west of those right-of-ways are outside of the City of Manteca boundary.

The Project site has relatively flat terrain (Figure 2-3). The UPRR rail lines are located along the western boundary. High voltage power lines, within Pacific Gas & Electric (PG&E) power line

easements, traverse portions of the Project site running northeast/southwest. Figure 2-4 presents an aerial photo of the project site and the immediate surroundings.

2.3 PROJECT GOALS AND OBJECTIVES

The City of Manteca objectives are as follows:

- To expand and improve public and community access to the City's existing and thriving investments in regional sports facilities to provide additional community-based facilities to extend the City's position as the primary destination for family-based community recreation, active recreation sports and passive recreation and amenities in Central California.

- To enhance and build upon the regional tourism and visitor serving attractions providing supporting destination facilities such as hotels, indoor waterpark and convention/meeting/exhibition facilities that will facilitate and support the frequency and duration of utilization of the recreation and sports facilities through the FEZ.

- To enhance Manteca's reputation as "The Family City".

- To position Manteca to serve what is projected to be a trend toward a younger population in the region by providing an excellent youth sports and entertainment destination with critical mass to ensure its success.

- To provide facilities that support what has been identified as a growing trend toward family vacations being centered on regional youth, adult and master's tournaments, as well as league sporting events, that require multiple day stays and can be tied to a variety of visitor interests including special events, education seminars, private events such as conferences, weddings, other social and cultural expositions, all of which are available to the public and the visitors/users of the FEZ.

- Specifically, to capitalize on the success of the Big League Dreams' sports facilities (currently booked weekends, two years in advance), by creating additional critical mass in regional sports and active facilities.

- To provide additional food & beverage facility choices to serve visitors to Manteca and users of the various facilities developed within the boundaries of the FEZ.

- To add to the proven regional draw enjoyed by Woodward Soccer Fields, which further helps to define Manteca as a regional tournament sports destination.

- To accentuate the site's strategic location along SR 120, which serves as the primary vehicular corridor from the Bay Area to Yosemite National Park and the Southern Sierra Nevada Mountain Areas.

- To raise the City's visibility in the region, particularly for all residents and citizens driving through the region.

- To create a Yosemite/Southern Sierra Nevada Visitors Information Center for travelers to utilize on their trip to the national park and nearby national forests.
- To create a business center facility that is available to all groups and can utilize and augment utilization of the various active and passive recreation and sports facilities as well as all ancillary concessions and operations such as support retail and dining facilities.
- To expand upon the thriving regional draw of Bass Pro Shops, which lies just across SR 120 to the southeast.
- To provide a walkable, safe, friendly, leisure and recreation environment for the citizens of Manteca and the region.
- To provide quality indoor and outdoor community gathering spaces for socializing, dining and entertainment.
- To expand and install a series of public improvements in support of the FEZ, including but not limited to, the east-west vehicular connection between McKinley Avenue and Airport Way, and public parking facilities throughout the FEZ, extension of Milo Candini Drive from Daniels Street to Yosemite Avenue, to facilitate improvements to the storm water drainage system shared by the City and the South San Joaquin Irrigation District (SSJID).
- To facilitate the City's economic development and jobs-creation goals and objectives.

2.4 PROJECT DESCRIPTION

Since 2010, the City of Manteca has been in the process of developing a plan for a comprehensive multi-purpose public use zone called the Manteca Family Entertainment Zone (FEZ). The Plan will encompass multiple projects and parcels that in the aggregate will provide an extensive park and recreation complex featuring 189 acres of new and existing recreational, park, water, sports and other leisure amenities. The FEZ planning area will be open and accessible to the general public, and will be designed to serve the state, region, and the Manteca community as a multipurpose recreation center and public park facility. The FEZ will feature a wide range of active and passive open space and developed uses that will support short term and longer term activities and community events for users ranging from local citizens, day and weekend regional visitors, as well as destination tourists.

The Master Plan for the FEZ was developed in cooperation with the two private sector developers who are proposing to design and build the facility. The Master Plan will provide the zoning designation of the FEZ as well as provide development standards to implement future development.

Projects and uses in the FEZ may be constructed and operated through a series of third party agreements, concessions and/or licensing agreements which may include ground leases of up to 55 years, with some uses needing longer lease terms up to 99 years. Projects and uses may be constructed and operated through a series of private-public partnerships whereby private sector

operators and vendors of various public facilities are selected to develop and operate components of the FEZ. These components may include: public active and passive recreation and park facilities and sports amenities, and various commercial operations that are ancillary to the foregoing public facilities.

The FEZ will include public active and passive recreation and sporting facilities to be operated by public agencies and/or private sector vendors or operators, including the addition of the ball fields adjacent to Big League Dreams (BLD) Park, as well as the addition of multi-purpose playfields, primarily for soccer.

Certain project components of the FEZ will be public visitor serving in support of the extended use of the various public recreation and sporting amenities (such as hotels and conference centers). Proposed and future development projects will include recreation tourism facilities such as overnight lodging, conference/convention/exhibition facilities and specialized recreation attractions such as an indoor water park available to overnight guests and community members. The primary objective of such uses is to expand the access to current and future public sports and recreation facilities, and expand access for out of area public participation in tournaments and training camps. These features will enable and increase the number and duration of extended stay periods for visitors, and help facilitate public access for broader uses, such as special events and on-site educational activities. Certain components and phases of the FEZ may include commercial retail and restaurant uses that serve park facility patrons and tournament participants and spectators, as well as local clientele.

Formation of one or more Community Facilities Districts (CFD) is also anticipated for the FEZ. The objective in forming CFDs is to provide financing for public improvements associated with the project, which may supplement funds available from former redevelopment bond proceeds.

GENERAL PROJECT COMPONENTS

- Construction of a 500 room hotel (potential to expand by 200 rooms with a future application/site review), with indoor waterpark, convention/meeting/exhibition facility, and approximately 1,100 to 1,430 parking spaces.
- Construction of 5-10 playfields, open to the public for soccer and other outdoor tournament team sporting events and practice activities.
- Construction of restaurants, food and beverage, retail, amusements, arcades and other visitor amenities.
- Construction of an outdoor adventure area offering a variety of climbing and other exercise options for the public.
- Construction of a lake/detention basin to accommodate the storm drainage needs of the development, and also serve as an amenity for public visits, activities and gatherings.

- Construction of public parking facilities to accommodate sports tournament participants, spectators, convention attendees and other visitors to the site.
- Construction of roadways, pedestrian pathways, sewers, storm drainage and other public infrastructure to allow for access to and development of the site.

HISTORY AND CONTEXT

Manteca is an incorporated City situated in the south central portion of San Joaquin County, in the Central Valley of California. Referred to by the Manteca Chamber of Commerce as "The Heart of California", Manteca is located approximately 76 miles east of San Francisco, 12 miles south of Stockton, and 14 miles northwest of Modesto. Manteca has an annual rainfall of 11.8 inches, and average temperatures ranging between 47 and 73 degrees Fahrenheit.

Often referred to as "The Family City", Manteca was founded in 1861 by Joshua Cowell, at the corner of Main Street and Yosemite Street. In 1873, the Central Pacific Railroad laid track through the area, and the City was incorporated in 1918. In 1955, the City adopted its first zoning ordinance, and in 1962, its first General Plan.

At an elevation of approximately thirty-eight feet, Manteca has grown to encompass approximately 17.6 square miles and a population of approximately 71,000, with approximately 1.3 million people within a thirty-mile radius. Historically an agricultural community, relatively affordable housing is expected to drive residential growth in the coming years.

REGIONAL ACCESS AND CIRCULATION

Vehicular Access

The Project site is located on the western edge of the City, to the north of SR 120 and the Stadium Shopping Center, between McKinley Avenue on its west and Airport Way on its east. Downtown Manteca lies to the north and east of the property, and is easily accessed via Yosemite Blvd.

The City is strategically located close to and within view of SR 120, which provides primary access to Yosemite from the San Francisco Bay area. The City also lies between two major north-south freeways, I-5 and State Route 99.

Regional access to the Project site is primarily anticipated to be via SR 120 at the Airport Way interchange that lies to the south and east of the property. In the future, an additional SR 120 interchange is planned to be constructed to the south and west of the property at McKinley Avenue. This proposed new interchange would provide additional access to the property, particular for those traveling from the Bay Area and points to the west.

Locally, vehicular access will be achieved by public streets and roadways as follows: from Airport Way and then Daniels Street, which runs along the north side of the Stadium Shopping Center. Daniels Street has been proposed to be extended from its current end point, in a westerly direction across to McKinley Avenue. Additionally, it is anticipated that Wawona Street will be extended in a westerly direction from Airport Way, to allow it connect with Milo Candini Drive.

The City of Manteca also plans to extend Milo Candini Drive, a public street, in a northerly direction from its current terminus that lies at the northeast corner of the Big League Dreams site, up to Yosemite Avenue to a new signalized intersection.

Passenger Rail

In addition to vehicular access, regional rail service for commuters to San Jose and Silicon Valley is provided on the by Altamont Commuter Express (ACE), on the Union Pacific Railway Line, with a stop at the Lathrop/Manteca station, which lies to the northwest of the property. The ACE Rail system also has a bus connection to the Dublin/Pleasanton BART station at the Pleasanton stop.

PROPOSED LAND USES

The City of Manteca and the Manteca Development Group have conducted a preliminary market feasibility study that has served as the basis for the proposed preliminary land use and facility program. For purposes of analysis, the Project site is divided into several numbered "Planning Areas", listed hereafter as "PA". Subject to updated market studies that will be conducted prior to actual implementation, the developer envisions the following land uses for the project:

Public Visitor Serving Uses

Situated on approximately 30 acres within the Project site, the hotel use is anticipated to include a 500 room hotel, a conference/exhibition facility, and an indoor waterpark. The entire facility will include approximately 490,000 square feet of building area, with approximately 1,100 surface public parking spaces constructed at grade. Components of the project plan include:

- Approximately 290,000 sf hotel tower up to six stories tall with 500 hotel rooms in a variety of unit types.
- Approximately 37,500 sf of sit down and casual Food & Beverage operations and related game rooms and community spaces, general retail space and party rooms.
- Approximately 20,000 sf Conference/Meeting/Exhibition Facility with divisible main ballroom, breakout rooms, boardroom, business center, and a pre-function area with indoor/outdoor flexible space.
- Approximately 75,000 sf indoor multi-level waterpark park up to 6 stories at highest elevation including various aquatic features, special amenities, and wave pool.
- Note: While not currently part of the site plan review, the hotel has the potential for expansion of up to 200 more hotel rooms; 76,000 sf indoor waterpark; 20,000 sf conference/meeting facility; and 330 more parking stalls. Such expansion would review a site plan review and further environmental review.

The total floor area of the three Planning Areas (PA-3, PA-4, & PA-5) is illustrated as being approximately 410,000 square feet (sf) of floor space on the ground level, some of which may be

two-story space. The total second level square footage could add up to approximately 102,000 sf. Estimated build-out is projected at up to 15 years.

Future Development in the FEZ

There is not currently in active applications to development anything in the Project site other than the hotel facility; however, for long-term planning purposes the City has provided potential uses and facilities that may be developed in the FEZ sometime in the future. The following discussion is intended to provide a concept of what might be developed on the balance of the Project site. Future development of these uses would require applications for site plan review and further environmental review.

ACTIVE AND PASSIVE RECREATION, SPORTS AND PARK FACILITIES (PA-1, PA-1A, PA-1B, PA-2, PA-3, PA-4, & PA-5)

The following types of facilities may be offered:

- Baseball/Softball Fields (2)
- Multi-purpose/Soccer Fields (5-10) in varying sizes.
- Shared public parking in PA-15 and PA-14
- Man-made passive lake/retention basin, approximately six (6) acres. Lakeside boardwalk promenade with semi-pervious pavers.
- Small Outdoor Amphitheater
- Outdoor entertainment / performance plaza
- Destination Playground
- Family Party Pavilions
- Beach Volleyball Courts (2)
- Customer/visitor parking and shared parking
- Concessions to support recreation, sporting uses and events and all visitor serving uses
- Retail shops
- Restaurants, cafes, bistro's, coffee shops
- Sports bar/ Micro-brewery

YOSEMITE/SOUTH SIERRA NEVADA VISITORS CENTER (PROPOSED TO BE LOCATED IN PA-4, AND POSSIBLY RELOCATING TO PA-6 AFTER CONSTRUCTION OF THE MCKINLEY AVE./SR 120 INTERCHANGE)

The City of Manteca has been working diligently to secure this landmark opportunity to provide an information resource to visitors en route to the national forests that lie to the east, and to Yosemite National Park. The following types of facilities may be offered:

- Visitors Information Center
- Manteca Convention & Visitors Bureau (potential relocation)
- Mini-Bus Terminal for scheduled express transit service to Yosemite National Park
- Short-term daily bus parking for motor coaches travelling through to other destinations

FAMILY ENTERTAINMENT CENTER (PA-6, PA-9, PA-10)

The following types of facilities may be offered:

- Miniature golf, family arcade games, Lazertag®, Ball Crawl, black-light bowling and similar recreational uses
- Refreshments
- Public parking

ADVENTURE ZONE AND OUTDOOR SPORTS/SPEED ZONE (PA-7, PA-8, PA-11, 12, 13, 14, 15)

The following types of facilities may be offered:

- Rock-climbing wall, ropes course, Flow-rider, Zip-line, Hard Surface Skate Park, and similar recreational uses
- Refreshments
- Public parking
- Indoor All-season Sports Center (PA-8)
- Championship Playfield (PA-11)
- International-sized multi-purpose play field, with bleachers flanking the field. Depending on success of this venue, which is planned to draw regional tournaments, ultimately, more permanent seating might be constructed.
- Outdoor Sports/Speed Zone (PA-12)
- Stunt BMX Race Course
- Electric motorized mini-car race course

PUBLIC PARKING ZONES: (PA-13, PA-14 & PA-15):

The City envisions shared parking to be constructed within the PG&E right-of-way. Clear security parameters would be established with PG&E and state authorities, with respect to maintaining safe distances from PG&E towers, and protecting towers from intrusion.

POSSIBLE ARRANGEMENT AND PHASING OF LAND USES

BUILD OUT AND PHASING

Construction will have several phases, depending on market conditions and the availability of financing. The projected timeframe for the construction is up to 15 years. Infrastructure extensions will be made, as needed, to service constructed portions of the project. Phase 1 is the currently proposed hotel facility. All subsequent phases are presented to illustrate a potential phasing scheme; however, these subsequent phases have not yet been proposed via applications for site review and entitlements.

PHASE 1 (CURRENT APPLICATION):

- Construction of a 500-room hotel, with indoor waterpark, convention/meeting/exhibition facility, and surrounding approximate 1,100 space surface public parking lot.
- Partial construction of a loop road and landscape buffer along the northern edge of the overall property, north of Planning Areas 12 & 15.
- Main Vehicular Entrance: The project will have its main vehicular entrance on Daniels Street, located at a point directly north of the northwest corner of the Stadium Shopping Center.
- The service entrance to the northwest corner of the Stadium commercial vendors and uses and other public uses/facilities will be reconfigured to provide navigable truck turning movements into the rear of that parcel.

PHASE 2 (CONCEPTUAL PHASE):

- PA-1: The development of 11.8 acre PA-1, with new multi-purpose turf playfields. The plan has been conceptualized such that three International Soccer Fields and two U-12 size fields could be provided, along with one U-8 size field at the northeast corner of the parcel. Alternately, the International Soccer Fields could be divided into two U-12 youth soccer fields, yielding a total of eight U-12 play fields, with the one U-8 size field. In addition, minor facilities for public rest rooms, maintenance, storage and administrative offices may be provided in the parcel. PA-1 would be provided vehicular access by the extension of Milo Candini Road.
- PA-15: Parking for the play fields could be offered through the build-out of a parking lot in PA-15, a 3.1-acre area, located in the PG&E right-of-way.
- PA-2, a 7.6-acre parcel lying to the west of PA-1, would provide additional multi-purpose playfields: two U-12 and two U-13 sized youth soccer fields.
- PA-14: A portion of the PA-14 parking lot may be constructed in this phase, to serve parking needs of players and guests.
- PA-1a & PA-1b: The construction of two new ball fields to the west of the existing Big League Dreams complex.

- The initial extension of Daniels Street, in a westerly direction. Daniels Street will extend from its current terminus at the southeast corner of the property, in a westerly direction, providing access to the proposed hotel site to the south, and to the Retail, Dining and Entertainment District of the FEZ to the north (PA-4 & PA-5).
- Storm water management systems beneath the Daniels Street right-of-way.

PHASE 3 (CONCEPTUAL PHASE):

While the precise order of build out will be determined by market conditions and funding sources, the following arrangement of land uses is provided for conceptual purposes:

- The Daniels Street right-of-way will be extended in a westerly/northwesterly direction, ending at a "T" intersection with a new planned road that runs from the north and bends to the west, tying into McKinley Avenue, at the western edge of the property. It is anticipated that utilities will be taken underground within this right-of-way.
- PA-3 includes the following:
    - The FEZ entry archway that spans across Daniels Street, under which vehicles will drive to access the FEZ.
    - Food and beverage enterprises that frame an east-west walkway that is aligned on axis with the existing Big League Dreams complex, extending in a westerly direction, toward the center of the FEZ. This serves as a vital connection between the existing sports facilities and the FEZ. Buildings are expected to be one to two stories tall.
    - Additional restaurants at the northeast corner of Daniels Street and a new loop road that will wrap around the core of the FEZ.
    - Shared surface parking that may serve retail/restaurants in PA-3, as well as the two new BLD ball fields (PA-1a & PA-1b).
    - The extension of Wawona Street in a westerly direction, along the north side of the existing BLD complex and to the south of the new multi-purpose play fields in PA-1 and PA-2, connecting to the FEZ loop road in a southwesterly direction.

PHASE 4 (CONCEPTUAL PHASE):

While the precise order of build out will be determined by market conditions and funding sources, the following arrangement of land uses is provided for conceptual purposes:

- PA-4, including the following:
    - "Main Street" framing a pedestrian plaza and walkway that runs in a north-south direction, providing a visual and pedestrian connection from the proposed hotel

site that lies to the south, and to the lake and the center of PA-5 that lies at the north.

  - A small loop road that wraps around PA-4, and includes diagonal parking on both sides of the street. It further provides a drop-off lane that provides direct pedestrian access to the promenade around the lake and the retail village.

  - Retail and food operators/concessions

- PA-5, including the following:

  - Initial partial build out of the Dining, Retail and Entertainment Village. Leasable space is envisioned to include a series of public amenities interlaced with stores, small shops, cafes, restaurants, and bistros.

  - A man-made lake, surrounded by a hardscape promenade with railing.

- The FEZ loop road will frame PA-5 like a "horseshoe" on its east, north, and west sides.

ADDITIONAL PHASES(CONCEPTUAL PHASE):

- PA-6 occupies the southwestern most parcel, abutting residential lots to its west, and vacant land to its south. This parcel is intended to serve as expansion for the family entertainment offerings.

- PA-6A occupies the southwest corner of the street connection to McKinley Avenue. The City envisions it to become the Yosemite /South Sierra Nevada Visitors Center, along with a potential relocation site for the Manteca Convention and Visitors Bureau, as well as a small bus terminal and temporary bus parking for tours connecting to Yosemite and the Sierras.

- PA-7 flanks Daniels Street, to its northeast. It also flanks the FEZ loop road, to its west. The property is intended to be developed as an Adventure Zone with active and passive recreational facilities.

- PA-8 incorporates an Indoor All-season Sports & Exhibition Center, and will be located to the north of the FEZ loop road, between Parcels 2 & 7. It is bordered by the PG&E power line right-of-way to its north.

- PA-9 is also bordered by the PG&E power line right-of-way to its north. It abuts McKinley Avenue to its west, and is slated for FEZ expansion.

- PA-10 is a continuation of FEZ expansion, and it's situated to the north of PA-9, to the north of the PG&E power line right-of-way.

- PA-11 is situated on a northwest axis from the heart of the FEZ, the lake, and is situated in the far northwest corner of the property, to the north of the PG&E power line right-of-way. The property is intended to be developed as sport field with spectator seating.

- PA-12 is also located to the north of the PG&E power line right-of-way. It spans the majority of the northern boundary of the overall property, abutting a boundary road with a set-aside landscape buffer, and then the WQCF to the north. The property is envisioned to serve as an outdoor sports zone.

- PA-13, PA-14, and PA-15 comprise the PG&E right-of-way that stretches diagonally across the property in a west/southwest- east/northeast direction. These planning areas are reserved strictly for shared parking for the entire FEZ property. Setbacks will be established to protect the PG&E towers.

- Future projected hotel expansions may include 200 hotel rooms; 76,000 sf indoor waterpark, 20,000 sf conference facility and 330 more parking stalls.

PUBLIC AGENCY PROVIDED INFRASTRUCTURE FACILITIES

Existing and Planned Utilities & Supporting Public Service Facilities

The City of Manteca Public Works Department has jurisdiction over the project for services including sewage systems and treatment, storm water management, potable water, solid waste and recycling.

SANITARY SEWER

The City of Manteca Public Works Department has jurisdiction over the Project site. Services are provided by the Wastewater Quality Control Facility (WQCF), which lies directly north of the project site. Sewer facilities will be maintained by WQCF.

Treated sewer effluent from the WQCF may be used for irrigation purposes on the Project site. Irrigated areas include park settings, road medians and right of ways. The treated effluent may also be used for water features in the commercial areas of the project. Sewer mains, laterals, and other facilities such as pump stations would be designed according to current standards.

GROUND WATER

The area is characterized by a relatively high water table. The City envisions developing the lake/detention basin to serve as stormwater management, and a visual amenity for the community.

STORM WATER MANAGEMENT

The City of Manteca is responsible for storm drain design, installation, operation and maintenance for development projects in the City. However, some structures and facilities are shared with South San Joaquin Irrigation District (SSJID). A portion of the Project site will serve as a detention basin, by regulating the flow of storm water into the lake/detention basin, thus controlling runoff from Project site.

Prior to construction of the 6-acre lake/detention basin, detention ponds will be constructed on a temporary basis. This may include temporary use of super-pad areas that will be graded for future

development. Otherwise, storm water will be collected and routed to the SSJID Drains and Laterals, which eventually reach the San Joaquin River. Existing open channel drains will be placed in underground piping under the new project road network where feasible.

IRRIGATION WATER

The Water Quality Control Facility will provide tertiary-treated irrigation water.

POTABLE WATER

The City of Manteca is the water service provider for the area. The City uses both groundwater and surface water. Water mains will be constructed within public streets and easements on the Project site. Water mains, laterals, and related facilities will be designed according to current standards. Water facilities will be maintained by the City of Manteca.

ELECTRICITY AND NATURAL GAS

Pacific Gas & Electric Company (PG&E) provides natural gas and electricity service in Manteca. The property is bisected by a PG&E electric transmission line and right of way.

TELECOMMUNICATIONS

Verizon provides land line telecommunications service in Manteca and would serve the project.

SOLID WASTE MANAGEMENT

Solid waste generated by the project would be collected at each commercial location and brought to centralized refuse and recycling storage locations. The City Public Works Department Solid Waste Division would be responsible for collecting and disposing of solid waste from the project.

Supporting Public Service Facilities - Public Safety/Police and Fire Services

The City of Manteca Police Department is the local law enforcement entity that would serve the project. The Manteca Police Department currently operates on a four or five beat system. Fire service is provided from any/all fire stations within the city, and is supplemented by mutual aid agreements with neighboring fire protection districts. Service to the Project site would be enhanced and increased at the discretion of the City of Manteca, based upon calls for service trends and special events.

Transportation, Traffic, & Streets

The Project site currently has one vehicular access, via Daniels Street, approached in a westerly direction from Airport Way. Daniels Street may be extended in a westerly direction, across the property, ultimately to McKinley Avenue.

The City is also currently working with Caltrans to prepare conceptual designs for a new SR 120 interchange at McKinley Avenue. This would provide a second major freeway access point for the project.

The City further envisions the extension Milo Candini, in a northerly direction, connecting to a signalized intersection at Yosemite Avenue, which is the major east-west vehicular corridor through Manteca. This connection would provide a significant means of vehicular access from most local Manteca residents. This plan identifies additional streets that serve the project, once one arrives at the property. All streets will be designed to City standards and will be public streets.

Sustainability

The developer plans to provide a responsible level of sustainable design practices in the development. This will include, but not be limited to, placement of solar photovoltaic panels on frames suspended above vehicular parking lots, thereby reducing heat sink, and providing shade for parked cars. The developer will also maximize the use of pavers, pervious pavement and other permeable surfaces throughout the site to minimize the impact on storm water systems.

Maintenance and Operations of Common areas

A common area operating agreement will be established to maintain parkways, internal roadways or other common open space, including hardscape and landscape, and other improvements where legally permissible. Funding for these activities may include a special services district that may collects fees from various vendors, users and public agencies as necessary to operate and maintain common facilities (parking, landscape) and events (similar to a tourism or business improvement district).

Infrastructure Financing

The primary infrastructure systems will be sized to meet the demands created by build-out of the project. The City anticipates making use of available proceeds from existing redevelopment bonds to finance public infrastructure improvements, including necessary public roads, water, sewer, and storm water/flood control facilities.

Formation of one or more Community Facilities Districts (CFD) may be implemented for this project location. The objective in forming a CFD is to provide additional financing for public improvements associated with the project, supplementing funds available from former redevelopment bond proceeds.

PROJECT ENTITLEMENTS

The project consists of 3 components:

1) Rezone of all parcels, APN's 241-31-53, 241-31-44, 241-31-18, 241-31-32 and portions of APN 241-31-16, 241-30-48, 241-31-48, 241-30-62 and 241-30-61 (Figure 2-5) from Public/Quasi Public (PQP) to Master Plan (MP). A Master Plan will be developed concurrently with the environmental document.

2) Large Lot Tentative Parcel Map, to promote the various phases of development the 189 acre site will be subdivided into large lots available for individual development. The large lot map will include approximately 19 parcels, which will roughly resemble the layout of the Planning Areas.

3) Site Plan Review for Phase 1 of the project, which will be constructed on 30 acres within the FEZ and includes various public visitor serving uses including a 500 room, 290,000 square foot hotel. (Figure 2-6).

As was previously identified, additional development associated with the lodging facility on the Project site may include an 85,000 square foot indoor waterpark; a 20,000 square foot conference facility; 37,500 square feet of restaurant and retail space; a future expansion of the hotel to include 200 additional hotel rooms, an additional 20,000 square feet for conference facilities, and a 76,000 square foot addition to the indoor water park. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow implementation. Development of such facilities would require additional environmental review if applications for such development are submitted to the City for consideration.

The Project site may also include a future expansion of sports facilities. (Figure 2-7). While there is not currently any applications for development of such sports facilities, preliminary planning of the Project site suggests that the Project site could hold the following: two baseball fields to the west of the existing Big League Dreams complex and the development of 11.8 acre, with new multi-purpose turf playfields. The plan has been conceptualized such that three International Soccer Fields and two U-12 size fields could be provided, along with one U-8 size field at the northeast corner of the parcel. Alternately, the International Soccer Fields could be divided into two U-12 youth soccer fields, yielding a total of eight U-12 play fields, with the one U-8 size field. In addition, minor facilities for public rest rooms, maintenance, storage and administrative offices may be provided on the parcel. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow implementation. Development of such facilities would require additional environmental review if applications for such development are submitted to the City for consideration.

2.5 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

The City of Manteca will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050.

This EIR will be used by the City of Manteca to take the following actions:

- Certification of the EIR
- Adoption of the Mitigation Monitoring and Reporting Program
- Approval of a Rezone of all parcels from Public/Quasi Public (PQP) to Master Plan (MP).
- Approval of a Large Lot Tentative Parcel Map for the 189 acre site to roughly resemble the layout of the Planning Areas.

- Approval of Site Plan for Phase 1 of the project (30 acres), which includes a 500 room, 290,000 square foot hotel; a 85,000 square foot indoor waterpark; a 20,000 square foot conference facility; and 37,500 square feet of restaurant and retail space.

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- SJCOG, Inc. (SJCOG) – Issuance of incidental take under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits pursuant to SJVAPCD rules and regulations.
- California Department of Fish and Game - Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act,
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Permitting of State jurisdictional areas, including isolated wetlands pursuant to the Porter-Cologne Water Quality Act;
- United States Army Corps. Of Engineers – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act;
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Water quality certification pursuant to Section 401 of the Clean Water Act.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-1: Regional Location

Data source: California Spatial Information Library Map date: June 11, 2014.

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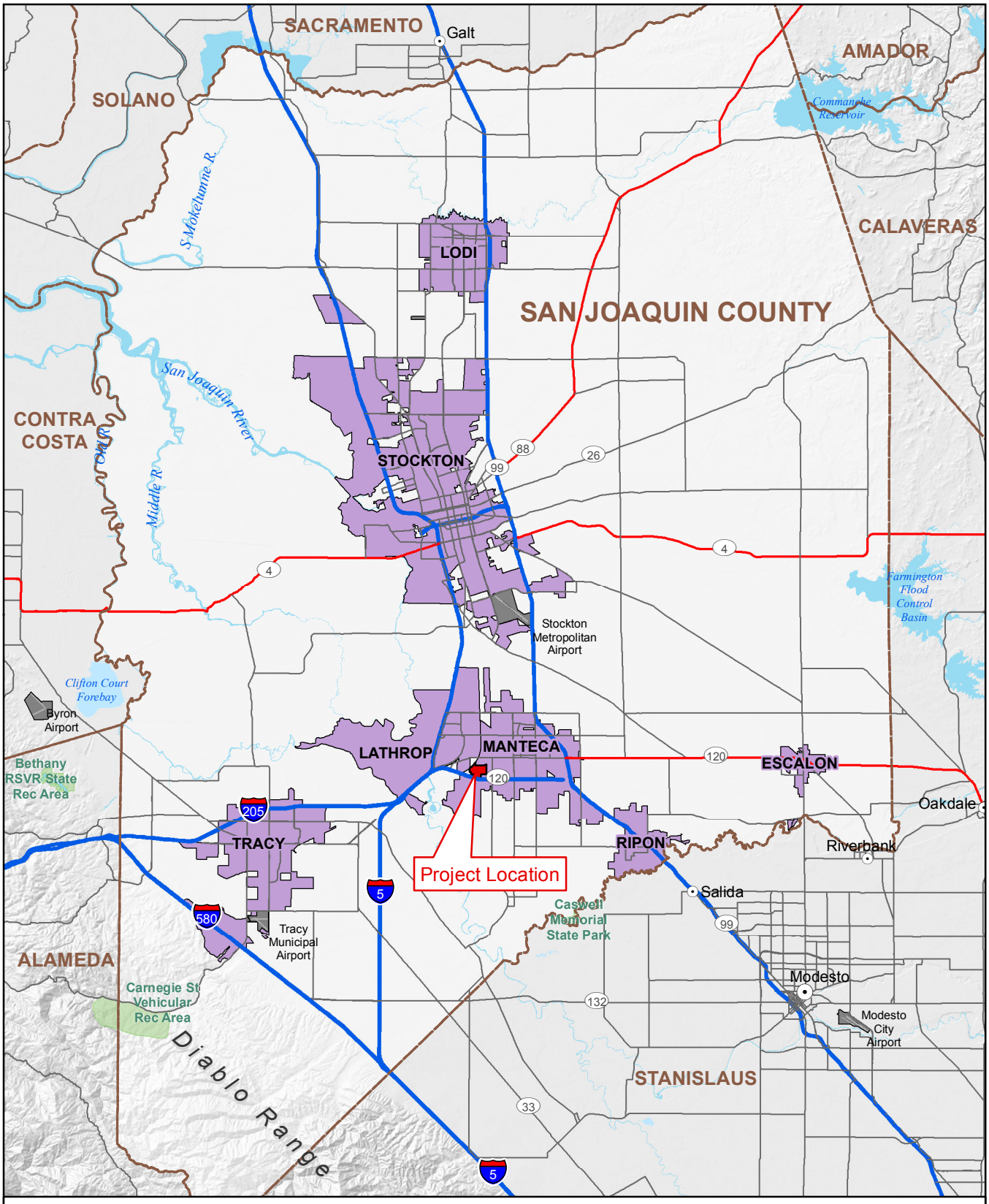

N

0 1 2 4

Miles

1:400,000

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-2: Project Vicinity

Data sources: California Spatial Information Library, ESRI StreetMap North America, San Joaquin County GIS. Map date: June 11, 2014.

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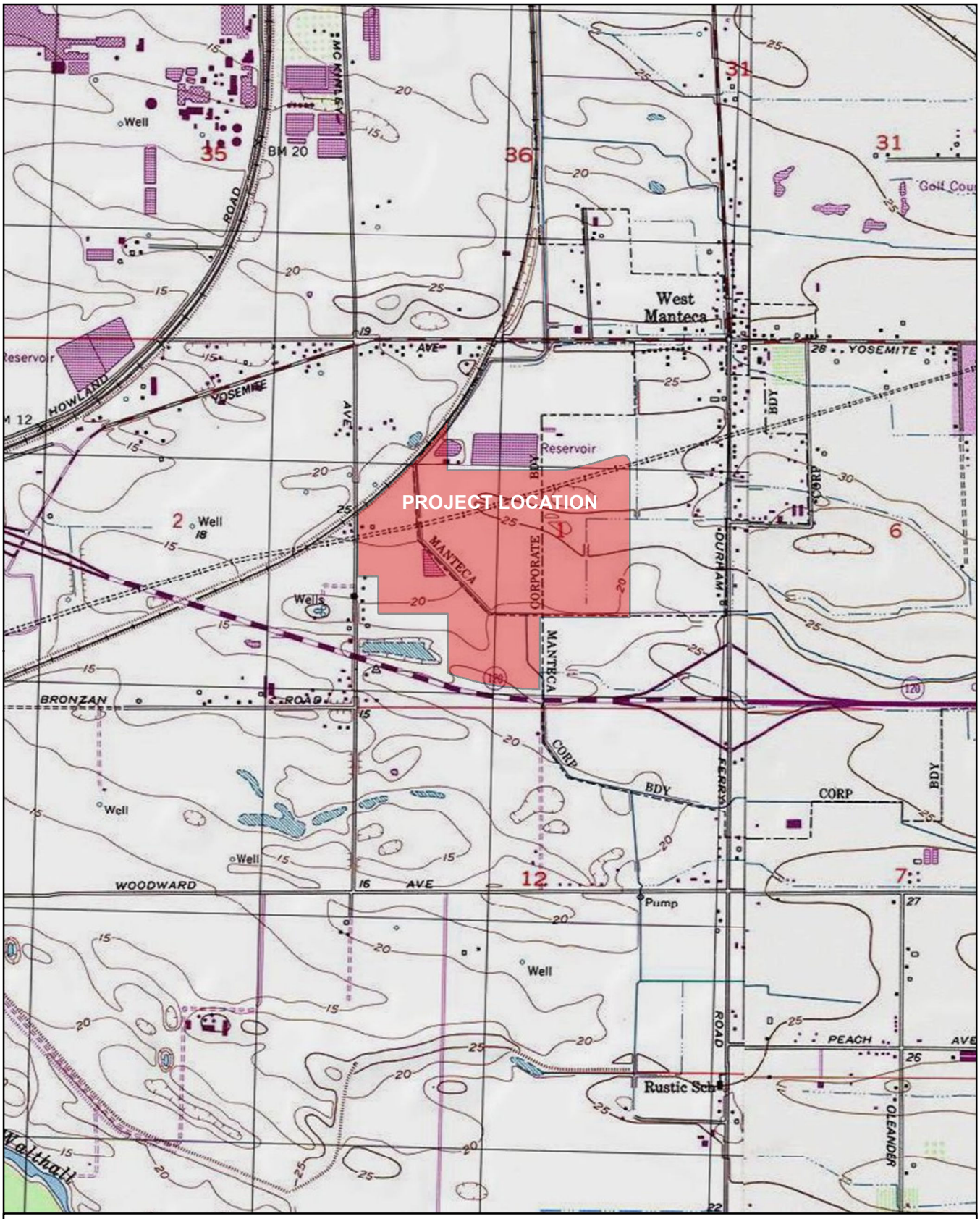

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0 600 1,200

Feet

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Data sources: ArcGIS Online USA Topo Maps. Map date: June 11, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-3: USGS Topographic Map

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MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-4: Aerial Photo

Data sources: ArcGIS Online Basemap Imagery with Transportation. Map date: June 11, 2014.

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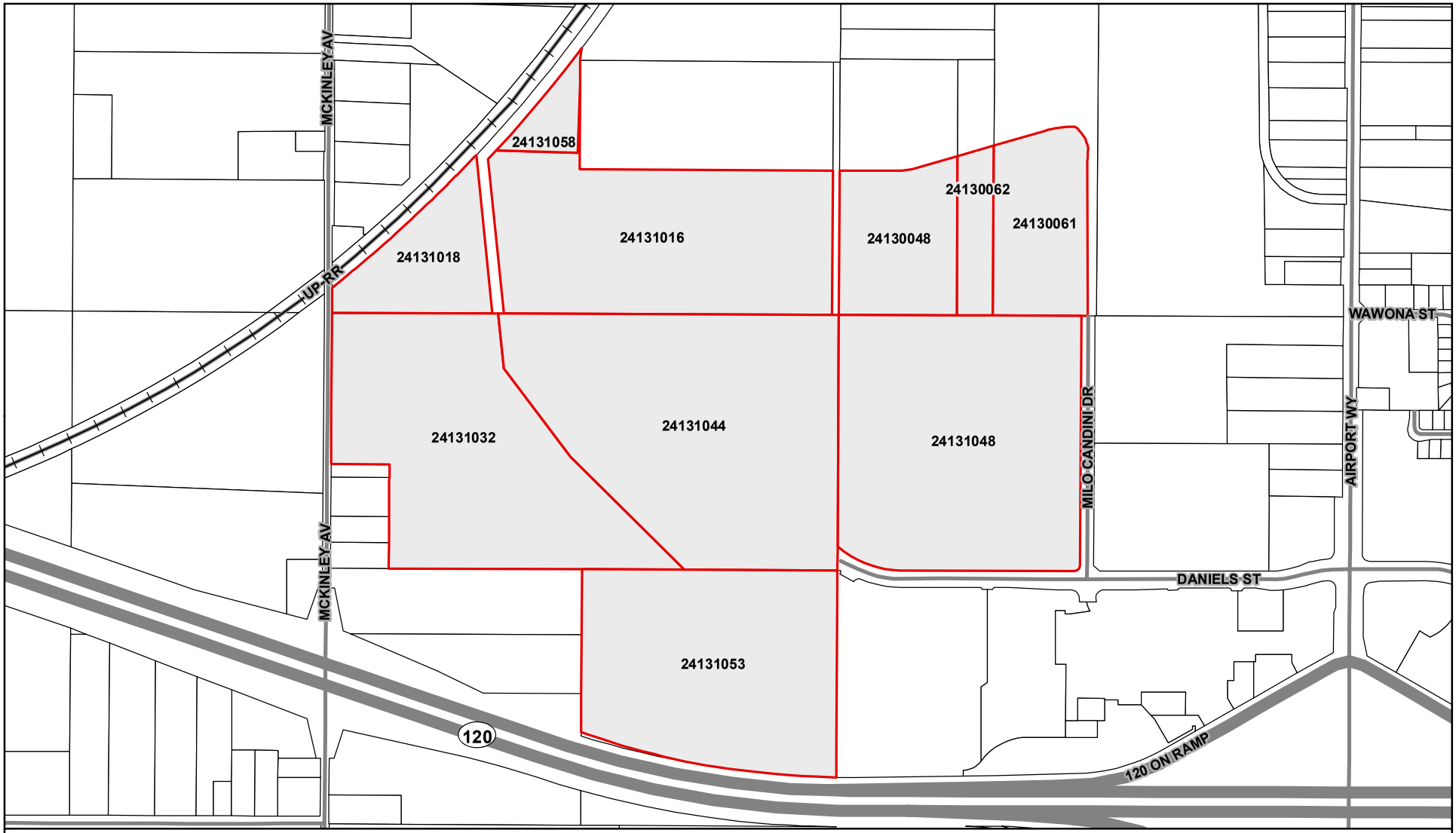

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0 250 500

Feet

1:9,000

Data sources: San Joaquin County GIS. Map date: June 11, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-5: Assessor's Parcel Map

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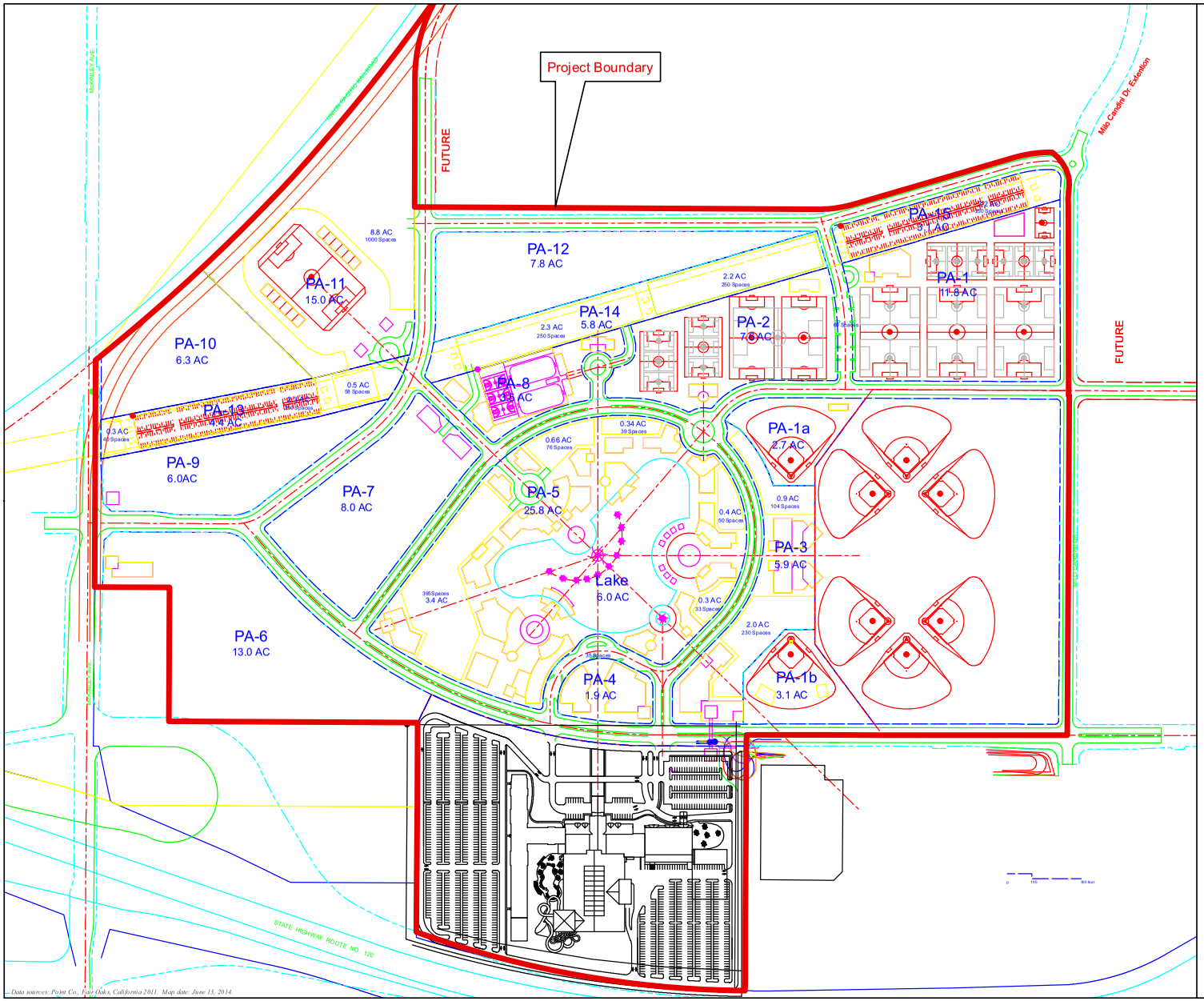
MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-6: Site Plan - Potential Build Out



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0 200 400
Feet

1:4,800

1 inch = 400 feet

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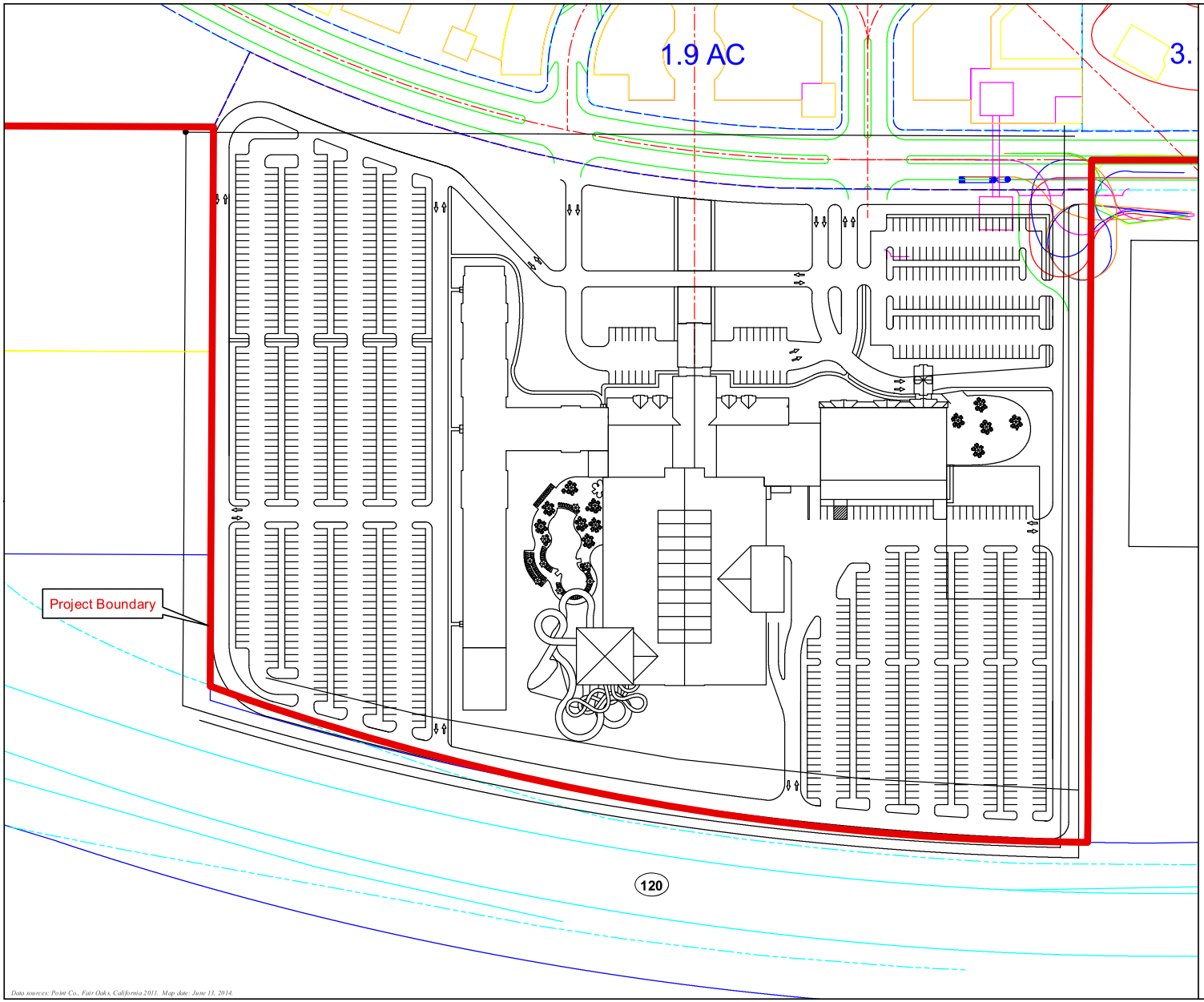

Data sources: Point Co., Fair Oaks, California 2011. Map date: June 13, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 2-6: Site Plan - Hotel Facility/Complex

N

0 75 150
Feet

1:1,800

1 inch = 150 feet

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

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

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

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

SCENIC HIGHWAYS AND CORRIDORS

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

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

Scenic Highways

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

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

Scenic Corridors

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

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

San Joaquin County Scenic Highways/Corridors

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

As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include Interstate 5 from the Sacramento County line south to Stockton. The City of Manteca is located south of Stockton, and neither the City nor the Project site is visible from this segment of Interstate 5.

SCENIC WATER RESOURCES AND WILD AND SCENIC RIVERS

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

Wild and Scenic Rivers

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

The San Joaquin River is not designated as Wild and Scenic River under the Federal Wild and Scenic Rivers Act.

PROJECT SITE

The Project site is located on the western edge of the City, to the north of SR 120 and the Stadium Shopping Center, between McKinley Avenue on its west and Airport Way on its east. Downtown Manteca lies to the north and east of the property. The project site encompasses approximately 189 acres of undeveloped land and approximately 28 acres of developed sports park facilities (Big League Dreams Manteca). Big League Dreams ballpark is located on the eastern side of the Project site. The 28-acre site is fully developed with six replica ballparks, an indoor soccer facility, two restaurants and other supporting facilities all of which are open to the public and operated by private sectors parties pursuant to ground leases.

The Project site has relatively flat terrain (Figure 2-3). The UPRR rail lines are located along the western boundary. High voltage power lines, within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Project site running northeast/southwest. The 189-acre vacant land portion of the site is currently farmed with row crops and is used for land application of treated effluent from the Water Quality Control Facility (WQCF) located immediately north of the Project site.

The French Camp Outlet Canal traverses the western portion of the Project site in a general north-south direction. The canal is an open channel with raised levee banks on either side. There is limited naturalized vegetation along the banks of the canal. Limited areas of wetlands exist in the southern portion of the Project site, adjacent to the eastern bank of the French Camp Outlet Canal.

As a result of site disturbance associated with agricultural operations/farming and the existing sports park facilities on the eastern portion of the site, limited natural scenic areas can be found within the Project site. There is little native vegetation or naturalized habitat located on the site, and the flat topography of the site renders the site essentially void of prominent natural visual features.

Much of the Project site is active agricultural land. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in an urban environment. Agricultural lands provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears bare and infertile (recently tilled). Agricultural land in California's Great Central Valley is generally accepted as an important visual resource.

The Project site is surrounded by a variety of existing land uses. The parcels to the east of the Big League Dreams portion of the Project site, across Milo Candini Drive, are zoned M1 Light Industrial and PQP. The Project site is bordered on the south by SR 120. There is some additional vacant land lying to the south of the westernmost portion of the site. The Project site that lies to the south of Big League Dreams is occupied by the Stadium Shopping Center, and is zoned CG (General Commercial). To the west, the Project site is bounded by McKinley Avenue and the Union Pacific

Railway right-of-way. The parcels located to the west of those right-of-ways are outside of the City of Manteca boundary.

There are no Officially Designated Scenic Highways located through or adjacent to the Project site. The only Officially Designated Scenic Highway in San Joaquin County is I-580 from I-5 to SR 205 located approximately 12 miles southwest of the Project site. This scenic highway is not visible from the Project site.

There are minimal existing light sources on the undeveloped portion of the Project site. The Big League Dreams portion of the Project site includes a lighted parking lot, lighted concession and viewing areas, and stadium lighting for nighttime sporting events. Other existing lighting in the vicinity of the Project site includes roadway lighting on SR 120, commercial area lighting on lands to the southeast, and lighting from the Water Quality Control Facility to the north of the Project site.

3.1.2 REGULATORY SETTING

STATE

California Scenic Highway Program

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

LOCAL

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

City of Manteca General Plan

The City of Manteca General Plan identifies the importance of visual characteristics in establishing community identity. Attractive new land uses along the major highways, new landmarks visible from several vantage points throughout the city, and new gateway features along the highways and other major roads at city boundaries can contribute significantly to establishing a strong positive identity for Manteca.

City of Manteca Zoning Ordinance

Chapter 17.48, Landscaping, of the City Zoning Ordinance contains standards and provisions related to landscaping design requirements that would apply to the proposed Project. 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 that would apply to the proposed Project. 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 17.50.060(I) contains provisions applicable to sports fields and outdoor activity areas. This section states, *"where playing fields or other special activity areas are to be illuminated, lighting fixtures shall be mounted, aimed, and shielded so that the light falls within the primary playing area and no significant off-site light trespass is produced. Additionally, the lights shall be turned off within one hour after the end of the event."* 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;
- Substantially degrade the existing visual character or quality of the site and its surroundings;

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character (Significant and Unavoidable)

Development of the proposed Project would convert the site from its existing use as primarily agricultural land to a developed comprehensive multi-purpose public use zone called the Manteca Family Entertainment Zone (FEZ). The Plan will encompass multiple projects and parcels that in the aggregate will provide an extensive park and recreation complex featuring 189 acres of new and existing recreational, park, water, sports and other leisure amenities. The FEZ planning area will be open and accessible to the general public, and will be designed to serve the state, region, and the Manteca community as a multipurpose recreation center and public park facility. The FEZ will feature a wide range of active and passive open space and developed uses that will support short term and longer-term activities and community events for users ranging from local citizens, day and weekend regional visitors, as well as destination tourists.

Project components would include:

- Construction of a 500-room hotel (potential to expand by 200 rooms with a future application/site review), with indoor waterpark, convention/meeting/exhibition facility, and approximately 1,100 to 1,430 parking spaces.
- Construction of 5-10 playfields, open to the public for soccer and other outdoor tournament team sporting events and practice activities.
- Construction of restaurants, food and beverage, retail, amusements, arcades and other visitor amenities.
- Construction of an outdoor adventure area offering a variety of climbing and other exercise options for the public.
- Construction of a lake/detention basin to accommodate the storm drainage needs of the development, and also serve as an amenity for public visits, activities and gatherings.
- Construction of public parking facilities to accommodate sports tournament participants, spectators, convention attendees and other visitors to the site.
- Construction of roadways, pedestrian pathways, sewers, storm drainage and other public infrastructure to allow for access to and development of the site.

The project site is not designated as a scenic vista by the City of Manteca General Plan or the San Joaquin County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista.

The project site is, however, highly visible from State Route 120. Implementation of the proposed project would change the existing visual character of the site from a primarily agricultural site to an urbanized site. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers. The Project site currently consists primarily of agricultural lands. Agricultural lands provide visual relief from urban and suburban developments, and help to define the character of a region. The loss of agricultural lands can have a cumulative impact on the overall visual character and quality of a region.

As described above, Project implementation would introduce numerous park and recreational facilities and visitor-serving uses, including a hotel, restaurants, and other related uses and supporting infrastructure into an area that is currently undeveloped and primarily agricultural in nature and appearance. Implementation of the proposed Project would introduce developed urban land uses into an area that is currently undeveloped and largely void of structures and impervious surfaces.

Additionally, the Project would result in the visual elimination of the existing French Camp Outlet Canal, which is currently an open channel visible from the Project site and areas immediately adjacent to the site. Water features, including man-made water features, are often considered to be aesthetically pleasing, since they provide visual relief, vegetative variety, and habitat for wildlife. Project implementation would result in the under-grounding and culverting of the French Camp Outlet Canal, which would remove this visual feature from the Project site permanently.

The project would include beneficial visual components that would assist in enhancing the appearance of the site following site development. These improvements would include landscaping improvements such as new trees planted around the perimeter of the site and within the parking lot areas. The project would also result in the construction of several grass ballfields, which will result in expansive areas of green with limited areas of development between the fields.

While implementation of the proposed project would change the existing visual character of the site, it would not result in substantial adverse effects on a designated scenic vista. There are no large structures (over three-stories high) that would be constructed as part of the project that would impede views of the surrounding agricultural areas from the project vicinity.

However, the project would result in the conversion of the land from agricultural uses, which would contribute to changes in the regional landscape and visual character of the area. In order to reduce visual impacts, future development projects within the Project site are required to be consistent with the FEZ Master Plan. The Master Plan will include design standards in order to ensure quality and cohesive design of future components of the Project site. Design standards would include specifications for buildign height, massing, and orientation; building facades and

exterior finish materials; roof and window design standards; exterior lighting standards and specifications; and landscaping standards. Implementation of the FEZ Master Plan design standards would ensure qualit design throughout the Project site, and result in an attractive recreational and visitor-serving development project.

However, the loss of the visual appearance of the existing agricultural land on the site will change the visual character of the project area. Implementation of the design standards in the FEZ Master Plan, and compliance with Chapter 17.48, Landscaping, of the City Zoning Ordinance would reduce visual impacts to the greatest extent feasible. However, regardless of the quality of design implemented on the Project site, Project implementation would permananetly remove the existing agricultural and French Camp Outlet Canal visual resources on the Project site, and convert the site to urbanized uses. This is considered a **significant and unavoidable** impact. The is no additional feasible mitigation available that would reduce this impact to a less than significant level.

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

There are no designated State Scenic Highways in the vicinity of the Project site. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 from Interstate 5 to State Route 205. This Designated Scenic Highway is located approximately 12.5 miles southwest of the Project site and is not visible from the Project site. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Manteca and the Project site are not visible from this roadway segment. As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include Interstate 5 from the Sacramento County line south to Stockton. The City of Manteca is located south of Stockton, and neither the City nor the Project site is visible from this segment of Interstate 5. Additionally, there are no "eligible" highway segments in the project vicinity that may be included in the State Scenic Highway system. As such, this is a **less than significant** impact, and no mitigation is required.

Impact 3.1-3: Project implementation may result in light and glare impacts (Less than Significant with Mitigation)

Implementation of the proposed Project would introduce new sources of light and glare into the Project area. New sources of glare would occur primarily from the windshields of vehicles travelling to and from the project site and from vehicles parked at the site. There is also the potential for reflective building materials and windows to result in increases in daytime glare.

The master plan design guidelines will include standards for exterior building materials and window treatments, which preclude the use of highly reflective materials and exterior finishes. The introduction of new parking areas within the Project site would not result in significant increases in daytime glare above existing conditions in the Project vicinity. For instance, there are existing large parking lots located immediately east of the project site (Costco, north of SR 120, and vehicles parked there have not been known to cause significant glare impacts to motorists travelling along SR 120. The same is anticipated for vehicles parked at the lodge facility parking lot adjacent to the

SR 120. Nevertheless, compliance with the master plan design guidelines, and installation of parking lot landscaping, as required by Chapter 17.48 of the Manteca Zoning Ordinance would ensure that potential glare impacts are **less than significant.**

The project would introduce new sources of nighttime lighting, which may result in increased nighttime lighting in the project vicinity. A detailed lighting plan has not been prepared for the project, but for the purposes of this analysis, it has been conservatively assumed that nighttime field lighting and outdoor recreational lighting will be installed throughout most areas of the Project site. It is assumed that security lighting will be installed within the various parking areas and the visitor-serving commercial use areas. It is also assumed that exterior security lighting will be installed throughout the future expansion zone when that phase of the project is developed.

Light sources from the proposed development may have a significant adverse impact on the surrounding areas, by introducing nuisance light into the area and decreasing the visibility of nighttime skies. Additionally, on-site light sources may create light spillover impacts on surrounding land uses in the absence of mitigation.

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 17.50.060(I) contains provisions applicable to sports fields and outdoor activity areas. This section states, *"where playing fields or other special activity areas are to be illuminated, lighting fixtures shall be mounted, aimed, and shielded so that the light falls within the primary playing area and no significant off-site light trespass is produced. Additionally, the lights shall be turned off within one hour after the end of the event."* 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.

The increase of nighttime lighting in the project area is considered a potentially significant impact. Implementation of Mitigation Measure 3.1-1 would reduce impacts associated with nighttime lighting and light spillage onto adjacent properties to a **less than significant** level.

MITIGATION MEASURES

***Mitigation Measure 3.1-1**: A lighting plan shall be prepared prior to the installation of the project's lighting for each phase. The lighting plan shall demonstrate that the field lighting systems and other exterior lighting throughout the Project site have been designed to minimize light spillage onto adjacent properties to the greatest extent feasible. The lighting plan shall include the following:*

- *Design of site lighting and exterior building light fixtures to reduce the effects of light pollution and glare off of glass and metal surfaces;*
- *Lighting shall be directed downward and light fixtures shall be shielded to reduce upward and spillover lighting;*
- *Where it is not feasible to fully shield light fixtures from light pollution, such as the field lights, the lighting shall be directed downward and of the minimum wattage and height suitable for illuminating the playing surfaces and immediately surrounding areas.*
- *Lighting for each playfield, parking area, and structure shall have control boxes that allow operation of specific areas of lighting in order to only illuminate the field(s) and parking area(s) in use at any given time.*
- *Lights shall be turned off when the fields, parking areas, and structures are not in use.*

This section provides an overview of the agricultural crops in San Joaquin County, agricultural capability of the soils on the Project site, and existing site conditions. This section concludes with an evaluation of the impacts related to agricultural resources and recommendations for mitigating impacts as needed. Information in this section is derived primarily from the *California Important Farmlands Map* (California Department of Conservation, 2012), *California Land Conservation (Williamson) Act Status Report* (California Department of Conservation, 2010)*, the San Joaquin County Agricultural Report* (San Joaquin County Agricultural Commissioner 2012), and NRCS Web Soil Survey (NRCS 2014).

There are no forest resources located on the Project site or in the City of Manteca, thus this CEQA topic is not relevant to the proposed project and will not be addressed further in this EIR.

3.2.1 ENVIRONMENTAL SETTING

SAN JOAQUIN COUNTY AGRICULTURE

The San Joaquin Valley has rich alluvial soils and is the location of most of the intensive agriculture. The County's Agricultural Commissioner's most recent published Agricultural Report (2012) contains the following information about agriculture in the County.

Agricultural Value

San Joaquin County has a total land area of 1,400 square miles of which 737,503 acres are in 3,624 farms in 2007. Total acreage planted with crops in 2012 was 799,480, including 508,000 acres of field crops, 1,180 acres of seed crops, 253,000 acres of fruit and nut crops, and 55,300 acres of vegetable crops.

The estimated gross value of agricultural production in San Joaquin County for 2012 is estimated at $2,869,472,000. Table 3.2-1 lists the top eight commodities in San Joaquin County in 2012.

TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES

PRODUCT	*2012*
Field Crops	$329,973,000
Vegetable Crops	$265,568,000
Fruit and Nut Crops	$1,640,372,000
Nursery Products	$87,957,000
Livestock and Poultry	$97,151,000
Livestock and Poultry Products	$423,279,000
Seed Crops	$3,562,000
Apiary Products	$21,610,000

SOURCE: SAN JOAQUIN COUNTY AGRICULTURAL REPORT, 2012

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 System

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 I soils, which have few limitations for agriculture, to Class VIII 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.

TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	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.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	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.
VIII	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.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating) which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-3.

TABLE 3.2-3: STORIE INDEX RATING SYSTEM

GRADE	*INDEX RATING*	*DEFINITION*
1	80 - 100	Few limitations that restrict their use for crops
2	60 – 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3	40 – 60	Suited to a few crops or to special crops and require special management
4	20 – 40	If used for crops, severely limited and require special management
5	10 – 20	Not suited for cultivated crops, but can be used for pasture and range
6	Less than 10	Soil and land types generally not suited to farming

SOURCE: USDA SOIL CONSERVATION SERVICE, SOIL SURVEY OF YOLO COUNTY, CALIFORNIA, 1972.

In addition to soil suitability, other factors for determining the agricultural value of land include whether soils are irrigated, the depth of soil, water-holding capacity, and physical and chemical characteristics. Areas considered to have the greatest agricultural potential are designated as Prime Farmland or Farmland of Statewide Importance.

Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

IMPORTANT FARMLANDS IN SAN JOAQUIN COUNTY

Data from the Department of Conservation indicates that approximately 11,647 acres of Prime Farmland in the County was developed for other uses between 2008 and 2010, resulting in an existing total of 385,337 acres of Prime Farmland (51% of agricultural land). The remaining agricultural land is comprised of Farmland of Statewide Importance (11%), Unique Farmland (9%), Farmland of Local Importance (10%), and Grazing Land (18%). The types and acreages of farmland in 2008 and 2010 are shown below in Table 3.2-4.

TABLE 3.2-4: SAN JOAQUIN COUNTY FARMLANDS SUMMARY AND CHANGE BY LAND USE CATEGORY

LAND USE CATEGORY	*2008-10 ACREAGE CHANGES*							
	TOTAL ACREAGE INVENTORIED				*ACRES LOST*	*ACRES GAINED*	*TOTAL ACREAGE CHANGED*	*NET ACREAGE CHANGED*
	2008		*2010*		*(-)*	*(+)*		
	Acres	*Percent*	*Acres*	*percent*				
Prime Farmland	396,984	44%	385,337	42%	12,570	923	13,493	-11,647
Farmland of Statewide Importance	86,297	9%	83,307	9%	3,202	212	3,414	-2,990
Unique Farmland	66,621	7%	69,481	8%	1,590	4,450	6,040	2,860
Farmland of Local Importance	65,788	7%	76,869	8%	3,644	14,725	18,369	11,081
IMPORTANT FARMLAND SUBTOTAL	615,690	67%	614,994	67%	21,006	20,310	41,316	-696
Grazing Land	142,460	16%	139,235	15%	3,341	116	3,457	-3,225
AGRICULTURAL LAND SUBTOTAL	758,150	83%	754,229	83%	24,347	20,426	44,773	-3,921
Urban and Built-up Land	90,529	10%	91,929	10%	127	1,527	1,654	1,400
Other Land	52,141	6%	54,662	6%	838	3,359	4,197	2,521
Water Area	11,773	1%	11,773	1%	0	0	0	0
TOTAL AREA INVENTORIED	912,593	100%	912,593	100%	25,312	25,312	50,624	0

SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION TABLE A-30, 2012

EXISTING SITE CONDITIONS

The current uses on the Project site are predominantly agricultural (172 acres) and undeveloped, with an approximately 28-acre portion of the Project site developed with the Big League Dreams baseball complex. The agricultural lands on the Project site have been used historically for intensive agricultural purposes such as farming and crop production but are not under a Williamson Act contract or conservation easement.

Surrounding Land Uses

The Project site is surrounded by a variety of existing land uses. Agricultural land, rural residential uses, and vacant/undeveloped land is located west of the Project site. The northwest portion of the Project site is bordered by the Union Pacific Railroad (UPRR) right-of-way. South of the Project site is the SR 120, with single family residential development, vacant/undeveloped land, and agricultural uses south of SR 120. Daniels Street and the Stadium Shopping Center are located southeast of the Project site. Milo Cardini Drive and vacant/undeveloped and agricultural land uses are to the east. The Wastewater Quality Control Facility and agricultural uses are located north of the site. Figure 3.10-1 provides an aerial view of the site.

Project Site Farmland Characteristics

The State of California Department of Conservation Farmland Mapping and Monitoring Program and San Joaquin County GIS data were used to identify the farmland characteristics for the Project

site. Farmlands on the Project site are identified in Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

PRIME FARMLAND

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

Prime Farmland is located in two portions of the site: an area immediately west of the Big League Dreams complex and an area located in the southern portion of the site adjacent SR 120 and the Stadium Shopping Center. Prime Farmland on the Project site totals approximately 6.6 acres. Prime Farmlands are also located west of the Project site, west of McKinley Avenue and the UPRR right-of-way.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is farmland with characteristics similar to those of prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

The majority of agricultural land, approximately 165.2 acres, is designated Farmland of Statewide Importance as shown on Figure 3.2-1. Farmland of Statewide Importance is also located in the general vicinity of the Project site to the northeast, east, and west.

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 non-irrigated 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.

There is no land within the Project site, or in the immediately vicinity, that is designated Unique Farmland.

FARMLAND OF LOCAL IMPORTANCE

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

There is no Farmland of Local Importance on the Project site. Areas designated Farmland of Local Importance is located to the west of the Project site and to the east.

URBAN AND BUILT-UP LAND

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.

The Big League Dreams complex on the Project site and land immediately adjacent the complex is designated Urban and Built-Up Land. The northwest corner of the Project site adjacent the WQCF is designated Urban and Built-Up Land. The WQCF to the north and Stadium Shopping Center to the south of the Project site are also designated Urban and Built-Up Land.

OTHER LAND

Other Land is 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, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. The Other Land categories include:

- Rural Residential Land
- Semi-Agricultural and Rural Commercial Land
- Vacant or Disturbed Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation

Other Land is not located on the Project site, but Rural Residential Land and Vacant or Disturbed Land are in the general vicinity of the Project as shown on Figure 3.2-1.

Soils and Farmland Characteristics

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. Table 3.2-5 identifies the soils found in the Plan Area. The NRCS Soils Map is provided as Figure 3.2-2.

TABLE 3.2-5: PROJECT SOILS

MAP #	*UNIT SYMBOL*	*NAME*	*PERCENT OF AOI*	*STORIE INDEX (GRADE)*
1	142	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17	4%	65 (2)
2	109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	66%	30 (4)
3	254	Timor loamy sand, 0-2% slopes	9%	43 (3)
4	255	Tinnin loamy coarse sand, 0-2% slopes	17%	57 (3)
5	266	Veritas fine sandy loam, 0-2% slopes	3%	57 (3)

SOURCE: NRCS CUSTOM SOIL SURVEY, 2014; SAN JOAQUIN COUNTY SOIL SURVEY, 1992

Delhi loamy sand. This very deep, somewhat excessively drained, nearly level soil was formed in wind-modified alluvium. Permeability is rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. This unit is suited to irrigated pasture. The main limitations are the low available water capacity and the high water table. This unit is suited to irrigated row, field, orchard, and vineyard crops. The main limitation is the low available water capacity.

Bisgani loamy coarse sand, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is rapid in this soil. Runoff is very slow, and the hazard of water erosion is slight. This unit is suited to irrigated pasture. The main limitations are the low available water capacity and the high water table.

Timor loamy sand. This moderately well drained, nearly level soil is no low fan terraces. It is deep to a hardpan. It formed in alluvium derived from granitic rock sources. Runoff is slow, and the hazard of water erosion is slight. The main limitations to agricultural production are the low available water capacity and depth to hardpan. This soil unit is suited to irrigated pasture.

Tinnin loamy coarse sand. This very deep, well drained, nearly level soil is on alluvial fans. It formed in alluvium derived from granitic rock surfaces. Permeability is rapid and available water capacity is low. Runoff is slow, and the hazard of water erosion is slight. This unit is suited to irrigated row, field, orchard, and vineyard crops. The main limitation is the low available water capacity.

Veritas fine sandy loam. This moderately well drained, nearly level soils is on low fan terraces. It is deep to a hardpan. This soil formed in alluvium derived from mixed rock sources. Runoff is slow and the hazard of water erosion is slight. This unit is suited to irrigated row, field, orchard, and vineyard crops. The main limitation is depth to the hardpan.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value.

The Project site is not under a Williamson Act contract, nor are any of the parcels that are located adjacent to the Project site.

Farmland Security Zones

In 1998 the state legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

The Project site and the adjacent parcels are not within the FSZ program.

California Government Code Section 560643

This section of the Government Codes defines "Prime agricultural land" as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.
    - Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

LOCAL

City of Manteca General Plan

The Project site is designated as Public/Quasi-Public by the City's General Plan. The General Plan Resources Conservation Element provides a goal and policy framework for the preservation and conservation of agricultural resources. General Plan agricultural policies and implementation measures applicable to the Project are identified below:

RC-P-19. The City shall support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.

RC-P-20. The City shall provide an orderly and phased development pattern so that farmland is not subjected to premature development pressure.

RC-P-21. In approving urban development near existing agricultural lands, the City shall take actions so that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations.

RC-P-23. Protect designated agricultural lands, without placing an undue burden on agricultural landowners.

RC-P-24. Provide buffers at the interface of urban development and farmland; in order to minimize conflicts between these uses.

RC-P-25. The City shall ensure, in approving urban development near existing agricultural lands, that such development will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

RC-P-28. The City shall not extend water and sewer lines to premature urban development that would adversely affect agricultural operations.

RC-P-30. The City of Manteca will participate in a county-wide program to mitigate the conversion of Prime Farmland and Farmlands of Statewide Importance to urban uses.

RC-I-30. 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.

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 (i.e. alfalfa and row crops). 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 is 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 resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands), 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;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. (Significant and Unavoidable)

Development of the proposed Project would result in the permanent conversion of 172 acres of Prime Farmland and Farmland of Statewide Importance, as shown on Figure 3.2-1, to nonagricultural use. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact.

The City's agricultural mitigation fee program requires that future development pay the agricultural mitigation fee, currently $2,511.67 per acre, to mitigate the conversion of agricultural land to urban use. The City will use these funds to purchase conservation easements or deed restrictions on agricultural land to ensure that the land remains in agricultural use in perpetuity.

In addition to the City's agricultural mitigation fee program, the SJMSCP requires development to pay fees on a per-acre basis for impacts to agricultural lands that function as habitat for biological resources. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands is perpetuity.

The purchase of conservation easements and/or deed restrictions through the City agricultural mitigation fee program and the SJMSCP allows the landowners to retain ownership of the land and continue agricultural operations, and preserves such lands in perpetuity.

The General Plan EIR anticipated development of the Project site consistent with the Land Use Map as part of the overall evaluation of the build out of the City. The General Plan EIR addressed the conversion and loss of agricultural land that would result from the build out of the General Plan (General Plan 2023 Draft EIR, pp. 4-13 through 4-15). The General Plan EIR determined that even with the implementation of mitigation measure AG-1.1, which identifies General Plan goals, policies, and implementation measures LU-P-41, LU-I-1 Goal RC-9, RC-P-18, and RC-P-19, and AG-1.2 which directs the major growth area to the Primary Urban Service boundary in a manner that avoids Prime Farmlands where feasible, the impact would be significant and unavoidable.

While the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP mitigation program as required by Mitigation Measure 3.2-1, those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Important Farmland would be a **significant and unavoidable** impact.

MITIGATION MEASURE

Mitigation Measure 3.2-1: *Prior to the conversion of important farmland on the Project site, the project applicant shall participate in the City's agricultural mitigation fee program and the SJMSCP by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City's program shall be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation.*

Impact 3.2-2: The proposed project would not conflict with existing zoning or Williamson Act Contracts (no impact)

The Project site is not under a Williamson Act Contract and is not zoned for agricultural use. There are no parcels in the immediate vicinity of the Plan Area that are under a Williamson Act Contract. Therefore, implementation of the Project would have **no impact** relative to this topic and no mitigation is required.

Impact 3.2-3: The proposed project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands (less than significant)

Agricultural land, including Prime Farmland and Farmland of Statewide Importance, is located adjacent to the western, northern, and eastern boundaries of the Project site as shown on Figure 3.2-1. A variety of recreational and visitor-serving uses would be developed on the Project site with implementation of the proposed Project.

While the City's General Plan anticipates that lands to the north, east, south, and southwest of the Project site would develop with urban uses, much of the land is used for agricultural production. Further, the San Joaquin County General Plan designates a portion of the lands west and northwest of the site for agricultural uses.

While the UPRR buffers agricultural lands in San Joaquin County that are to the northwest of the Project site, agricultural lands that are located adjacent the Project site west of McKinley Avenue and to the northeast and east of the Project site may be impacted by the increased human presence on the Project site. The City's Right-to-Farm Ordinance reduces the potential for conflict between existing agricultural lands and adjacent uses. The notification procedures in the ordinance serves to inform landowners and developers of non-agricultural uses of what the expectations are in the area with regard to agricultural activities and reduce complaints.

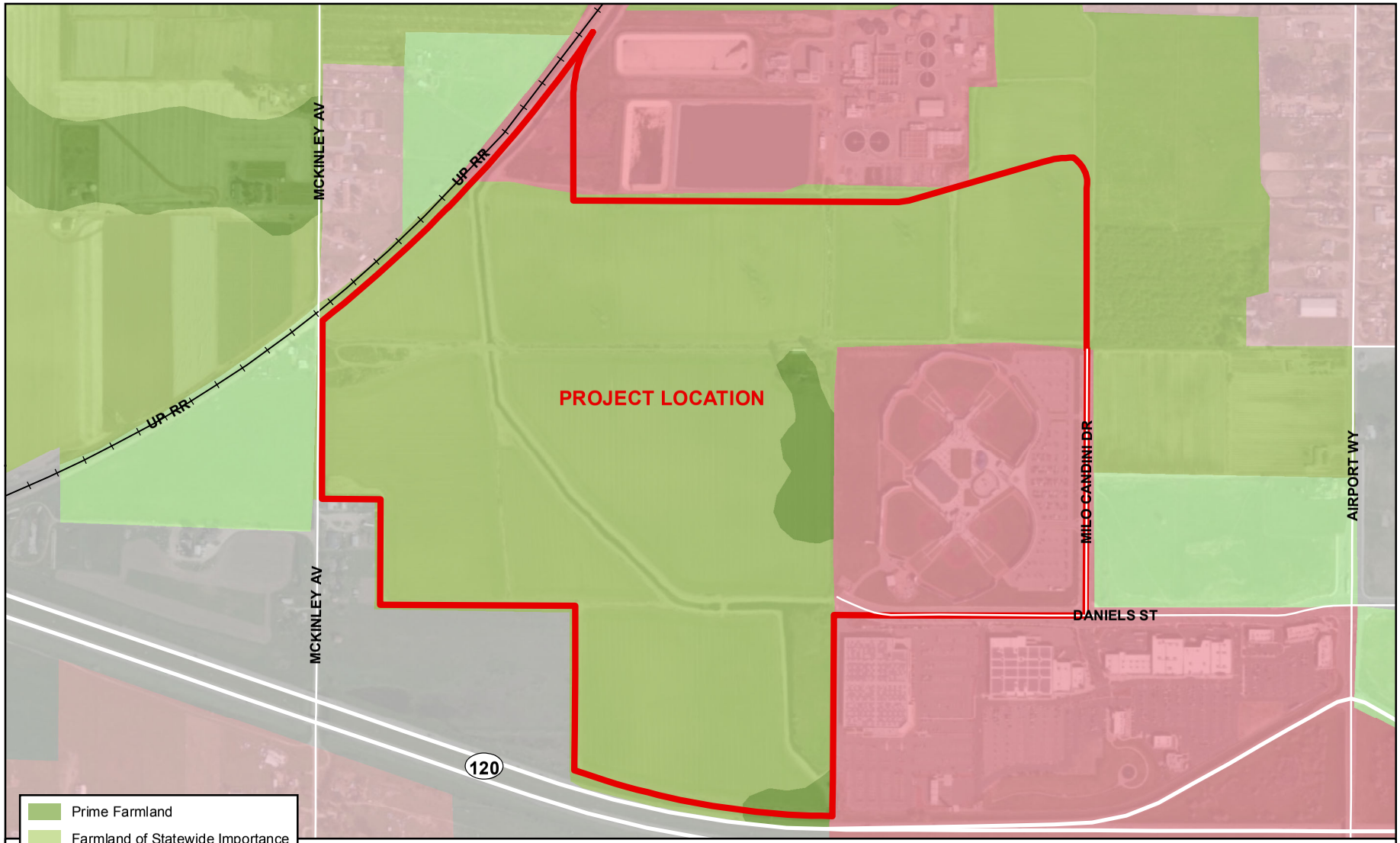
The General Plan 2023 EIR identifies that the location or nature of the General Plan could result in the conversion of farmland to non-agricultural use and identified Mitigation Measure AG-3.1, which included General Plan Policies RC-P-20, RC-P-23, RC-P-24, RC-P-25, and RC-P-27 and Implementation Measure RC-I-30. It is noted that some of these policies are re-numbered in the General plan as adopted. The General Plan 2023 EIR determined that the impact would be less than significant if the mitigation was implemented to maintain agricultural use adjacent to non-agricultural uses (General Plan 2023 Draft EIR, pp. 4-18 and 4-19).

General Plan Policy RC-P-24 requires buffers at the interface of urban development and farmland in order to minimize conflicts between the uses. Policy RC-P-25 requires that the City, in approving urban development near existing agricultural lands, ensures that such development will not constrain nearby agricultural practices. Implementation measure RC-I-30 requires urban development next to farmland to provide notifications in keeping with the Right-to-Farm Ordinance and include adequate and secure fencing at the interface of urban and agricultural uses.

Development plans for the site specific components of the Project have not yet been prepared, so it is not feasible to determine whether the Project includes uses or design features that would serve as appropriate buffers between the recreation and visitor-serving uses proposed by the Project and adjacent agricultural uses. Implementation of Mitigation Measure 3.2-2 would ensure that the Project includes adequate measures to buffer Project uses from adjacent agricultural uses and would reduce adverse effects on neighboring agricultural uses. Consistent with the General Plan 2023 EIR, implementation of Mitigation Measure 3.2-2 would reduce potential impacts to **less than significant**.

Mitigation Measure 3.2-2: *Prior to approval of improvement plans for each phase of the Project, the Project applicant shall demonstrate that the Project site plans include adequate measures to buffer adjacent agricultural uses from urban uses on the Project site and to reduce adverse impacts to neighboring agricultural uses. Such measures shall include, but not be limited to:*

- *The Project shall provide adequate and secure fencing at the interface of the Project site, or any individual phase of the Project, and adjacent agricultural uses.*
- *The Project shall provide buffers, which may include parking areas, roadways and streets, drainage channels, and landscaped corridors, to buffer adjacent agricultural uses from the Project, including any individual phase of the Project, from proposed urban uses.*
- *The Project shall provide notifications to all operators of uses on the Project site that are adjacent or in the vicinity of existing agricultural land of the City's Right-to-Farm Ordinance.*



MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.2-1: Important Farmlands

Data sources: State of California Department of Conservation Farmland Mapping and Monitoring Program, San Joaquin County, 2010; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: June 11, 2014.

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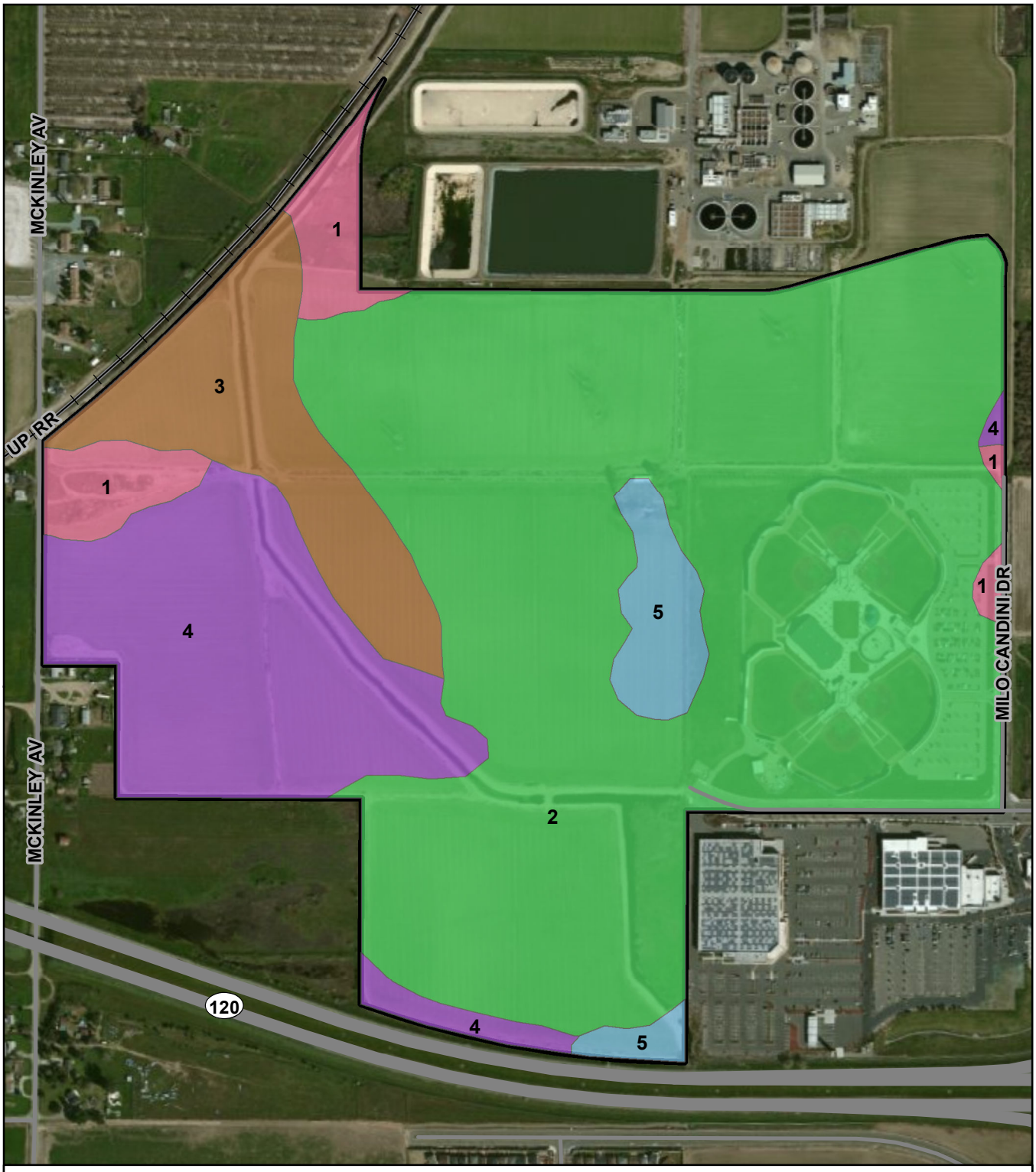

NRCS Soil Description

- 1: Delhi loamy sand, 0-2% slopes, MLRA 17
- 2: Bisgani loamy coarse sand, partially drained, 0-2% slopes
- 3: Timor loamy sand, 0-2% slopes
- 4: Tinnin loamy coarse sand, 0-2% slopes
- 5: Veritas fine sandy loam, 0-2% slopes
- Project Boundary

Data sources: USDA NRCS Web Soil Survey San Joaquin County, California, v7, November 2013.
Map date: June 13, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.2-2: Soil Map

N

0 150 300

Feet

De Novo Planning Group

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in Section 3.7. This section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective (California Air Resources Board 2007), Guide for Assessing and Mitigation Air Quality Impacts* (SJAVPCD 2002), *DRAFT -Guidance for Assessing and Mitigating Air Quality Impacts - 2012* (SJAVPCD 2012), CalEEMod *(v.2013.2.2)* (California Air Resources Board 2007). An NOP comment was provided by the San Joaquin Valley Air Pollution Control District.

3.3.3 EXISTING SETTING

SAN JOAQUIN VALLEY AIR BASIN

The San Joaquin Valley Air Basin (SJVAB) consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. Figure 3.3-1 illustrates the location of the County within the SJVAB.

The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the SJVAB throughout the year. (An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below). During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor (SJVAPCD 1998).

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

Climate

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

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

Air Movement

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

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

Seasonal Pollution Variations

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

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

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

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

Sunlight

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

Temperature Inversions

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

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

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

CRITERIA POLLUTANTS

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

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

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

The reactivity of O3 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 O3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

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

Nitrogen dioxide (NO2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O3) and acid rain, and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NOx). NOx plays a major role, together with VOCs, in the atmospheric reactions that produce O3. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO2) 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. SO2 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 SO2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO2 and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms,

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

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

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

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

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

ODORS

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

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

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

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

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

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

SENSITIVE RECEPTORS

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

AMBIENT AIR QUALITY

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

The federal and California state ambient air quality standards are summarized in Table 3.3-1 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 state standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter (PM_{10}).

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

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

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.075 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 75 ppb	-- 0.04 ppm 0.25 ppm
PM10	Annual 24-Hour	-- 150 µg /m3	20 µg /m^3 50 µg /m^3
PM2.5	Annual 24-Hour	12 µg /m^3 35 µg /m^3	12 µg /m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 µg /m^3	1.5 µg /m^3 --

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

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2013

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

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

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

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

Attainment Status

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

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

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

The U.S. EPA designates areas for ozone (O3), carbon monoxide (CO), and nitrogen dioxide (NO2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a state designation of Nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS

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

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2013).

San Joaquin Valley Air Basin Monitoring

The SJVAB consists of eight counties, from San Joaquin County in the north to Kern County in the south. SJVAPCD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM2.5, and PM10. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SJVAB between 2010 and 2012 is summarized in **Tables 3.3-3** through **3.3-5**.

TABLE 3.3-3 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - OZONE

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

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

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

TABLE 3.3-4 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 2.5

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

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

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

TABLE 3.3-5: SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 10

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

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

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

San Joaquin County Air Quality Monitoring

SJVAPCD and CARB maintain two air quality monitoring sites in San Joaquin County that collect data for ozone, PM10, and PM2.5. These include the Stockton - Hazelton Street and Tracy – Airport monitoring sites. The federal ozone 1-hour standard was revoked by the EPA in 2005, but subsequent litigation reinstated portions of implementation requirements under the revoked standard. As a result, the SJVAPCD adopted the 2013 Plan for the Revoked 1-Hour Ozone Standard in September 2013 to address the reinstated requirements for this standard. The data and analysis contained in this Draft EIR does not conflict with the 2013 Plan. Data obtained from the monitoring sites between 2010 and 2012 is shown in **Tables 3.3-6** and **3.3-7**.

TABLE 3.3-6: AMBIENT AIR QUALITY MONITORING DATA (STOCKTON – HAZELTON STREET)

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

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

TABLE 3.3-7: AMBIENT AIR QUALITY MONITORING DATA (TRACY – AIRPORT)

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

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

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

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

Transportation Control Measures

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

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner

in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards. The San Joaquin Valley Air Pollution Control District is one of 35 air quality management districts that have prepared air quality management plans to accomplish a five percent annual reduction in emissions documenting progress toward the state ambient air quality standards.

Air Quality Standards

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

Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. The state and federal primary standards for major pollutants are shown in Table 3.3-1.

Tanner Air Toxics Act

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

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. ARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, ARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent

emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

LOCAL

San Joaquin Valley Air Pollution Control District

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

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

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

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

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

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

In addition to the *2007 Ozone Plan, the 2008 PM2.5 Plan,* and the *2007 PM10 Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on January 10, 2002, and is used as a guidance document for this analysis. The SJVAPCD is currently in the process of updating the GAMAQI and has a 2012 Draft version available.

SJVAPCD RULES AND REGULATIONS

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

Regulation VIII – Fugitive PM10 Prohibitions

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

Rule 4002

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

Rule 4102 (Nuisance)

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

Rule 4103 (Open Burning)

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

Rule 4601 (Architectural Coatings)

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

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

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

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

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

Rule 9510 (Indirect Source Review)

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

City of Manteca General Plan

Air Quality Goals

Goal AQ-1. Improve air quality by:

- Achieving and maintaining ambient air quality standards established by the U.S. Environmental Protection Agency, the California Air Resources Board, and the San Joaquin Air Pollution Control District;
- Minimizing public exposure to toxic or hazardous air pollutants; and
- Minimizing public exposure to pollutants that create a public nuisance, such as unpleasant odors.

Goal AQ-2. Integrate air quality planning with land use and transportation planning processes in order to reduce vehicle miles traveled in the City and by commuters.

Goal AQ-3. Increase opportunities for alternatives to internal combustion automobiles including, but not limited to, public transportation, bicycles, walking and alternative fuel vehicles including hybrid gaselectric, electric and compressed natural gas.

Goal AQ-4. Reduce air emissions through energy conservation.

Goal AQ-5. Reduce greenhouse gases from activities within the City by amounts needed to demonstrate consistency with State of California greenhouse gas reduction targets.

Policies: Air Quality- Regional Coordination

AQ-P-1: Cooperate with other agencies to develop a consistent and coordinated approach to reduction of air pollution and management of hazardous air pollutants.

Implementation: Air Quality- Regional Coordination

AQ-I-1. Work with the San Joaquin Valley Air Pollution Control District (APCD) to implement the Air Quality Management Plan (AQMP).

- Cooperate with the APCD to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.
- Cooperate with the APCD and the California Air Resources Board in their efforts to develop a local airshed model.
- Cooperate with the APCD in their 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.

AQ-I-2. In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.

AQ-I-3. Cooperate with the San Joaquin County Environmental Health Department in identifying hazardous material users and in developing a hazardous materials management plan.

Policies: Air Quality- Land Use

AQ-P-2: Develop a land use plan that will help to reduce the need for trips and will facilitate the common use of public transportation, walking, bicycles, and alternative fuel vehicles.

AQ-P-3: Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses.

Implementation: Air Quality- Land Use

AQ-I-4. Encourage mixed-use development that is conveniently accessible by pedestrians and public transit.

AQ-I-5. Locate employment, school, and daily shopping destinations near residential areas.

AQ-I-6. Locate higher intensity development such as multi-family housing, institutional uses, services, employment centers and retail along existing and proposed transit corridors.

AQ-I-7. Locate public facilities in areas easily served by current and planned public transportation.

AQ-I-8. 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).

Policies: Air Quality- Transportation

AQ-P-4: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions.

AQ-P-5: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycles routes, pedestrian paths, bus transit, and carpooling.

AQ-P-6: Coordinate public transportation networks, including trains, local bus service, regional bus service and rideshare facilities to provide efficient public transit service.

Implementation: Air Quality- Transportation

AQ-I-9. Maintain acceptable traffic levels of service (LOS) as specified in the Circulation Element.

AQ-I-10. In new subdivisions, require the internal street system to include the installation of dedicated pedestrian/bicycle pathways connecting to adjacent residential and commercial areas as well as schools, parks and recreational areas.

AQ-I-11. Provide adequate pedestrian and bikeway facilities for present and future transportation needs throughout the City.

Policies: Air Quality- Dust and Other Airborne Particulate Materials

AQ-P-7: New construction will be managed to minimize fugitive dust and construction vehicle emissions.

AQ-P-8: Woodburning devices shall meet current standards for controlling particulate air pollution.

AQ-P-9: Burning of any combustible material within the City will be controlled to minimize particulate air pollution.

Implementation: Air Quality- Dust and Other Airborne Particulate Materials

AQ-I-12. 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.

AQ-I-13. All residences built in a new subdivision or housing development shall be equipped with conventional heating devices with sufficient capacity to heat all areas of the building without reliance on woodburning heating devices.

AQ-I-14. All woodburning-heating devices installed shall meet EPA standards applicable at the time of project approval.

Policies: Air Quality- Reduce Emissions From Energy Generating Facilities

AQ-P-10: Encourage energy efficient building designs.

Implementation: Air Quality- Reduce Emissions From Energy Generating Facilities

AQ-I-15. Design review criteria shall include the following considerations, at a minimum:

- 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.
- 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.
- Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds.

Policies: Air Quality – Greenhouse Gas Emissions

AQ-P-11: Prepare and maintain a Climate Action Plan and community greenhouse gas emission inventory for sectors with the potential for control or influence by the City that demonstrates consistency with State of California targets.

AQ-P-12: Development projects shall incorporate the applicable strategies of the City of Manteca Climate Action Plan as needed to demonstrate consistency with CAP reduction targets and AB 32.

Implementation: Air Quality – Greenhouse Gases

AQ-I-16. Track and monitor aspects of development related to CAP strategies on an ongoing basis to measure progress in achieving CAP reduction targets.

AQ-I-17. Track implementation of municipal and community projects and programs related to energy efficiency, transit service improvements, transportation facilities such as bicycle paths and lanes, pedestrian infrastructure, and other projects that reduce greenhouse gas emissions throughout the community.

AQ-I-18. Update CAP emission inventories, targets, and strategies to reflect new State of California greenhouse gas reduction targets when adopted for later years and to reflect the benefits of any new State and federal regulatory actions that reduce greenhouse gas emissions to demonstrate continued consistency with State targets.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

- Conflict with or obstruct implementation of the applicable air quality plan;

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

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (significant and unavoidable)

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

California Emission Estimator Model (CalEEMod)™ (v.2013.2.2) was used to estimate emissions for Buildout of the proposed Project. Table 3.3-8 shows the emissions, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed Project under the above assumptions.

TABLE 3.3-8: OPERATIONAL BUILDOUT GENERATED EMISSIONS

	ROG		***NOx***		***PM_{10}***		***$PM_{2.5}$***	
Threshold	**≤ 10 tons/year**		**≤ 10 tons/year**		**≤ 15 tons/year**		**N/A**	
Category	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Area	28.9278	27.0248	5.0000e-004	5.0000e-004	1.9000e-004	1.9000e-004	1.9000e-004	1.9000e-004
Energy	0.1218	0.1058	1.1069	0.9621	0.0841	0.0731	0.0841	0.0731
Mobile	28.2238	26.9250	72.2507	61.2823	24.5671	19.7854	7.2118	5.8183
Total	**57.2733**	**54.0556**	**73.3581**	**62.2449**	**24.6515**	**19.8587**	**7.2961**	**5.8916**
Threshold Exceeded?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	N/A	N/A

SOURCES: CALEEMOD (V.2013.2.2)

The SJVAPCD has established operations related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), and 15 tons per year particulate matter of 10 microns or less in size (PM_{10}). There is no established threshold for $PM_{2.5}$ other then the PM_{10} threshold. If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Table 3.3-9 above, annual emissions of ROG, NOx, and PM_{10}, exceed the SJVAPCD thresholds of significance.

The California Emission Estimator Model (CalEEMod)™ (v.2013.2.2) mitigation assumptions described above were incorporated into the model; however, the proposed Project would exceed the SJVAPCD thresholds of significance for operations even with these measures. The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the subsequent phases) are brought forward for approval under Rule 9510. However, even with the application of the ISR and the mitigation measures described above, emissions levels would remain above the defined thresholds of significance. As such, operation of the proposed Project would have a **significant and unavoidable** impact relative to operational air emissions.

Voluntary Emission Reduction Agreements As noted above, design elements and compliance with District rules and regulations may not be sufficient to reduce project related impacts on air quality to a less than significant level. In such situations, the *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (May 2012) indicates that the project proponents may enter into a Voluntary Emission Reduction Agreement (VERA) with the SJVAPCD. A VERA is a method by which the project proponent provides pound-for-pound mitigation of air emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's Emission Reduction Incentive Program (ERIP). The funds are disbursed by ERIP in the form of grants for projects that achieve emission reductions. Thus, project specific impacts on air quality are offset. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the SJVAPCD verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. The initial agreement is generally based on the projected maximum emissions increases as calculated by a SJVAPCD approved air quality impact assessment, and contains the corresponding maximum fiscal obligation. However, because the goal is to mitigate actual emissions, the SJVAPCD has designed flexibility into the VERA such that the final mitigation is based on actual emissions related to the project as determined by actual equipment used, hours of operation, etc. After the project is mitigated, the SJVAPCD certifies to the lead agency that the mitigation is completed, providing the lead agency with an enforceable mitigation measure demonstrating that project specific emissions have been mitigated.

A Mitigation Measure is included in this EIR that requires the applicant to considered the potential use of a VERA as a method to achieve emissions reductions in excess of District Rule 9510 (Indirect

Source Review) requirements. The mitigation measure also requires consideration of the benefits of improved air quality with the costs of implementation in the decision making process. Because a VERA is a voluntary contractual agreement that is negotiated, it cannot be certain that both parties will agree to acceptable terms. The inclusion of this mitigation does not guarantee that the impact would be reduced to a less than significant level. As such, the impact would be **significant and unavoidable** impact relative to operational air emissions.

MITIGATION MEASURES

Mitigation Measure 3.3-1*: Prior to final approval for each individual phase or project component, the project proponent shall submit an Air Impact Assessment (AIA) application to the San Joaquin Valley Air Pollution Control District for District Rule 9510 Indirect Source Review (ISR) to obtain AIA approval from the District for the phase or project component that is to be constructed. Prior to the issuance of a building permit of each individual phase or project component, the project proponent shall incorporate mitigation measures into the proposed Project and demonstrate compliance with District Rule 9510 including payment of all fees.*

Mitigation Measure 3.3-2*: Prior to the approval of improvement plans for each individual phase or project component, the project proponent shall incorporate the following features into project plans:*

- *Bus turnouts and transit improvements where requested by the San Joaquin RTD.*
- *Continuous public sidewalks adjacent to all proposed public streets.*
- *Pavement and striping for bike lanes/paths.*
- *Street lighting.*
- *Pedestrian signalization, signage and safety designs at signalized intersections.*
- *Shade trees to shade sidewalks in street-side landscaping areas.*
- *Require low-VOC cleaning supplies to be used by businesses and cleaning services within the Project site.*

Mitigation Measure 3.3-3*: Prior to the approval of improvement plans for each individual phase or project component, the project proponent shall prepare and implement a transportation demand management (TDM) plan that includes, but is not limited to, the following measures subject to the review and approval of the City of Manteca:*

- *Provide secure bicycle parking in conjunction with each individual phase or project component.*
- *Provide designated vanpool parking spaces within the parking lots.*
- *Provide on-site amenities that encourage alternative transportation modes such as locker, shower, and secure bike storage facilities.*
- *Coordinate SJCOG's Commute Connection Program*

Mitigation Measure 3.3-4*: Prior to the approval of a Building Permit for each individual phase or project component, the project proponent shall provide the City of Manteca with confirmation that they have met with the SJVAPCD to explore the potential of entering into a Voluntary Emissions Reduction Agreement (VERA) as a method to achieve emissions reductions in excess of District Rule*

9510 (Indirect Source Review) requirements and other mitigation measures required for the proposed Project. The City shall confirm that the project proponent has made a good-faith effort to reduce emissions through a VERA taking into consideration whether emissions reductions through a VERA can be accomplished in a successful manner within a reasonable period of time, and taking into account economic, environmental, legal, social, and technological factors.

Impact 3.3-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (significant and unavoidable)

Construction Activities/Schedule: Construction activities will consist of multiple phases over several years. These construction activities can be described as site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings). For purposes of this analysis, it is assumed that the entire project is builtout from 2015 through 2017. This construction schedule is considered a worst-case scenario. Actual construction emissions will likely be spread out over an extended period of time.

Site Improvements: The construction of site improvements will include the development of Phase 1 initially, and then subsequent phases to be determined in the future. The exact construction schedule of the entire Project is largely dependent on funding of future phases. For purposes of this analysis it is assumed that site improvements are installed in one phase. This approach will present a more conservative and worst-case scenario.

The site improvement phase of construction will begin with site preparation. This step will include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials and the upper half-inch to inch of soil from the Project site. This task will generally take a month or less to complete and will include vehicle trips from construction workers. Given that the Project site lacks significant vegetation, this step will likely be less than the assumed month.

After the site is striped of organic materials grading will begin. This activity will involve the use of excavators, graders, dozers, scrappers, loaders, and backhoes to move soil around the Project site to create specific engineered grade elevations and soil compaction levels. Grading the Project site would take approximately four months and will include vehicle trips from construction workers. *(Note: It would be possible to grade the site under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

The next step involves the installation of underground infrastructure. This step will involve the use of excavators to dig trenches, place pipe and conduit, bury pipe and conduit, and compact trench soil. The undergrounding of infrastructure would also include the installation of box culverts to underground the French Camp Canal. Underground infrastructure installation would take approximately three months and will include vehicle trips from construction workers. *(Note: It would be possible to install the underground infrastructure under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

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

involve the use of pavers, paving equipment, and rollers and will take approximately three months and will include vehicle trips from construction workers. *(Note: It would be possible to install the topside improvements under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures and landscaping around the structures. This task will involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. The exact construction schedule of the entire Project is largely dependent on funding of future phases. For purposes of this analysis it is assumed that the entire Project is constructed in approximately eight years. The actual building construction phase may be much shorter or much longer. Architectural coatings involve the interior and exterior painting associated with the structures. This task will generally begin four or five months after construction begins on the structure and will generally be completed with the completion of the building.

Construction Emissions: The proposed Project is larger in scope and size then the SJVAPCD's Small Project Analysis Level (SPAL), therefore, a quantification of the emissions of ROG, NOX, PM10, and PM2.5 that will be emitted by project construction has been performed. The California Emission Estimator Model (CalEEMod)^{TM} (v. 2013.2.2) was used to estimate construction emissions for the proposed Project. In addition to the operational model assumptions presented under Impact 3.3-1 above, below is a list of model assumptions used in the construction screens of CalEEMod. Table 3.3-10 presents the construction phase schedule, which shows the duration of each construction phase. Table 3.3-11 shows the off-road construction equipment used during construction for each phase. Following these tables are a list of default factors that were used in the model.

MODEL ASSUMPTIONS (CONSTRUCTION)

TABLE 3.3-10: CONSTRUCTION PHASE

Phase Number	Phase Name	Start Date	End Date	Num Days Week	Num Days
Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week
1	Site Preparation	Site Preparation	1/1/2015	1/28/2015	5
2	Grading	Grading	1/29/2015	4/1/2015	5
3	Building Construction	Building Construction	4/2/2015	8/15/2018	5
4	Paving	Paving	8/16/2018	12/5/2018	5

SOURCES: CALEEMOD (V.2013.2.2)

TABLE 3.3-11: OFF-ROAD EQUIPMENT

Equipment Type	Unit Amount	Hours/Day	Horsepower	Load Factor
Site Preparation				
Rubber Tired Dozers	3	8.00	255	0.40
Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading				
Excavators	2	8.00	162	0.38
Graders	1	8.00	174	0.41
Rubber Tired Dozers	1	8.00	255	0.40
Scrapers	2	8.00	361	0.48
Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction				
Cranes	1	7.00	226	0.29
Forklifts	3	8.00	89	0.20
Generator Sets	1	8.00	84	0.74
Tractors/Loaders/Backhoes	3	7.00	97	0.37

Welders	1	8.00	46	0.45
Paving				
Pavers	2	8.00	125	0.42
Paving Equipment	2	8.00	130	0.36
Rollers	2	8.00	80	0.38
Architectural Coatings				
Air Compressors	1	6.00	78	0.48

SOURCES: CALEEMOD (V.2013.2.2)

Table 3.3-12 shows the construction emissions for the construction years 2015 through 2017.

TABLE 3.3-12: CONSTRUCTION EMISSIONS (UNMITIGATED)

	ROG	NOx	PM10 Total	PM2.5 Total
2015	3.0266	18.7956	4.0682	1.4921
2016	3.3136	19.3656	4.2197	1.4892
2017	2.9052	17.1758	4.1388	1.4235
2018	9.5755	10.3539	2.6424	0.9079
2019	26.9486	0.1110	0.1373	0.0400
Total	45.7694	65.8019	15.2065	5.3527

SOURCES: CALEEMOD (V.2013.2.2)

The SJVAPCD has established construction related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM_{10}). If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.3-12 above, annual emissions of NOx will exceed the SJVAPCD thresholds of significance. However, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Implementation of the following mitigation measures will ensure that the proposed Project would reduce construction related emissions to the extent possible; however, even with the implementation of mitigation measures the proposed Project would have a **significant and unavoidable** impact related to construction emissions.

MITIGATION MEASURES

Mitigation Measure 3.3-5: *Prior to the commencement of construction activities, the project proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.*

Mitigation Measure 3.3-6: *During all construction activities, the project proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.*

Mitigation Measure 3.3-7: *During all construction activities, the project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (San Joaquin Valley APCD, 2002):*

a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.

b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.

c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.

d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.

e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.

f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.

g. Limit traffic speeds on unpaved roads to 15 mph; and

h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Mitigation Measure 3.3-8: *Architectural coatings applied to all structures in the Project site shall meet or exceed volatile organic compound (VOC) standards set in APCD Rule 4601. The ODS shall submit to the APCD a list of architectural coatings to be used and shall indicate how the coatings meet or exceed VOC standards. If the APCD determines that any architectural coatings do not meet VOC standards, the ODS shall replace the identified coatings with those that meet standards.*

Mitigation Measure 3.3-9: *To reduce impacts from construction related exhaust emissions, the project proponent shall utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.*

Mitigation Measure 3.3-10: *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*

Impact 3.3-3: The proposed project has the potential to have carbon monoxide hotspot impacts (less than significant)

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

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

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

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

For the proposed project, the first tier is not met because the operations at the Airport Way/Atherton Drive intersection would operate at Peak Hour LOS F (19 second delay) under the existing plus project conditions. Additionally, Airport Way/Atherton Drive, Airport Way/SR 120 EB Ramps, Airport Way/SR 120 WB Ramps, Airport Way/Daniels Street, Airport Way/Wawona Street, and Airport Way/Yosemite Avenue each operate at an unacceptable Peak Hour LOS E or F under the Cumulative Plus Project conditions. The screening approach requires that if the first tier of screening criteria is not met then the second tier of screening criteria shall be examined.

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

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

The proposed project screens out under the second tier because it meets all three criteria. First, the six intersections that will operate at LOS E or F under Cumulative Plus Project conditions (listed above), will only experience a Peak Hour traffic of between 1,608 to 4,300 vehicles per hour during the peak hour. The maximum of 4,300 vehicles per hour is significantly below the 31,600 vehicles

per hour threshold. Secondly, these intersections do not include a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited. Lastly, the mix of vehicle types at these intersections is not anticipated to be substantially different from the County average (Fehr and Peers, 2014). As such, the proposed project screens out satisfactorily under tier 2.

Conclusion

The traffic study for the proposed project examined Level of Service (LOS) for both road segments and intersections affected by the proposed project. There are six intersections that would operate at an LOS E or F during the Peak Hour for Cumulative Plus Project conditions. The screening approach for analyzing CO concentrations was used to analyze CO impacts for the proposed project. The proposed project screens out satisfactorily under tier 2 based on a peak hour vehicle per hour that is low, combined with the fact that the project does not include any tunnels, parking garages, bridge underpasses, urban street canyons, or below-grade roadways, or other locations where horizontal or vertical mixing of air will be substantially limited. The project is within an attainment area for carbon monoxide (ambient air quality standards are currently attained) and in an area with low background concentrations, changes in carbon monoxide levels resulting from the proposed project would not result in violations of the ambient air quality standards, and would represent a **less than significant** impact.

Impact 3.3-4: The proposed project has the potential for public exposure to toxic air contaminants (less than significant)

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

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

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using

EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (2007) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.3-13 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.3-13: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

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

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

There are no traditional sensitive receptors such as residences, hospitals, or schools that are proposed as part of this project. The park amenities are well beyond the 500-foot minimum

separation distance. Additionally, the proposed project does not include any of the source categories identified in the CARB minimum separation standards. Implementation of the proposed Project would have a **less than significant** impact relative to this topic.

Impact 3.3-5: The proposed project has the potential for exposure to odors (significant and unavoidable)

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

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

The proposed Project does not propose uses that would create odors; however, the Manteca Water Quality Control Facility is located immediately north of the project site. While this facility falls into the category of a known producer of odors, there have been few past odor complaints associated with the Manteca Water Quality Control Facility (per. comm. Laurie Ramirez May 6, 2014). This may be in part due to the fact that there is over 1,000 feet of agricultural land separating the facility and the closest residence. The existing Big League Dreams recreational facility is located approximately 900 feet to the southeast of the facility and no odor complaints have been received.

The proposed Project would place people in closer proximity to the Manteca Water Quality Control Facility then currently occurs. By the very nature of the operations at the Manteca Water Quality Control Facility, there will be odors generated at the facility. The generation of these odors could be considered a nuisance at times by patrons of the proposed Project. The Manteca Water Quality Control Facility currently operates with state of the art wastewater treatment technology, which minimizes the odors generated at the facility. Nevertheless, all odors cannot be eliminated and any development near the Manteca Water Quality Control Facility is going to result in exposure of people to odors. This cannot be mitigated and is not avoidable so long as development occurs adjacent to the facility. The level of significance of this impact, however, is largely based on the perception of the individual that is exposed. For instance, for one individual any odor may be considered intolerable, while to another individual the same odor may be tolerable. Because it is anticipated that some people will find any odor intolerable, implementation of the proposed Project adjacent to the odor producing Manteca Water Quality Control Facility would be a **significant and unavoidable** impact.

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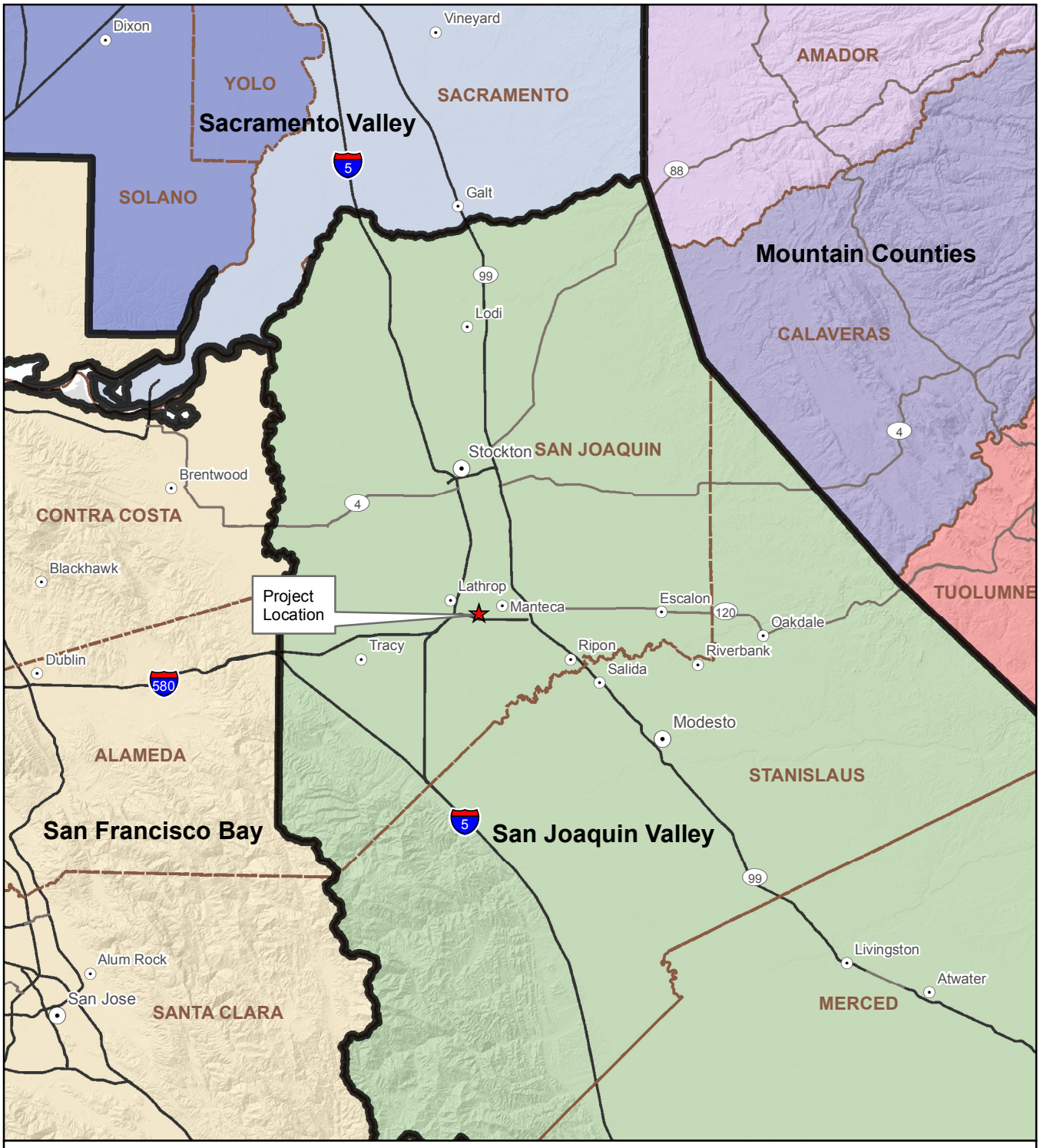

Air Districts
- Amador
- Bay Area
- Calaveras
- Sacramento Metro
- San Joaquin Valley Unified
- Tuolumne
- Yolo-Solano

Air Basins

County Boundaries

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.3-1: Air Basins and Districts

N

0 5 10
Miles

1:750,000

Data sources: California Enviornmental Protection Agency. Air Resources Board.
Shaded relief from the California Spatial Information Library. Map date: June 11, 2014.

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

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This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from project implementation. This section is based in part on the following technical studies: *City of Manteca General Plan 2023* (City of Manteca as amended through 2013), *Manteca General Plan 2023 Draft Environmental Impact Report* (City of Manteca 2003), and *Preliminary Wetland Delineation, French Camp Outlet Canal Improvements and Manteca Family Entertainment Zone Project* (De Novo 2014). Comments received during the NOP comment period regarding biological resources include: SJCOG, Inc.

3.4.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCES/BIOREGION

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

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

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

LOCAL SETTING

Location

The project site is located in the City of Manteca, San Joaquin County, California. The project site is located on the Lathrop, California, USGS 7.5-minute quadrangle, Township 2 South, Range 6 East. The UTM coordinates for the center point of the project site are 652688.47536 W, 4183417.94368

N (zone 10N, NAD 83, meters). The Lat/Long coordinates are 37.7853 N, -121.2660 W (WGS 84, decimal degrees).

The Project site is located to the north and west of the Stadium Shopping Center, to the west of Milo Candini Drive, to the east of McKinley Avenue, to the south of the City of Manteca Wastewater Quality Control Facility (WQCF), and to the north of State Route 120. The property is comprised of approximately 189 acres. The site includes 189 acres to be developed with various public serving regional and local recreation, parks and sporting facilities including visitor serving commercial uses and public infrastructure to be developed in phases.

Topography

The project site has been leveled for agricultural uses. Topographic features within the project site include level agricultural fields, an irrigation canal, and wetland areas. Elevation ranges from approximately 20 feet to 25 feet above mean sea level (MSL).

Climate

The City of Manteca is located in the northern portion of the San Joaquin Valley, which has a Mediterranean climate that is subject to cool, wet winters (often blanketed with fog) and hot, dry summers. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.

Vegetation

Vegetation on the project site can be broken up into upland and wetland communities. Common plant species observed within the upland communities 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*), telegraphweed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), barley (*Hordeum* sp.), milkthistle (*Silybum marianum*), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Common plant species in the wetland communities include: tapertip rush (*Juncus acuminatus*), tule (*Schoenoplectus acutus*), arroyo willow (*Salix lasiolepis*), hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), black willow (*Salix goodingia*), stinging nettles (*Urtica dioica*), poison hemlock (*Conium maculatum*), willow herb (*Epilobium brachycarpum*), horseweed (*Conyza canadensis*), Canadian waterweed (*Elodea canadensis*), prickly lettuce (*Lactuca serriola*), cottonwood (*Populus fremontii*), spiny sowthistle (*Sonchus asper*), horehound (*Marrubium vulgare*), cocklebur (*Xanthium strumarium*), and yellow sweetclover (*Melilotus officinalis*).

Wildlife

Agricultural and ruderal vegetation found on the project site provides habitat for both common and rare 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, and all bat species are state species of special concern.

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, CEQA, the Fish and Game Code, or the Clean Water Act. Additionally, sensitive habitats are usually protected under specific policies from local agencies. Below is a list brief description of the communities found on the project site. Figure 4.3-2 illustrates the plant communities (land cover types) in the vicinity of the Project site.

Agricultural: Agricultural areas occur throughout the region. The agricultural areas are generally flat and well drained, and as a result are well suited for many crops. Alfalfa fields, hay, row crops, orchards, annual grasslands, cattle pasture, and dairies dominate the agricultural areas. Agricultural fields commonly have irrigation canals, ditches, and stock ponds that serve as a water source or drainage for the fields and habitat for a variety of plants and animals.

Riparian Communities: Riparian natural communities support woody vegetation found along rivers, creeks and streams. Riparian habitat can range from a dense thicket of shrubs to a closed canopy of large mature trees covered by vines. Riparian systems are considered one of the most important natural resources. While small in total area when compared to the state's size, they provide a special value for wildlife habitat.

Over 135 California bird species either completely depend upon riparian habitats or use them preferentially at some stage of their life history. Riparian habitat provides food, nesting habitat, cover, and migration corridors. Another 90 species of mammals, reptiles, invertebrates and amphibians depend on riparian habitat. Riparian habitat also provides riverbank protection, erosion control and improved water quality, as well as numerous recreational and aesthetic values.

Grassland Communities: Grassland communities occur in a wide range of soil types in disturbed and undisturbed environments. Additionally, grasslands can occur where other natural

communities have occurred historically, but have been mechanically removed. Vernal pool and vernal swale grasslands are more restricted based on specific soil, drainage, geology, and climate requirements.

Wetland Communities: A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands are defined by regulatory agencies as having special vegetation, soil, and hydrology characteristics. Hydrology, or water inundation, is a catalyst for the formation of wetlands. Frequent inundation and low oxygen causes chemical changes to the soil properties resulting in what is known as hydric soils. The prevalent vegetation in wetland communities consists of hydrophytic plants, which are adapted to areas that are frequently inundated with water. Hydrophytic plant species have the ability to grow, effectively compete, reproduce, and persist in low oxygen soil conditions.

Soils

The USDA/NRCS Web Soil Survey indicates the presence of five soil series occurring within the project site. Table 3.4-1 identifies the soils found on the project site. The NRCS Soils Map is provided in Figure 3.2-2 in Section 3.2 Agricultural Resources.

TABLE 3.4-1: USDA SOIL SERIES INFORMATION

SOIL SERIES	DESCRIPTION	SOURCE MATERIAL	PEDON/DEPTH	DRAINAGE
Bisgani	loamy coarse sand, partially drained, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	40 to 60 inches	Poorly drained
Delhi	Loamy sand, 0 to 2 percent slopes	Wind-modified alluvium	40 to 60 inches	Well drained
Timor	Loamy sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	50 to 60 inches	Well drained
Tinnin	Loamy coarse sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	53 to 75 inches	Well drained
Veritas	Fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	54 to 70 inches	Moderately well drained

SOURCE: USDA/NRCS, WEB SOIL SURVEY, 2/9/2011.

Bisgani loamy coarse sand, partially drained, 0 - 2% slopes: The Bisgani series consists of very deep, poorly drained soils that formed in mixed alluvium dominantly from granitic rock sources. Bisgani soils are on bars, flood plains, low alluvial fans, basins floors and valley basins. This series typically has a Mollic epipedon with an Aquic moisture regime. Bisgani loamy coarse sand, partially drained, 0 - 2% slopes is included on the NRCS National Hydric Soils List with a hydric component percent of 85.

The color range for the A horizon (0 to 22 inches) in the Bisgani series is 10YR 4/1, 4/2, 5/1, 5/2, 8/1; 2.5Y 4/2 or 5/2. The moist colors of this horizon have a lower value and range from 10YR 2/1, 3/1, 3/2, 3/3; or 2.5Y 3/2. Texture is sandy loam, loamy sand or loamy coarse sand. The Ap horizon in some pedons has an overwash of clay loam. Some pedons are slightly effervescent.

The color range for C horizon (22 to 43 inches) has color of 10YR 6/1, 6/2, 6/3, 7/1, 7/2, 7/3, 8/1. 2.5Y 6/2, 7/1, 7/2; or N 7/0. Moist color is 10YR 3/2, 4/2, 4/3, 5/3, 5/4; 2.5Y 4/2, 5/2, 5/4 or 6/2; 5Y 4/1, 4/2. Texture is sandy loam, loamy sand, loamy coarse sand, coarse sand or sand. Some pedons have 2 to 5 percent fine gravel.

Delhi loamy sand, 0 - 2% slopes: The Delhi series consists of somewhat excessively drained soils on dunes. These soils are very deep. They formed in wind-modified alluvium derived from granitic rock sources. Slope ranges from 0 to 5 percent. Soils of the Delhi series are mixed, thermic, Typic Xeropsamments. Typical pedon of Delhi loamy sand, 0 to 2 percent slopes. The content of clay is 0 to 5 percent. Reaction is slightly acid to mildly alkaline. Delhi loamy sand, 0 - 2% slopes is not included on the NRCS National Hydric Soils List.

The A horizon has color of 10YR 4/3, 5/2, 5/3, 5/4, or 6/2. When moist, it has color of 10YR 4/2 or 4/3. It is fine sand or loamy sand.

The C horizon has color of 10YR 5/2, 6/1, 6/2, 6/3, 6/4, 7/1, 7/2, 7/3, or 7/4. When moist, it has color of 10YR 5/1, 5/2, 5/3, 5/4, 6/1, 6/2, 6/3, or 6/4. It is fine sand, loamy sand, or sand.

Timor loamy sandy, 0 - 2% slopes: The Timor series consists of moderately well drained soils on low fan terraces or alluvial fans. These soils are deep to a hardpan. They formed in alluvium derived from granitic rock sources. Slope ranges from 0 to 2 percent. Soils of the Timor series are sandy, mixed, thermic Entic Haploxerolls. Typical pedon of Timor loamy sand, 0 to 2 percent slopes. Depth to the duripan is 40 to 60 inches. The depth to distinct and prominent mottles is 30 to 48 inches. Timor loamy sand, 0 - 2% slopes is included on the NRCS National Hydric Soils List with a hydric component percent of 3.

The A horizon has color of 10YR 5/2, 5/3, 4/2, or 4/3. When moist, it has color of 10YR 2/2, 3/2, or 3/3. It is neutral or mildly alkaline.

The Bk horizon has color of 10YR 4/4, 5/3, 5/4, 6/2, 6/3, or 6/4. When moist, it has color of 10YR 5/4, 5/3, 4/4, 4/3, 4/2, or 3/3. It is mildly alkaline or moderately alkaline.

The 2Bkqm horizon has color of 10YR 7/3, 7/2, 7/1, 6/2, or 6/1. When moist, It has color of 10YR 5/2 or 2.5Y 5/2.

Tinnin loamy coarse sand, 0 - 2% slopes: The Tinnin series consists of very deep, well drained soils formed in predominantly granitic alluvium or eolian sands. Tinnin soils are on low alluvial terraces of fans and narrow ridges and mounds and have slopes of 0 to 9 percent. This series is typically a Mollic epipedon. Tinnin loamy coarse sand, 0 - 2% slopes is not included on the NRCS National Hydric Soils List.

The color range for A horizon (0-28 inches) is 10YR 5/2, 5/3, 4/2, or 4/3 and 10YR 2/2, 3/2 or 3/3 moist. It is loamy coarse sand, loamy sand, fine sand or sand. It is slightly acid to mildly alkaline. This horizon has 1 to 3 percent organic matter.

The color range for the C horizon (28-75 inches) is 10YR 4/4, 5/3, 5/4, 6/2, 6/3, 6/4, 7/2, 7/3 or 7/4, and moist color of 10YR 5/4, 5/3, 4/4, 4/3, 4/2, 3/3 or 3/4. It commonly is loamy coarse sand or

loamy sand, but includes sand in the lower part of some pedons. The upper C horizon is slightly acid to mildly alkaline, and the lower C horizon is neutral to moderately alkaline.

Veritas fine sandy loam, 0 - 2% slopes: The Veritas series consists of deep to duripan, moderately well drained, soils that formed in alluvium derived from mixed rock sources. Veritas soils are on low fan terraces with slopes of 0 to 2 percent. This series typically has a Mollic epipedon. Veritas fine sandy loam, 0 - 2% slopes is included on the NRCS National Hydric Soils List with a hydric component percent of 2.

The color range for the A horizon (0-15 inches) is 10YR 5/1, 5/2 or 4/2 and moist color of 10YR 3/2 or 3/1. It is neutral to moderately alkaline. Organic matter ranges from 1 to 2 percent.

The color range for the B horizon (15-70 inches) is 10YR 5/4, 5/3, 5/1, 6/3, 6/4, 6/2 or 2.5Y 6/2 and moist color of 10YR 4/3, 4/2, 4/1 or 2.5Y 4/2. It is mildly or moderately alkaline.

Hydrogeomorphic Features

The project site contains an irrigation canal/ditch that is part of an extensive network of irrigation canals/ditches that are owned and operated by the South San Joaquin Irrigation District (SSJID). The French Camp Outlet Canal enters the project site from the southeastern corner of the property and travels northeasterly for approximately 400 feet before turning northerly for approximately 1000 feet. The canal then turns westerly for approximately 500 feet before turning northwesterly as it exits the project site.

The project site also contains two wetlands. Wetland 1 and 2 are on the eastern side of the property between the property line and the French Camp Outlet Canal. The remainder of the property is level agricultural property with agricultural roads and ancillary structures. (*Note: The project site also contains a third area with wetland features that have been excluded for the development project. As such, this area is not included in this wetland delineation, and the City does not seek a wetland verification.)*

Water Source

Surface flows within the project site are derived primarily from irrigation water that SSJID provides through the French Camp Outlet Canal. The water that SSJID utilizes in the French Camp Outlet Canal comes from the Stanislaus River watershed; water is stored in the reservoirs behind the Tulloch, New Melones, Beardsley, Goodwin, and Donnells dams.

Irrigation season runs from approximately March 15 to October 15, depending on the weather. The canal network ultimately connects into the San Joaquin River approximately 12 miles north of the project site.

Drainage Pattern

The region generally drains from east to west. The natural drainage pattern in the area is largely changed from its natural conditions due to agricultural activities. With the exception of the two wetlands and the French Camp Outlet Canal, there are no natural drainage patterns within the project site.

The flows in the French Camp Outlet Canal travel northerly through the property and are fully contained within the banks of the canal. These canals are not known to overflow or otherwise cause flooding on adjacent properties.

Wetland 1 is a low terrace that receives water from the canal through a low point along the bank. The water is received during high flows, which occur during the summer irrigation season. Wetland 2 is an active floodplain that receives water along a portion of the canal with no bank.

Downstream Connectivity

The canal has direct connectivity to the San Joaquin River, a "Traditional Navigable Water" (TNW). Downstream connectivity is summarized in Table 3.4-2 (below).

TABLE 3.4-2: DISTANCE TO DOWNSTREAM RESOURCES

DOWNSTREAM RESOURCE (NAME)	TYPE	LENGTH (FEET)	LENGTH (MILES)
Canal	Tributary	40,027.85	7.58
Unnamed Stream	Tributary	5,889.55	1.12
French Camp Slough (Artificial Path)	Tributary	17,213.03	3.26
San Joaquin River	TNW	N/A	N/A

SOURCE: USGS NATIONAL HYDROGRAPHY DATA SET, FEBRUARY 11, 2011

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within 10 miles of the Project site. Table 3.4-3 provides a list of special-status plants and Table 3.4-4 provides a list of special-status animals. Figure 3.4-3 and 3.4-4 present the documented occurrences within a one-mile and ten-mile radius of the Project site.

TABLE 3.4-3: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA

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

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

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

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

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

TABLE 3.4-4: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN PROJECT AREA

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

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

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

Status explanations:

Federal

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

State

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

3.4.2 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, USFWS, USACE, and the Central Valley Regional Water Quality Control Board. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL

Federal Endangered Species Act

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

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

Migratory Bird Treaty Act

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

Federal Bald and Golden Eagle Protection Act

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

Clean Water Act – Section 404

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

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

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

Clean Water Act – Section 401

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

Rivers and Harbors Act of 1899

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

STATE

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

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

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

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

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

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

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

Fish and Game Code §1601-1603 – Streambed Alteration

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

Public Resources Code § 21000 - California Environmental Quality Act

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

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

California Wetlands Conservation Policy

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

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

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

Natural Community Conservation Planning Act

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

Porter-Cologne Water Quality Control Act

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

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

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

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

- Water Supply: The SJR is not currently a source of municipal water supply for the City of Manteca and is not identified as a source for the proposed proposed Project project, although some farms in the area use the river as a source of water for irrigation. The City currently uses groundwater only and surface water from the South San Joaquin Irrigation

District (SSJID) South County Surface Water Supply Project (SCSWSP), which does not rely on the SJR.

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

LOCAL

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

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). An approved HCP within a defined 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 California Endangered Species Act (CESA); providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to Project Proponents and society at large.

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

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, 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 California Department of Fish and Wildlife (CDFW), and the US Fish and Wildlife Service. Development project applicants are given

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

Applicants pay mitigation fees on a per-acre basis, as established by the Joint Powers Authority according to the measures needed to mitigate impacts to the various habitat and biological resources. Different types of land require different levels of mitigation; i.e., one category requires that one acre of a similar land type be preserved for each acre developed, while another type requires that two acres be preserved for each acre developed. The entire County is mapped according to these categories so that land owners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed development.

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

City of Manteca General Plan

Biological Resources Policies

RC-P-31. Minimize impact of new development on native vegetation and wildlife.

RC-P-32. 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-P-33. Discourage the premature removal of orchard trees in advance of development, and discourage the removal of other existing healthy mature trees, both native and introduced.

RC-P-34. Protect special status species and other species that are sensitive to human activities.

RC-P-35. Allow contiguous habitat areas.

RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.

Biological Resources Implementation Measures

RC-I-32. Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.

RC-I-33. Project proponents who opt not to participate in the SJMSCP shall:

- 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-I-34. 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-I-35. Continue to enforce the City's heritage tree ordinance which defines and identifies mature trees to be protected, and establishes regulations for their protection and removal.

RC-I-36. Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-I-37. The City shall implement multiple use of resource areas, where feasible, that includes passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

City of Manteca Municipal Code

Manteca Municipal Code calls for the avoidance of heritage trees. Heritage trees are defined under section 17.61.030 of the code as any natural woody plant rooted in the ground and having a diameter of 30 inches or more when measured two feet above the ground. Section 17.19.060 calls for the protection of all existing trees having a diameter of six inches or more when measured 4½ feet above the ground. The City planning department must be notified of planned construction or grade changes within the proximity of existing mature trees. Existing trees must be protected from construction equipment, machinery, grade changes, and excavation for utilities, paving, and footers. Replacement of existing trees is subject to approval from the planning director and must be with a minimum 24-inch box tree of compatible species for the development site and be consistent with Section 17.19.030. Orchard areas of one acre or more are exempt from section 17.19.060(A); however, as outlined above, policy RC-P-33 of the City's General Plan discourages the premature removal of orchard trees in advance of development.

Section 12.08.070 of the municipal code prohibits cutting, pruning, removing, injuring, or interference with any tree, shrub, or plant upon or in any street tree area or other public place in the City without prior approval from the superintendent. The City is authorized to grant such permission at their discretion and where necessary. Except for utility companies, as provided in Section 12.08.080, no such permission shall be valid for a longer period than 30 days after its issuance.

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

IMPACTS AND MITIGATION

Impact 3.4-1: The proposed project has the potential to have a direct or indirect effect on special-status invertebrate species (less than significant)

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

and habitat evaluations were performed on March 28, March 29, and April 14, 2011 and on March 28, 2014.

Valley elderberry longhorn beetle (VELB) is a federal threatened insect, proposed for delisting. Elderberry (*Sambucus* sp.), which is a primary host species for valley elderberry longhorn beetle (VELB), is present within the project site. Elderberry shrubs are a common component of riparian areas throughout the Central Valley region and are often found as isolated residual plants within and around Central Valley farmland. The Project site was surveyed by searching for the presence of elderberry shrubs and VELB. The Project site does not contain VELB, or its habitat. VELB is not anticipated to be directly affected by the proposed Project because this species is presumed to be absent from the Project site. Nevertheless, VELB is a covered species under the SJMSCP.

The wetlands along the French Camp Outlet Canal are considered unsuitable habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) or any other vernal pool crustaceans. The vegetative community within the wetlands indicates that these features receive supplemental irrigation throughout the year, which would render these features unsuitable as habitat for the vernal pool crustaceans. Vernal pool fairy shrimp is not anticipated to be directly affected by the proposed Project. Vernal pool fairy shrimp is a covered species under the SJMSCP.

Essential habitat for Molestan blister beetle and Sacramento anthicid beetle is not present on the project site.

No special-status invertebrates were observed within the project site or offsite improvement corridors during field surveys and none are expected to be affected by the proposed Project. Therefore, the proposed Project, including the offsite improvements would have a ***less than significant*** impact on special-status invertebrate species. While there are no special status invertebrate species that are anticipated to be affected by the proposed Project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. The following mitigation measure will ensure coverage under the SJMSCP.

MITIGATION MEASURES

Mitigation Measure 3.4-1*: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those*

species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.

Impact 3.4-2: The proposed project has the potential to have direct or indirect effects on special-status reptile and amphibian species (less than significant)

There is one special-status amphibian that is documented within a 10-mile radius of the Project site including: California tiger salamander (*Ambystoma californiense*). There is no essential habitat for this species on the project site.

While not documented within the 10-mile search radius, the riparian habitat adjacent to the French Camp Outlet Canal represents potentially-suitable habitat for giant garter snake (*Thamnophis gigas*), which is a federal and state listed threatened species. Essential giant garter snake habitat components consist of 1) adequate water during early spring through mid-fall to provide prey base and cover, 2) emergent wetland vegetation for escape cover and foraging habitat, 3) uplands for basking and retreat sites, and 4) higher elevation upland for cover and flood refugia. The USFWS considers areas within 200 feet of aquatic habitat to represent potential upland habitat. Additionally, the USFWS identifies various levels of impact to giant garter snake habitat, from temporary to permanent, and applies mitigation requirements accordingly. The nearest previously documented giant garter snake occurrence is located greater than 10 miles to the northeast of the site, and while this special status species is not anticipated to be affected by the proposed Project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur.

While not documented within the 10-mile search radius, the French Camp Outlet Canal represents potentially-suitable habitat for western pond turtle (*Clemmys marmorata*), which is known to occur in aquatic habitats, such as streams, ponds, freshwater marshes, and lakes. They require still or slow-moving water with instream emergent woody debris, rocks, or other similar features for basking sites. Western pond turtle nests are typically located on unshaded upland slopes in dry substrates with clay or silt soils. The French Camp Outlet Canal provides suitable aquatic habitat for western pond turtles. The banks along the French Camp Outlet Canal could provide suitable nesting sites, but regular disturbance from vegetation removal activities, such as burning, mowing, and herbicide spraying, makes it very unlikely that pond turtles would nest in the banks. The agricultural portion of the Project site is unlikely to be utilized by western pond turtle. The nearest previously documented western pond turtle occurrence is located greater than 10 miles from the Project site, and while this special status species is not anticipated to be affected by the proposed Project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur.

No special-status reptiles or amphibians were observed within the project site or offsite improvement corridors during field surveys and none are expected to be affected by the proposed

Project. Therefore, the proposed Project would have a ***less than significant*** impact on special status reptile or amphibian species. While there are no special status reptiles or amphibians species that are anticipated to be affected by the proposed Project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. Mitigation Measure 3.4-1, previously listed, will ensure coverage under the SJMSCP.

Impact 3.4-3: The proposed project has the potential to have direct or indirect effects on special-status bird species (less than significant with mitigation)

Special-status birds that are documented within a ten-mile radius of the Project site include: Aleutian goose (*Branta canadensis leucopareia*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*), Merlin (*Falco columbarius*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), western burrowing owl (*Athene cunicularia hypogea*), loggerhead shrike *(Lanius ludovicianus*) and Tricolored blackbird (*Agelaius tricolor*).

Plant communities within the project site may provide suitable habitat for a variety of potentially occurring special-status birds, including those listed above. Potential nesting habitat is present for colonial nesting water birds, special-status and common raptors, and special-status songbirds. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants.

Colonial Nesting Water Birds: Colonial nesting water bird rookery sites of double-crested cormorant *(Phalacrocorax auritus),* great blue heron *(Ardea herodias),* great egret *(Ardea alba),* snowy egret *(Egretta thula),* and black-crowned night heron *(Nycticorax nycticorax),* among others are considered sensitive. These species are not formally listed and protected pursuant to either the State or federal Endangered Species Acts but are of stated interest to CDFW and are protected by the Migratory Bird Treaty Act (MBTA).

The wetland habitat along the French Camp Outlet Canal represents potentially suitable nesting habitat for these species, although rookeries of these species have not been previously reported in this area nor were they observed during any of the field surveys. In general, the nesting season for these colonial nesters is from March through July, but may vary depending on weather conditions or disturbances. The agricultural area throughout the Project site provides foraging habitat for these colonial nesters. Although these species were not observed during any of the field surveys, they are common in the region and may use the Project site for foraging from time to time.

The undergrounding of the French Camp Outlet Canal would remove these wetland areas, which is potential nesting habitat for these colonial nesters. The proposed Project would eliminate the agricultural areas on the project site, which serve as foraging habitat for colonial nesters in the region. Construction activities on the project site would create temporary sources of noise and light that could affect colonial nesters if they located adjacent to the Project site in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt colonial nesters if they located adjacent to the Project site in the future. These colonial nesters are covered by the SJMSCP, which serves as a special-

purpose permit for the incidental take of species that are protected under the MBTA. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. Coverage under the SJMSCP would fully mitigate all habitat impacts on these colonial nesters. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Project site and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the proposed Project, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status colonial nesters are reduced to a ***less than significant*** level.

Nesting Raptors (Birds of Prey): All raptors (owls, hawks, eagles, falcons), including common species, and their nests, are protected from take pursuant to the Fish and Game Code of California Section 3503.5, and the federal Migratory Bird Treaty Act, among other federal and State regulations.

The PGE powerlines and trees located on the project site represent potentially suitable nesting habitat for a variety of special-status raptors, including white-tailed kite *(Elanus leucurus*), Swainson's hawk *(Buteo swainsoni*), and Cooper's hawk *(Accipiter cooperii*). The agricultural land represents potentially suitable nesting habitat for the ground-nesting northern harrier *(Circus cyaneus*) and burrowing owl *(Athene cunicularia*) and it also serves as foraging habitat for a wide variety of raptors. The CNDDB currently contains nesting records for Swainson's hawk and burrowing owl within one mile of the Project site.

In general, raptor nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. In addition to the species described above, common raptors such as red-tailed hawk *(Buteo jamaicensis)* and great horned owl *(Bubo virginianus),* among others, may nest in or adjacent to the Project site.

The proposed Project would eliminate the agricultural areas on the project site, which serve as potential nesting habitat for ground-nesting northern harrier *(Circus cyaneus*) and burrowing owl *(Athene cunicularia*) and foraging habitat for a variety of raptors in the region. Construction activities on the project site would create temporary sources of noise and light that could affect nesting raptors if they located adjacent to the Project site in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt nesting raptors if they located adjacent to the Project site in the future. These raptors are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that

may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. Coverage under the SJMSCP would fully mitigate all habitat impacts on these raptors. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Project site and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the proposed Project, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status nesting raptors are reduced to a ***less than significant*** level.

Nesting Songbirds: Potentially suitable nesting habitat is present on the project site for two regionally occurring special-status songbirds: loggerhead shrike *(Lanius ludovicianus*) and tricolored blackbird *(Agelaius tricolor*). Loggerhead shrikes nest in small trees and shrubs within oak woodland/savannah and grassland communities. Tricolored blackbirds nest in large colonies in patches of cattails, tule, or other dense vegetation near water.

The wetland habitat adjacent to the French Camp Outlet Canal in the southern portion of the Project site represents potentially suitable nesting habitat for these species, although rookeries of these species have not been previously reported in this area nor were they observed during any of the field surveys. In general, the nesting season for these nesting songbirds is from March through July, but may vary depending on weather conditions or disturbances. The agricultural area throughout the Project site provides foraging habitat for these nesting songbirds. Although these species were not observed during any of the field surveys, they are common in the region and may use the Project site for foraging from time to time.

The undergrounding of the French Camp Outlet Canal would remove these wetland areas, which is potential nesting habitat for nesting songbirds. The proposed Project would eliminate the agricultural areas on the project site, which serve as potential foraging habitat for these species. Construction activities on the project site would create temporary sources of noise and light that could affect nesting songbirds if they located adjacent to the Project site in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt nesting songbirds if they located adjacent to the Project site in the future. These nesting songbirds are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. Coverage under the SJMSCP would fully mitigate all habitat

impacts on these nesting songbirds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Project site and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the proposed Project, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status nesting songbirds are reduced to a ***less than significant*** level.

Other Non-Nesting Birds: Other special-status birds that may occur on the project site but are not known to nest in this region, or suitable nesting habitat is not present on the project site include: ferruginous hawk *(Buteo rega*), golden eagle *(Aquila chrysaetos*), merlin *(Falco columbarius*) and prairie falcon *(Falco mexicanus*). Foraging habitat for these species is present in the agricultural fields within the project site.

The proposed Project would eliminate the agricultural areas on the project site, which serve as potential foraging habitat for these other non-nesting birds. Construction activities on the project site would create temporary sources of noise and light that could affect these birds if they located adjacent to the Project site in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt these birds if they located adjacent to the Project site in the future, although given the separation created by the open space designation the impact is less than significant. These birds are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. Coverage under the SJMSCP would fully mitigate all habitat impacts on these birds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individual birds and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the proposed Project, with the Mitigation Measure 3.4-1, would ensure that potential impacts to special status non-nesting birds are reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-2: *If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the project site or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a*

survey on the project site or Offsite Infrastructure Corridor, including the French Camp Outlet Canal and adjacent wetlands, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Project site and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Project site or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.

Impact 3.4-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species (less than significant)

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

Special-status bats: The Project site provides potential habitat for several special-status bats, including: Greater western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), small-footed myotis/bat (*Myotis ciliolabrum*), long-eared myotis/bat (*Myotis evotis*), fringed myotis/bat (*Myotis thysanodes*), long-legged myotis/bat (*Myotis volans*), Yuma myotis/bat (*Myotis yumanensis*). These species are not federal or state listed; however, they are considered CDFW species of special concern and/or are tracked by the CNDDB.

Development of the Project site would eliminate foraging habitat for special status bats by removing the open agricultural areas. These special status bat species are covered by the SJMSCP. Coverage is intended to reduce impacts to special status bat species through the payment of a fee that is used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected. Mitigation Measure 3.4-1 requires participation in the SJMSCP.

These special status bat species were not observed during the field surveys and have not been documented on the project site; therefore they are not expected to be directly affected. Implementation of Mitigation Measure 3.4-1 would provide compensation for the loss of the potential foraging habitat. Therefore, the proposed Project would have a ***less than significant*** impact on special status bat species.

Riparian (San Joaquin Valley) woodrat and riparian brush rabbit: The riparian/wetland habitat along the French Camp Outlet Canal provides limited, if any, potential habitat for riparian (San Joaquin Valley) woodrat and riparian brush rabbit. The riparian/wetland habitat was surveyed on March 28, March 29, and April 14, 2011 and on March 28, 2014 and included surveys of the entire property to determine if any areas represented potentially suitable habitat for either species. The habitat French Camp Outlet Canala is limited in vegetative composition (almost barren) due to the

regular maintenance activities associated with the French Camp Outlet Canal. These species were not observed during the field surveys and have not been documented on the project site. Based on field surveys these species are not present. Therefore, the proposed Project would have a ***less than significant*** impact on this special-status species.

Participation in the SJMSCP will provide coverage for the impact on habitat for these species, although this habitat is deemed unoccupied by these species. SJCOG, Inc. as administrator of the SJMSCP will impose appropriate avoidance and minimization measures as part of the incidental take permit. Mitigation Measure 3.4-1, previously listed, will ensure coverage under the SJMSCP.

American badger, San Joaquin kit fox, or San Joaquin pocket mouse: The Project site is frequently disturbed from active agricultural activities. As a result, the Project site does not contain high quality habitat for the American badger, San Joaquin kit fox, or San Joaquin pocket mouse. All but one of the documented occurrences of the San Joaquin kit fox occur on the southwest side of Tracy near the foothills. One documented occurrence is located near Mountain House. There is only one documented occurrence of American badger southeast of Tracy. The closest documented occurrence of San Joaquin pocket mouse is approximately five miles west of the Project site. It is highly unlikely that the Project site is used by American badger, San Joaquin kit fox, or San Joaquin pocket mouse and these species have not been observed during recent or previous field surveys. Therefore, the proposed Project would have a ***less than significant*** impact on these species. Nevertheless, these species are covered species under the SJMCP and participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. SJCOG, Inc. as administrator of the SJMSCP will impose appropriate avoidance and minimization measures as part of the incidental take permit. Mitigation Measure 3.4-1, previously listed, will ensure coverage under the SJMSCP.

Impact 3.4-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species (less than significant)

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

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

Field surveys and habitat evaluations were performed on March 28, March 29, and April 14, 2011 and on March 28, 2014. The collection of field surveys included surveys that coincided with the optimum blooming period for special status plants known to occur within the region.

No special-status plants were observed within the project site or offsite improvement corridors during field surveys. The surveys were conducted within the blooming period for all species. Implementation of the proposed Project will have a ***less than significant*** impact on special status plants.

Impact 3.4-6: Effects on Protected Wetlands and Jurisdictional Waters (less than significant with mitigation)

A Preliminary Wetland Delineation, French Camp Outlet Canal Improvements and Manteca Family Entertainment Zone Project (De Novo 2014) was prepared for the Project site. The wetland delineation serves as the basis for the following analysis. The final determination of the wetland size and jurisdiction is subject to the regulatory agencies.

Table 3.4-5 provides a summary of USACE delineated features present onsite. A USACE jurisdictional map is provided in Figure 2-7a and 2-7b of the wetland delineation in the appendix. In addition, the following information is provided in the attached appendices: SSJID Cross Sections, Site Photographs, Wetland data forms, and OHWM forms. The USACE, with oversight by the Environmental Protection Agency (EPA), will make the final U.S. jurisdictional determination.

TABLE 3.4-5: SUMMARY OF USACE DELINEATED FEATURES

FEATURE	TYPE	AREA (ACRE)	USACE JURISDICTION (RATIONALE)
French Camp Outlet Canal	Channelized soft-bottom irrigation ditch created in uplands for the purpose of providing surface water for agricultural use during spring/summer, and for storm drainage during rain events.	3.51	No (Irrigation Ditch Exemption pursuant to Federal Regulations (33 CFR 323.4(a)(3)). Discharges for the construction or maintenance of farm or stock ponds or irrigation ditches have been exempted from requiring a Section 404 permit. The South San Joaquin Irrigation District's network of irrigation ditches/canals, including siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to their irrigation ditches/canals are included in this exemption.
Wetland 1	Seasonal wetland	0.63	Yes (presence of wetland indicators).
Wetland 2	Perennial wetland	1.16	Yes (presence of wetland indicators).
Total Delineated Features		*5.30*	
Total USACE Jurisdictional Area		**1.79**	

SOURCE: DE NOVO PLANNING GROUP, INC., 2011 AND 2014.

Table 3.4-6 provides a summary of CDFW delineated features present onsite. CDFW Jurisdiction was measured to the top of bank or to the outer extent of associated riparian vegetation (including adjacent wetlands). The CDFW will make the final California jurisdictional determination.

TABLE 3.4-6: SUMMARY OF CDFW DELINEATED FEATURES

FEATURE	TYPE	AREA (ACRE)	CDFW JURISDICTION (RATIONALE)
French Camp Outlet Canal	Channelized soft-bottom irrigation ditch created in uplands for the purpose of providing surface water for agricultural use during spring/summer, and for storm drainage during rain events.	4.26	No (Irrigation Ditch is not regulated under the Fish and Game Code (FGC) §1602. The South San Joaquin Irrigation District's network of irrigation ditches/canals, including siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to their irrigation ditches/canals are not a river, stream, or lake as defined in FGC §1602.)
Wetland 1	Seasonal wetland- low terrace	0.63	Yes (presence of wetland indicators).
Wetland 2	Perennial wetland - active floodplain	1.16	Yes (presence of wetland indicators).
Total Delineated Features		*6.05*	
Total CDFW Jurisdictional Area		**1.79**	

SOURCE: DE NOVO PLANNING GROUP, INC., 2011 AND 2014.

The Project site contains delineated wetlands and other waters, consisting of wetlands, and an irrigation canal/ditch. The development of the land uses and undergrounding of the French Camp Outlet Canal within the project site will require fill and/or discharge into 1.79 acres of wetlands and 3.51 acres of irrigation canal/ditch as measured by the OHWM (4.26 acres as measured by top of bank). The preliminary wetland delineation concluded that the fill activities of the wetlands (1.79 acres) fall under the jurisdiction of several agencies, including the USACE, CDFW, and the Regional Water Quality Control Board. The preliminary wetland delineation concluded that the undergrounding of the French Camp Outlet Canal (3.51 acres of irrigation canal/ditch as measured by the OHWM and 4.26 acres as measured by top of bank) is exempted from the USACE jurisdiction under the Irrigation Ditch Exemption pursuant to Federal Regulations (33 CFR 323.4(a)(3)). The South San Joaquin Irrigation District's network of irrigation ditches/canals, including siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to their irrigation ditches/canals are not subject to the permit requirements under Section 404 of the Clean Water Act or Section 1600 of the California Fish and Game Code (per. comm. Jeff Shields 6/24/14). Ultimately, the preliminary wetland delineation will be submitted to the regulatory agencies for a jurisdictional determination. If the regulatory agencies concur with the preliminary wetland delineation, then the proposed Project would result in impacts of 1.79 acres of wetlands. However, if the regulatory agencies do not concur with the exemption of the French Camp Outlet Canal, then the proposed project would result in impacts to 1.79 acres of wetlands and 3.51 acres of other waters (4.26 acres – under CDFW calculation). Regardless of the final determination by the regulatory agencies on the jurisdiction and impact acreage, the impact caused by the proposed project is potentially significant. Implementation of Mitigation Measure 3.4-3 and 3.4-4 would reduce this impact to a **less than significant** level.

The Project site also contains a wetland area approximately 2.2 acres in size located at the very northern boundary adjacent to the Manteca WQCF. This area was initially proposed for development of a parking area and roadway; however, after discovering the presence of this wetland area within the project site, the City of Manteca decided to not develop the wetland area as part of the proposed Project. This approximately 2.2 acre wetland area is excluded from the

proposed development and is not included in the delineated features in Table 3.4-5 and 3.4-6. Mitigation Measure 3.4-5 below is intended to ensure that this approximately 2.2 acre wetland area is not developed and that the potential to impact this wetland is reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.4-3*: Prior to any construction activities that would disturb protected wetlands and/or jurisdictional areas on the project site, the appropriate state and federal authorizations (Streambed Alteration Agreement, Section 404 permit, Section 401 water quality certification) shall be obtained. All requirements of these authorizations shall be adhered to throughout the construction phase.*

Mitigation Measure 3.4-4*: The project applicant shall compensate for any authorized disturbance to protected wetlands and/or jurisdictional areas to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of protected wetlands and/or jurisdictional areas disturbed. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements).*

Mitigation Measure 3.4-5*: Project plans shall exclude the approximately 2.2 acre wetland area located at the very northern boundary of the Project site adjacent to the Manteca WQCF. This area was initially proposed for development of a parking area and roadway; however, after discovering the presence of this wetland area within the project site, it was decided to be avoided. Any development of this area would require a wetland delineation, verification, and permit authorization by a regulatory agency.*

Impact 3.4-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community (less than significant with mitigation)

The CNDDB record search revealed documented occurrences of four sensitive habitats within 10 miles of the Project site including: Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian. None of these sensitive natural communities occur within the portion of the Project site. The strip of riparian and wetland habitat along the French Camp Outlet Canal will be removed with the undergrounding of the French Camp Outlet Canal. The riparian and wetland habitat contains elements of the above referenced sensitive natural communities, but is not identified as such in any local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service and is not high quality habitat that is commonly associated with these sensitive natural community designations. Mitigation Measure 3.4-4 requires the project applicant to compensate for any authorized disturbance to protected wetlands and/or jurisdictional areas to ensure no net loss of habitat functions and values. Unless determined otherwise by the

regulatory/permitting agency, the compensation must be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of wetland disturbed. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements). Implementation of this mitigation measure would ensure that the potential impact to riparian and wetland habitat associated with the undergrounding of French Camp Outlet Canal is reduced to a ***less than significant*** level. There are no other sensitive natural communities within the project site.

Impact 3.4-8: Interference with the Movement of Native Fish or Wildlife Species or with Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites (less than significant with mitigation)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the project site. The French Camp Outlet Canal is not considered spawning habitat for Chinook salmon or Central Valley steelhead. The closest major natural movement corridor for native fish that are documented in the region is the San Joaquin River, located approximately two miles to the west and south of the Project site. The land uses within the project site would not have any direct disturbance to the San Joaquin River or its tributaries, and therefore, would not have any direct disturbance to the movement corridor or habitat.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the French Camp Outlet Canal, which ultimately discharges into the Delta. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the Delta. The Manteca Municipal Code Title 13 (Public Services) Chapter 13.28 (Stormwater Management and Discharges) establish minimum storm water management requirements and controls. The objectives are to 1) minimize increases in storm water runoff from any development in order to reduce flooding, siltation and stream bank erosion and maintain the integrity of drainage channels; 2) minimize increases in nonpoint source pollution caused by storm water runoff from development that would otherwise degrade local water quality; 3) minimize the total annual volume of surface water runoff that flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the MEP; and 4) reduce storm water runoff rates and volumes, soil erosion and non-point source pollution wherever possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

Storm water drainage is managed through the implementation of best management practices to the extent they are technologically achievable to prevent and reduce pollutants. The City requires reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. There are also various non-structural and structural stormwater BMPs that can be implemented to reduce pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items

such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities. The following mitigation measures would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the Project site into the storm drainage system, which ultimately flows to the Delta. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife. Implementation of these mitigation measures would ensure that this potential impact is reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-6*: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

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

Mitigation Measure 3.4-7*: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Manteca:*

- *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Project site that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the storm drainage system. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*
- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed Project area where feasible in the landscape design to treat parking lot runoff.*

- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

Impact 3.4-9: Conflict with an Adopted Habitat Conservation Plan (less than significant)

The proposed Project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed Project does not conflict with the SJMSCP. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic. Mitigation Measure 3.4-1 requires participation in the SJMSCP.

Impact 3.4-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (less than significant with mitigation)

The Resource Conservation Element of the General Plan establishes numerous policies related to biological resources as presented under the Regulatory Section. The proposed Project does not conflict with any of these General Plan policies protecting biological resources.

The Manteca Municipal Code calls for the avoidance of heritage trees as defined under section 17.61.030. Heritage trees are any natural woody plant rooted in the ground and having a diameter of 30 inches or more when measured two feet above the ground. Section 17.19.060 calls for the protection of all existing trees having a diameter of six inches or more when measured 4½ feet above the ground. The City planning department must be notified of planned construction or grade changes within the proximity of existing mature trees. Existing trees must be protected from construction equipment, machinery, grade changes, and excavation for utilities, paving, and footers. Replacement of existing trees is subject to approval from the planning director and must be with a minimum 24-inch box tree of compatible species for the development site and be consistent with Section 17.19.030.

Section 12.08.070 of the municipal code prohibits cutting, pruning, removing, injuring, or interference with any tree, shrub, or plant upon or in any street tree area or other public place in the City without prior approval from the superintendent. The City is authorized to grant such permission at their discretion and where necessary. Except for utility companies, as provided in Section 12.08.080, no such permission shall be valid for a longer period than 30 days after its issuance.

The Project site contains trees in three locations. The first is within the Phase one development area along the French Camp Outlet Canal and adjacent to the wetlands. These areas are anticipated to be removed and must be replaced in accordance with the *Manteca Municipal Code (17.19.060)*. There is a cluster of trees located on the Project site near McKinley Avenue and the UPRR tracks. It is not known from the available project plans whether or not these trees can be

avoided/protected. There is also a cluster of trees located amongst the former Manteca Police Department shooting range. It is not known from the available project plans whether or not these trees can be avoided/protected.

The following mitigation measures would require compliance with the Manteca Municipal Code for removal and replacement of trees. With the implementation of the following mitigation measures, the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.4-8*: Prior to the issuance of a grading permit for phase one, the applicant shall provide tree planting specifications established by the Manteca Municipal Code (17.19.060) for the replacement of the trees to be removed. Replacement trees shall be planted on-site at a location in the general vicinity that is agreeable to the City.*

Mitigation Measure 3.4-9*: Prior to the issuance of a grading permit for later phases, a tree survey shall be conducted by a qualified arborist to enumerate and evaluate all trees on the proposed project site that meet the standards in the applicable Manteca Municipal Code. Trees that are subject to protection but are proposed to be removed as a result of project implementation shall be replaced in accordance with tree planting specifications established by the Manteca Municipal Code (17.19.060). The project applicant shall meet the replacement guidelines outlined in the City's tree ordinance. Replacement trees shall be planted on-site at a location in the general vicinity that is agreeable to the City.*

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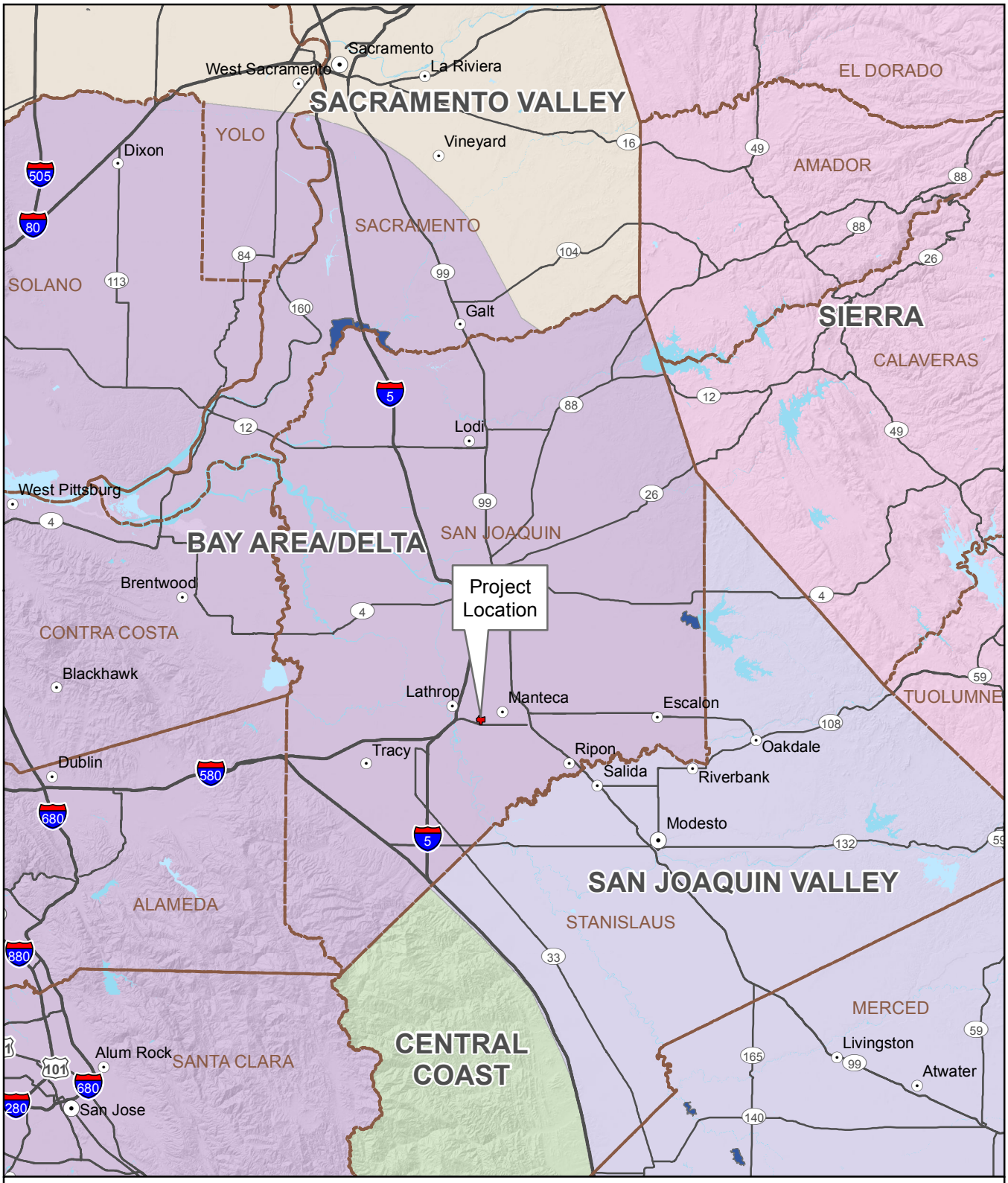

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.4-1: Bioregions Map

Data sources: California Department of Forestry and Fire Protection, Bioregions (INACC Regions), publication date 2004. Shaded relief from the California Spatial Information Library. Map date: June 11, 2014.

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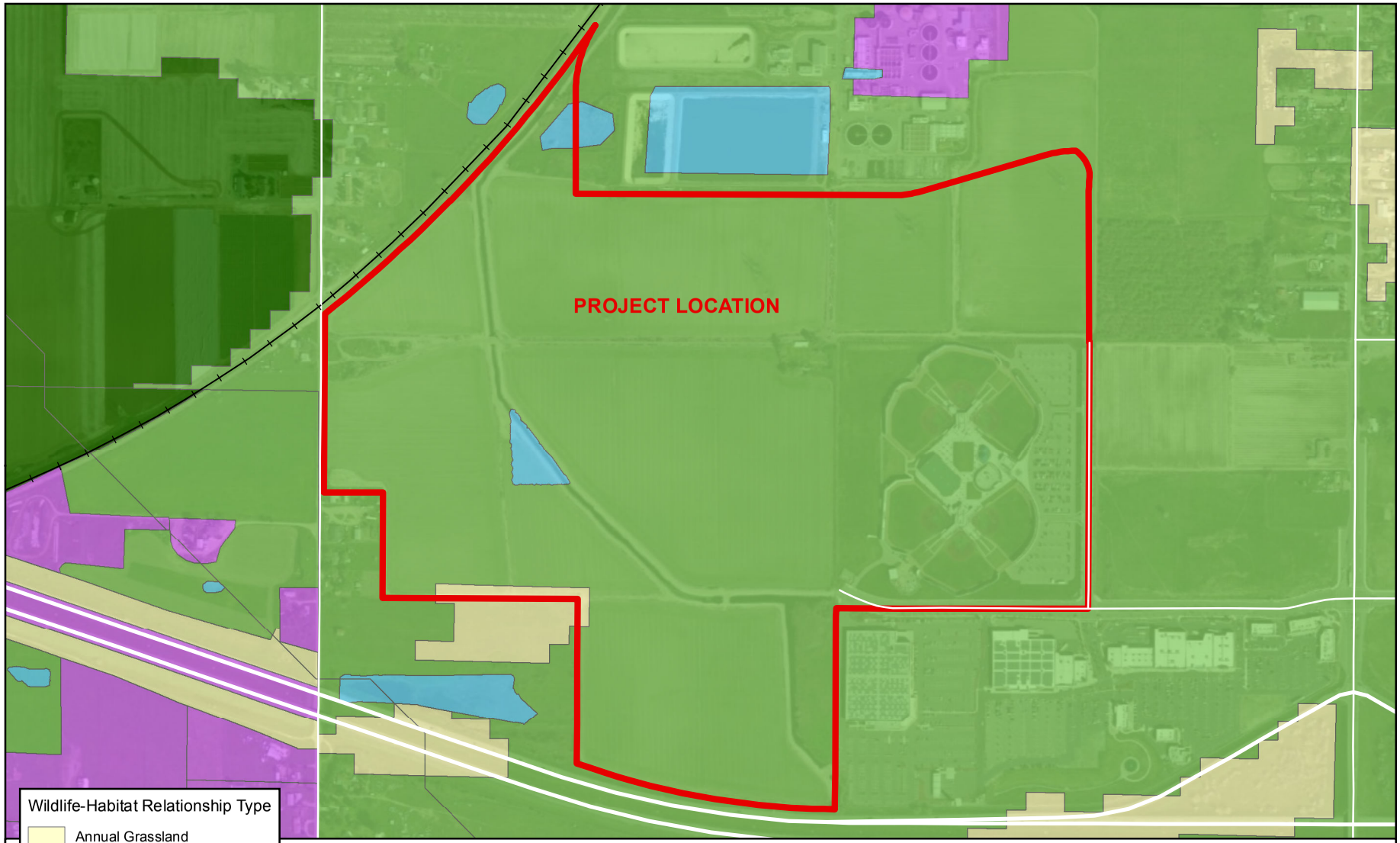

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.4-2: Land Cover Types

Data sources: USDA Forest Service-Pacific Southwest Region-Remote Sensing Lab, August 2009: EvegTile29A_00_07_100k_v2; San Joaquin County GIS; ArcGIS Online Imagery. Map date: June 11, 2014.

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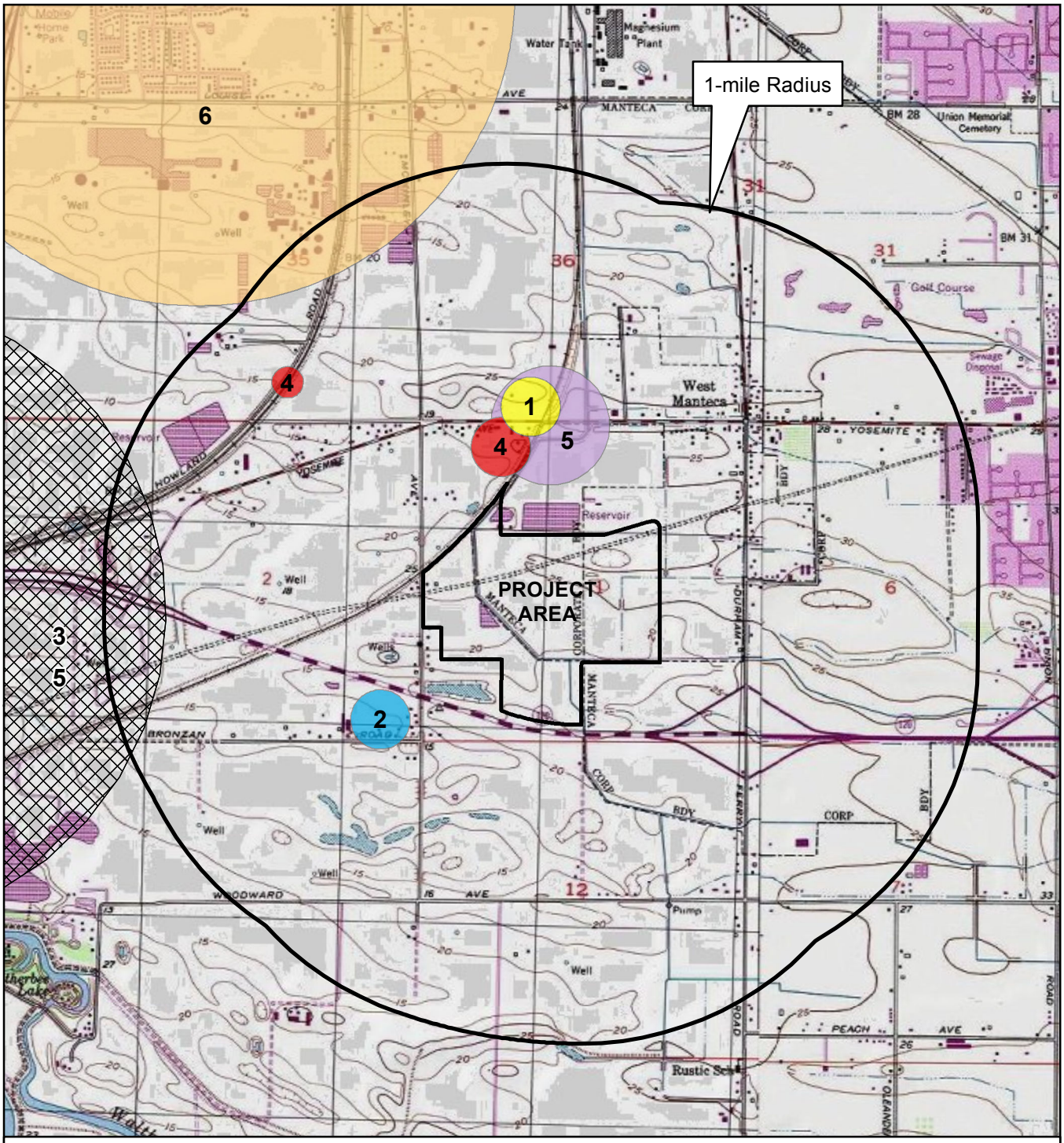

Map Label: Species: Number of Occurrences

- 1: burrowing owl: 1
- 2: California tiger salamander: 1
- 3: Delta button-celery: 1
- 4: Swainson's hawk: 2
- 5: tricolored blackbird: 2
- 6: yellow-headed blackbird: 1
- Area of Multiple Species Occurrence

Data sources: CDFW California Natural Diversity Database, June 3, 2014; ArcGIS Online USA Topo Maps Map Service. Map date: June 19, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.4-3: CNDDB Map
1-mile Radius Search

N

0 1,250 2,500
Feet

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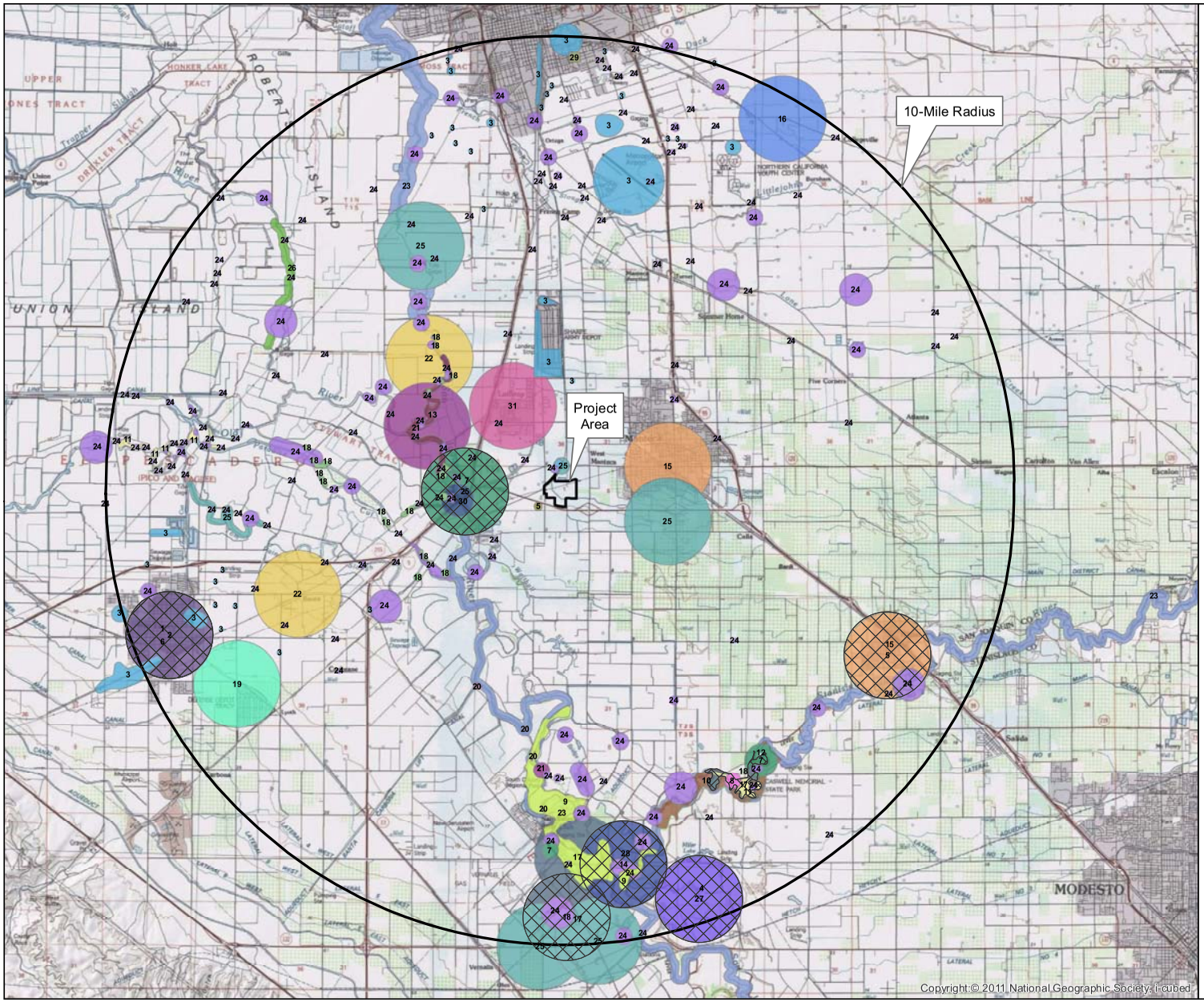

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.4-4: CNDDB Map
10-mile Radius

Map Label: Common Name: Occurrence Count

- 1: American badger: 1
- 2: big tarplant: 1
- 3: burrowing owl: 37
- 4: cackling (=Aleutian Canada) goose: 1
- 5: California tiger salamander: 2
- 6: caper-fruited tropidocarpum: 1
- 7: Delta button-celery: 3
- 8: Elderberry Savanna: 1
- 9: Great Valley Cottonwood Riparian Forest: 2
- 10: Great Valley Mixed Riparian Forest: 1
- 11: Great Valley Valley Oak Riparian Forest: 2
- 12: hardhead: 1
- 13: longfin smelt: 1
- 14: merlin: 1
- 15: moestan blister beetle: 2
- 16: recurved larkspur: 1
- 17: riparian (=San Joaquin Valley) woodrat: 3
- 18: riparian brush rabbit: 14
- 19: round-leaved filaree: 1
- 20: Sacramento anthicid beetle: 4
- 21: slough thistle: 2
- 22: song sparrow ("Modesto" population): 2
- 23: steelhead - Central Valley DPS: 3
- 24: Swainson's hawk: 154
- 25: tricolored blackbird: 7
- 26: valley elderberry longhorn beetle: 2
- 27: vernal pool fairy shrimp: 1
- 28: western yellow-billed cuckoo: 1
- 29: white-tailed kite: 1
- 30: Wright's trichocoronis: 1
- 31: yellow-headed blackbird: 1

Area of Multiple Species Occurrence

N

0 1 2
Miles

Data source: CDFW California Natural Diversity Database June 3, 2014; ArcGIS Online USA Topo Maps Map Service. Map date: June 20, 2014.

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. The NOP was sent to the Native American Heritage Commission (NAHC) in accordance with SB 18. The NAHC did not provide comments, and did not provide a list of Native American contacts. There were no comments received during the public review period for the NOP related to cultural resources. Information in this section is derived primarily from the *Cultural Resource Assessment for the Manteca Family Entertainment Zone, City of Manteca, San Joaquin County, California (Peak & Associates, Inc. March 2014)*.

3.5.1 ENVIRONMENTAL SETTING

PROJECT SETTING

The Project site is located along the west side of the City of Manteca off of Daniels Drive within close proximity to State Route (SR) 120. The site includes 189 acres to be developed with various public serving regional and local recreational activities, parks and sporting facilities including visitor serving commercial uses and public infrastructure to be developed in phases. The Project site is located in section 1, Township 2 North, Range 6 East, mapped on the Lathrop 7.5' United States Geological Survey (USGS) topographic quadrangle.

CULTURAL AND HISTORICAL 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.

Ethnography

The project 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).

Historical Background

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 railroad was completed through the San Joaquin Valley, a shipping point was set up in the region and named Cowell for Joshua Cowell, who had donated the right of way for the railroad. 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).

In 1879, the land was part of the holdings of J.P. Wolfe, a farmer from Illinois who acquired the land in 1860 (Thompson and West 1879).

The Western Pacific Railroad line had been constructed along the northwest side of the project area by 1915. At that date, there were no buildings or features in the Project site (Lathrop USGS 1:31,680 1915).

METHODOLOGY

Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the Central California Information Center of the California Historical Resources Information System on February 7, 2014 for the project area (CCIC File # 8850 L). No historic or prehistoric cultural resources have been recorded within the project area. Near the project area is located the Western Pacific rail route. The Project area has been partially surveyed by six earlier surveys, dating from 1981 to 1998, but these prior surveys are considered too old to be of consequence for the current review.

Native American Consultation

The Native American Heritage Commission completed a check of the Sacred Lands files, with no identified sites within the Project area. The NAHC provided a name of a contact who might have additional information about the project area; a letter was sent to her requesting information on sites of concerns. No reply has been received to date (Appendix 3 of the Cultural Study).

Field Survey

The Project site was subject to a complete survey on February 18 and 27, 2012 by Robert Gerry and Mike Lawson, covering the area with transects no wider than 20 meters. Most of the project area was in cultivation for corn.

The ground surface on within the project area was inspected for artifacts, midden or any other indication of site presence. The ground surface, though heavily disturbed by previous agricultural work, was easily visible with no vegetation on the surface in most areas. There were no significant impediments to surface visibility.

No prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded.

The existing in-use railroad line lies outside the Project site.

There is a segment of a post-1915, pre-1952 irrigation canal within the Project area. It appears to be part of the Southern San Joaquin Irrigation District's system, researched and recorded in other locations in the region in 1993 by JRP (P-39-000103). The recorders of the nearby segments concluded that there was no way to find a specific date of construction for any segment of the ditch system since the district does not maintain records with that information. The ditches were not considered eligible resources under the criteria of the National Register of Historic Places, and similarly would in no way be eligible for the California Register. The ditch system is forever recorded through the plotting of its location on the Lathrop 1952, 1968, 1978 and 1996 USGS topographic maps.

3.5.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

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

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

National Register of Historic Places

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

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

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

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

STATE

California Register of Historic Resources

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

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

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

California Environmental Quality Act

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

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with

potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

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

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

Assembly Bill 978

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

LOCAL

City of Manteca General Plan

- RC-P-37: The City shall not knowingly 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 the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).
- RC-P-38: The City shall 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-P-39: The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.
- RC-P-40: The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.
- RC-P-41: The City shall prepare and adopt a Historical Preservation Ordinance.
- RC-P-42: The City and Redevelopment Agency shall 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.

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 resources if it will:

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

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as Defined in CEQA Guidelines §15064.5 (Less than Significant with Mitigation)

The Project site is located in an area known to have historical resources. The field surveys did not reveal a significant historical resource or site on the Project site. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown historical resource. The implementation of the following mitigation measure would ensure that this potential impact is **less than significant**.

MITIGATION MEASURES

Mitigation Measure 3.5-1: *If any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until the an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*

Work cannot continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource .

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

Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as Defined in CEQA Guidelines §15064.5 (Less than Significant with Mitigation)

The Project site is located in an area known to have cultural resources. The field surveys did not reveal a significant archeological resource or site on the Project site. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural resource or human remains. The implementation of the following mitigation measure would ensure that this potential impact is **less than significant**.

MITIGATION MEASURES

Implement Mitigation Measure 3.5-1

Impact 3.5-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource (Less than Significant with Mitigation)

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

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

MITIGATION MEASURES

Mitigation Measure 3.5-2: *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Manteca shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it should be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where they could be curated and displayed for public education purposes.*

Impact 3.5-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries (Less than Significant with Mitigation)

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

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

While no human remains were found during field surveys, implementation of the following mitigation measure would ensure that all construction activities that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. The following mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.5-3: *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains until he San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:*

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

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following: *City of Manteca General Plan 2023* (City of Manteca as amended through 2013), *Manteca General Plan 2023 Draft Environmental Impact Report* (City of Manteca 2003), *Custom Soils Report for San Joaquin County, California* (NRCS 2014) and NRCS Web Soil Survey (NRCS 2014). No comments were received regarding geology and soils during the NOP review period.

3.6.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

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

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

Local Setting

The Project site has relatively flat terrain that varies between elevation 20 and 25 feet above sea level. The UPRR tracks are located along the western boundary. SR 120 is located along the southern boundary. High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Project site running northeast/southwest. The French Camp Canal bisects the Project site.

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. Table 3.6-1 identifies the soils found in the Project site. The NRCS Soils Map is provided in Figure 3.2-2 in Section 3.2 Agricultural Resources.

TABLE 3.6-1: PROJECT SITE SOILS

MAP UNIT SYMBOL MAP	*NAME*	*PERCENT OF AOI*
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	64.8%
142	Delhi loamy sand, 0 to 2 percent slopes	4.7%
153	Timor loamy sand, 0 to 2 percent slopes	9.8%
166	Tinnin loamy coarse sand, 0 to 2 percent slopes	17.1%
169	Veritas fine sandy loam, 0 to 2 percent slopes	3.6%

SOURCE: NRCS CUSTOM SOIL SURVEY

Bisgani loamy coarse sand, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is rapid in this soil. Runoff is very slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for steel, and moderate for concrete.

Delhi loamy sand. This very deep, somewhat excessively drained, nearly level soil was formed in wind-modified alluvium. Permeability is rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for steel, and moderate for concrete.

Timor loamy sand. This deep, moderately well drained, nearly level soil was formed in alluvium derived from granitic rock sources. Permeability is rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for steel, and low for concrete.

Tinnin loamy coarse sand: The Tinnin series consists of very deep, well drained soils formed in predominantly granitic alluvium or eolian sands. Tinnin soils are on low alluvial terraces of fans and narrow ridges and mounds and have slopes of 0 to 9 percent. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for steel, and low for concrete.

Veritas fine sandy loam: The Veritas series consists of deep to duripan, moderately well drained, soils that formed in alluvium derived from mixed rock sources. Veritas soils are on low fan terraces with slopes of 0 to 2 percent. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for steel, and moderate for concrete.

FAULTS AND SEISMICITY

Faults

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

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

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

TABLE 3.6-2: FAULT ACTIVITY RATING

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

SOURCE: CALIFORNIA GEOLOGICAL SURVEY

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the Project site. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault, located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault is located approximately 13 miles to the west. Other faults that could potentially affect the proposed Project include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults. See Figure 3.6-1.

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

TABLE 3.6-3: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

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

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

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard

Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Project site is not within an Alquist-Priolo Special Study Zone.

SEISMIC HAZARDS

Seismic Ground Shaking

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

Fault Rupture

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

Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Soil data from the NRCS Web Soil Survey (NRCS 2013b) suggests that the potential for liquefaction is moderate to high given that the soils are high in sand and the water table is exceptionally high. The City of Manteca General Plan Draft EIR has indicated that “Given that there is a relatively high water table, liquefaction could be a significant impact within the Study Area.” The General Plan Draft EIR indicates that with the implementation of goals, policies, and implementation measures from the 2023 General Plan Safety Element the potentially significant impact would be reduced to a less than significant impact.

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. Since the potential for liquefaction is moderate to high, the potential for lateral spreading is present. The General Plan Draft EIR indicates that with the implementation of goals,

policies, and implementation measures from the 2023 General Plan Safety Element the potentially significant impact would be reduced to a less than significant impact.

Landslides

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

NON-SEISMIC HAZARDS

Expansive Soils

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

According to the *Custom Soils Report*, the soils in the Project site have a low shrink-swell potential. This potential is directly related to the linear extensibility of the soils on the Project site.

Erosion

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

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

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly

at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils has not been identified in the Manteca General Plan as an issue in the Manteca area.

Subsidence

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

3.6.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

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

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic 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).

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation

to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the Act) 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 substances releases. The Act deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

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

California Building Standards Code

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

California Building Code

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

Alquist-Priolo Earthquake Fault Zoning Act

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

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

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

Seismic Hazards Mapping Act

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

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

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides

guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.

- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

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. Memo20-1 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 methodology.

LOCAL

City of Manteca General Plan

POLICIES: GEOLOGIC AND SEISMIC SAFETY

- S-P-1. The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.
- S-P-2. The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.
- S-P-3. The City shall require new development to mitigate the potential impacts of seismic induced settlement of uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.
- S-P-4. The City shall maintain an inventory of pre-1940 unreinforced masonry buildings within the city. 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. The Redevelopment Agency shall be encouraged to assist property owners in reinforcing buildings.
- S-P-5. The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.
- S-P-6. The City shall comply with the California State seismic and 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.

IMPLEMENTATION: GEOLOGIC AND SEISMIC SAFETY

- S-I-1. All new development shall comply with the current Uniform Building Code (UBC) requirements that stipulate building structural material and reinforcement.
- S-I-2. All new development shall comply 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-I-3. The City shall inventory potentially hazardous buildings within the city and adopt a mitigation program, including requirements for strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing the buildings.

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:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Strong seismic ground shaking; or
    - Seismic-related ground failure, including liquefaction;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure (less than significant)

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

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the Project site. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault,

located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault is located approximately 13 miles to the west. Other faults that could potentially affect the proposed Project include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults.

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

There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. As discussed under Section 3.6.2 Regulatory Setting, the California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Manteca, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Additionally, the City of Manteca has adopted Design and Construction Standards and incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level. Because all development in the Project site must be designed in conformance with these state and local standards and policies, any potential impact would be ***less than significant***.

Impact 3.6-2: Implementation and construction of the proposed project may result in substantial soil erosion or the loss of topsoil (less than significant)

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

value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

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

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

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

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

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

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

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are existing regulatory requirements. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.6-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to*

approval by City of Manteca and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.

Impact 3.6-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse (less than significant)

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. Soil data from the NRCS Web Soil Survey (NRCS 2013b) suggests that the potential for liquefaction is moderate to high given that the soils are high in sand and the water table is exceptionally high. The City of Manteca General Plan Draft EIR has indicated that "Given that there is a relatively high water table, liquefaction could be a significant impact within the Study Area." The General Plan Draft EIR indicates that with the implementation of goals, policies, and implementation measures from the 2023 General Plan Safety Element the potentially significant impact would be reduced to a less than significant impact.

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 also directly associated with areas of liquefaction. Since the potential for liquefaction is moderate to high, the potential for lateral spreading is present. The General Plan Draft EIR indicates that with the implementation of goals, policies, and implementation measures from the 2023 General Plan Safety Element the potentially significant impact would be reduced to a less than significant impact.

Landslides

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

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Soil data from the NRCS Web Soil Survey (NRCS 2014) suggests a low potential for collapsible soils on the Project site.

Subsidence

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

Conclusion

The Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or collapse. There is a potential for liquefaction give the sandy soils combined with a high water table. With the implementation of Mitigation Measure 3.6-2 the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.6-2*: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Impact 3.6-4: Potential for expansive soils to create substantial risks to life or property (less than significant with mitigation)

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

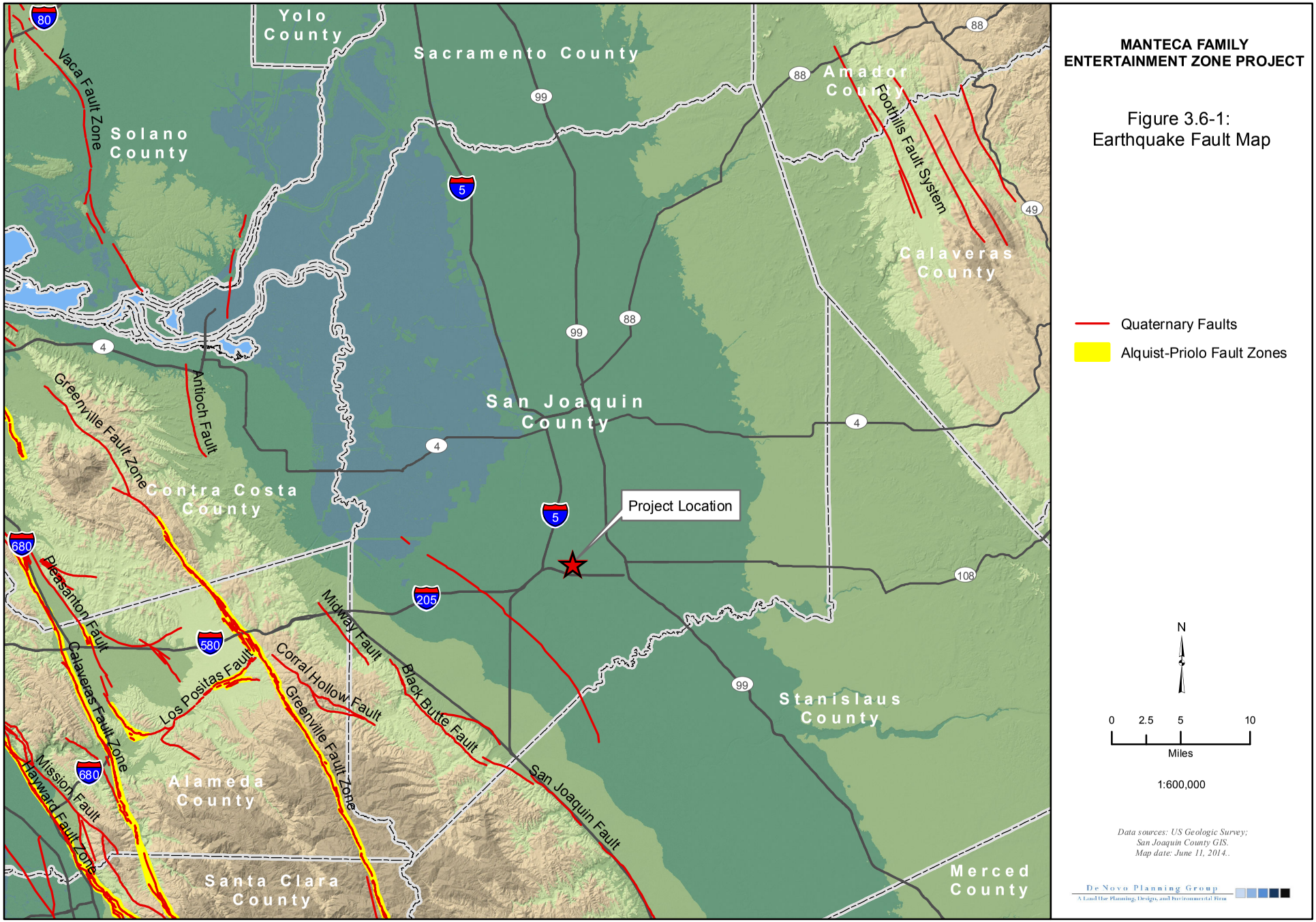
According to the *Custom Soils Report*, the soils in the Project site have a low shrink-swell potential. This potential is directly related to the linear extensibility of the soils.

The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. The City of Manteca also requires a final geotechnical evaluation to be performed at a design-level to ensure that the foundations, structures, roadway sections, sidewalks, and other improvements can accommodate the specific soils, including expansive soils, at those locations. Mitigation

Measure 3.6-2, presented below, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.6-2 the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Implement Mitigation Measure 3.6-2


MANTECA FAMILY ENTERTAINMENT ZONE PROJECT
Figure 3.6-1:
Earthquake Fault Map
Yolo County
Sacramento County
Solano County
Amador County
Calaveras County
San Joaquin County
Contra Costa County
Alameda County
Santa Clara County
Stanislaus County
Merced County
Vaca Fault Zone
Foothills Fault System
Antioch Fault
Greenville Fault Zone
Pleasanton Fault
Calaveras Fault Zone
Los Positas Fault
Corral Hollow Fault
Midway Fault
Black Butte Fault
San Joaquin Fault
Hayward Fault Zone
Mission Fault
Project Location
Quaternary Faults
Alquist-Priolo Fault Zones
N
0 2.5 5 10
Miles
1:600,000
Data sources: US Geologic Survey; San Joaquin County GIS.
Map date: June 11, 2014..
De Novo Planning Group
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This section discusses regional greenhouse gas (GHG) emissions and climate change impacts that could result from implementation of the proposed Project. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG and climate change impacts in this section focuses on the proposed Project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed Project.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

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

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

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

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

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

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

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

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

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

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

EFFECTS OF GLOBAL CLIMATE CHANGE

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

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

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

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

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

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

Sea level has risen approximately seven inches during the last century and it is predicted to rise more in the future. Some estimates anticipate a rise of an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (Cal EPA 2006). A recent estimate (2013) by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT) anticipates that sea-levels south of the Cape Mendocino could rise between 16.56 inches (1.38 ft) to 65.76 inches (5.48 ft). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (Cal EPA 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (Cal EPA 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

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

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

Water Resources

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

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

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

Agriculture

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

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

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

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

abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

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

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

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise between 16.56 inches (1.38 ft) to 65.76 inches (5.48 ft) by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

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

Electricity Consumption

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

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

gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2012).

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

Oil

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

Natural Gas/Propane

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

3.7.2 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.

Energy Policy and Conservation Act

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

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

Energy Policy Act of 1992 (EPAct)

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

Energy Policy Act of 2005

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

Intermodal Surface Transportation Efficiency Act (ISTEA)

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

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

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

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

Federal Climate Change Policy

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

Mandatory Greenhouse Gas Reporting Rule

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

STATE

Assembly Bill 1493

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

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

Assembly Bill 1007

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

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

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

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

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

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

Assembly Bill 32- Climate Change Scoping Plan

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

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

California Strategy to Reduce Petroleum Dependence (AB 2076)

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

Climate Action Program at Caltrans

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

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

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

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

Senate Bill 97 (SB 97)

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

Senate Bill 375

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

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

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

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

California Building Energy Efficiency Standards

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

CEQA Guidelines Appendix F

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

LOCAL

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

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

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

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

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

2014 Regional Transportation Plan/Sustainable Communities Strategy

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

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

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

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

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

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

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

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

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

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

In accordance with AB 32, the City of Manteca, as lead agency, has prepared a quantitative GHG analysis for the proposed Project in order to demonstrate that the proposed Project would promote sustainability and implement operational GHG emission reduction strategies that would reduce the project's GHG emissions from Business as Usual (BAU) levels by 29 percent, in compliance with AB 32 and the Scoping Plan, and in accordance with the guidance from the SJVAPCD.

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

Using this methodology, if the proposed Project does not show a 29 percent reduction from projected BAU levels compared to the project's estimated 2020 levels, the project would be considered to result in a cumulatively considerable contribution to global climate change. GHG emission reduction measures could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation recommendations from the Office of the Attorney General, and project design features. It should be noted that the proposed Project would be required to comply with the minimum mandated measures of 2010 California Green Building Standards Code (CalGreen Code), such as a 20 percent mandatory

reduction in indoor water use and diversion of 50 percent of construction waste from landfills. A variety of voluntary CalGreen Code measures also exists that would further reduce GHG emissions, but are not mandatory.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (less than significant with mitigation)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The proposed Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2013.2.2). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e$), based on the global warming potential of the individual pollutants.

Short-Term Construction GHG Emissions: Estimated increases in GHG emissions associated with construction of the proposed Project are summarized in Table 3.7-1.

TABLE 3.7-1: CONSTRUCTION GHG EMISSIONS (UNMITIGATED METRIC TONS/YR)

	Bio- CO2	*NBio- CO2*	*Total CO2*	*CH4*	*N2O*	*CO2e*
2015	0.0000	4,643.3799	4,643.3799	0.2392	0.0000	4,648.4029
2016	0.0000	5,816.2365	5,816.2365	0.2324	0.0000	5,821.1167
2017	0.0000	5,640.7770	5,640.7770	0.2159	0.0000	5,645.3118
2018	0.0000	3,560.6529	3,560.6529	0.1552	0.0000	3,563.9124
2019	0.0000	112.4310	112.4310	5.3200e-003	0.0000	112.5426
Total	**0.0000**	**19,773.48**	**19,773.48**	**0.8481**	**0.0000**	**19,791.29**

SOURCES: CALEEMOD (V.2013.2.2)

As presented in the table, short-term construction emissions of GHG associated are estimated to be 19,791.29 MTCO2e. This represents a low of 112.5 and a high of 5,821.1 MTCO2e emitted during each of the construction years (2015 through 2019). These construction GHG emissions are a one-time release and are comparatively much lower than emissions associated with operational phases of a project. Cumulatively, these construction emissions would not generate a significant contribution to global climate change.

Long-Term Operational GHG Emissions: The long-term operational GHG emissions estimate for the proposed Project incorporates the potential area source and vehicle emissions, and emissions associated with utility and water usage, and wastewater and solid waste generation. The modeling included mitigation inputs for the year 2020 including the following:

Traffic Mitigation

- Increase Transit Accessibility in the Plan Area (minimum distance to transit stops is .2 miles)
- Improve Pedestrian Network so that the Plan Area connects to offsite pedestrian networks
- Provide traffic calming measures on all street segments and intersections

Energy Mitigation

- Exceed Title 24 by 10%
- Install High Efficiency Lighting
- Install High Efficiency Appliances within buildings

Water Mitigation

- Apply a Water Conservation Strategy to achieve a 20% reduction in indoor and outdoor water usage
- Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)
- Install low flow bathroom faucet
- Install low-flow kitchen faucet
- Install low-flow toilet
- Install low-flow shower
- Use water-efficient irrigation systems

Solid Waste Mitigation

- Institute Recycling and Composting Services to achieve a 50% reduction in waste disposal

Estimated GHG emissions associated with the proposed Project in 2020 with and without the above mitigation incorporated are summarized in Table 3.7-2 and 3.7-3. As shown in the table, the annual 2020 GHG emissions associated with the proposed Project would be 27,835.7 MTCO2e with the above referenced mitigation incorporated and 34,233.0 without mitigation. The mitigation results in a decrease of 6,397.3 MTCO2e.

TABLE 3.7-2: OPERATIONAL GHG EMISSIONS 2020 (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	0.0975	0.0975	2.6000e-004	0.0000	0.1030
Energy	0.0000	4,986.6045	4,986.6045	0.1941	0.0575	5,008.4959
Mobile	0.0000	27,794.6137	27,794.6137	0.8991	0.0000	27,813.4945
Waste	461.2970	0.0000	461.2970	27.2619	0.0000	1,033.7962
Water	26.3652	273.0291	299.3943	2.7203	0.0665	377.1341
Total	**487.6621**	**33,054.3448**	**33,542.0070**	**31.0756**	**0.1240**	**34,233.0236**

SOURCES: CALEEMOD (V.2013.2.2)

TABLE 3.7-3: OPERATIONAL GHG EMISSIONS 2020 (MITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	0.0975	0.0975	2.6000e-004	0.0000	0.1030
Energy	0.0000	4,338.1156	4,338.1156	0.1689	0.0500	4,357.1580
Mobile	0.0000	22,652.7879	22,652.7879	0.7537	0.0000	22,668.6155
Waste	230.6485	0.0000	230.6485	13.6309	0.0000	516.8981
Water	21.0921	209.6825	230.7746	2.1759	0.0531	292.9328
Total	**251.7406**	**27,200.6834**	**27,452.4240**	**16.7296**	**0.1031**	**27,835.7074**

SOURCES: CALEEMOD (V.2013.2.2)

The significance thresholds for GHG emissions should be related to compliance with AB 32, and the City of Manteca, as lead agency, has chosen to utilize a threshold of significance for GHG emissions based on the guidance from the SJVAPCD that a development project must show a minimum GHG emission reduction of 29 percent from projected Business as Usual (BAU) levels (i.e., 2005 scenario) by the year 2020. Thus, the proposed Project's Business as Usual levels were evaluated in order to determine the net decrease in the proposed Project's GHG emissions over time. Table 3.7-4 presents the projected BAU GHG emissions, which are estimated to be 44,134.2 MTCO2e.

TABLE 3.7-4: OPERATIONAL GHG EMISSIONS BUSINESS AS USUAL (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	0.0975	0.0975	4.5000e-004	0.0000	0.1071
Energy	0.0000	4,986.6045	4,986.6045	0.1941	0.0575	5,008.4959
Mobile	0.0000	37,635.5242	37,635.5242	3.7686	0.0000	37,714.6638
Waste	461.2970	0.0000	461.2970	27.2619	0.0000	1,033.7962
Water	26.3652	273.0291	299.3943	2.7203	0.0665	377.1341
Total	**487.6621**	**42,895.2553**	**43,382.9175**	**33.9453**	**0.1240**	**44,134.1970**

SOURCES: CALEEMOD (V.2013.2.2)

Consequently, the proposed Project would result in approximately a 36.9 percent reduction in annual GHG emissions from the BAU level by 2020 ([44,134.2 MTCO2e – 27,835.7 MTCO2e] / 44,134.2 MTCO2e x 100% = 36.9%). The reduction in GHG emissions would be attributable to the traffic, energy, water, and solid waste mitigation model inputs as well as the advancement of vehicle and equipment efficiency, and more stringent standards and regulations as time

progresses, such as State regulation emission reductions (e.g., Pavley, Low Carbon Fuel Standard, and Renewable Portfolio Standard). It should be noted that although a reduction related to such attributes would occur for every development project, CalEEMod takes into consideration how much of each attribute is applied for each specific project based on the size of the project and associated land uses.

In addition, as stated previously, the proposed Project would be required to comply with the minimum mandatory measures of the CalGreen Code, which would result in an estimated 1.8 percent reduction. Furthermore, reduction of cumulative ROG and NOx emissions due to the Indirect Source Rule mitigation (discussed in Section 3.1 Air Quality) would subsequently result in an associated reduction in CO_2 emissions. The total reduction in GHG emissions from BAU levels will exceed the City's minimum reduction threshold of 29 percent per the guidance provided by the SJVAPCD.

Energy Consumption: As shown if Table 3.7-3 above, "Energy" is one of the categories that was modeled for GHG emissions. The total GHG 2020 emissions generated from the "Energy" category is 4,357.2 MTCO2e. The following discussion includes a more detailed breakdown of energy consumption in terms of natural gas and electricity consumption. The modeling was performed with and without mitigation. The mitigation measures incorporated into the model are intended to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. The mitigation assumed in the modeling includes:

- Exceed Title 24 by 15%
- Install High Efficiency Lighting
- Install High Efficiency Appliances within all Industrial and Commercial buildings

Natural Gas: Unmitigated natural gas energy consumption by land use is presented in Table 3.7-5 below. This table also includes the GHG emissions that are generated by the natural gas use. Table 3.7.6 shows the natural gas consumption by land use with mitigation incorporated.

As shown, the mitigation incorporated would result in a reduction of 2,852,520 kBTU of natural gas consumption on an annual basis. This represents a reduction of 13.0 percent in natural gas consumption in a year.

TABLE 3.7-5: NATURAL GAS USE AND GHG EMISSIONS BY LAND USE (UNMITIGATED)

	Natural Gas Use	*Bio-CO2*	*NBio- CO2*	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kBTU	MT/yr					
General Office Building	346,000	0.0000	36.9278	36.9278	7.1000e-004	6.8000e-004	37.1525
High Turnover (Sit Down Restaurant)	4,182,750	0.0000	223.2075	223.2075	4.2800e-003	4.0900e-003	224.5659
Hotel	3,260,760	0.0000	174.0066	174.0066	3.3400e-003	3.1900e-003	175.0656
Hotel	8,151,900	0.0000	435.0164	435.0164	8.3400e-003	7.9800e-003	437.6639
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6,292,480	0.0000	335.7907	335.7907	6.4400e-003	6.1600e-003	337.8343
City Park	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**21,887,890**	**0.0000**	**1,204.9489**	**1,204.9489**	**0.0231**	**0.0221**	**1,212.2820**

SOURCES: CALEEMOD (V.2013.2.2)

TABLE 3.7-6: NATURAL GAS USE AND GHG EMISSIONS BY LAND USE (MITIGATED)

	Natural Gas Use	*Bio-CO2*	*NBio- CO2*	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kBTU	MT/yr					
General Office Building	295,510	0.0000	31.5391	31.5391	6.0000e-004	5.8000e-004	31.7310
High Turnover (Sit Down Restaurant)	3,942,510	0.0000	210.3872	210.3872	4.0300e-003	3.8600e-003	211.6675
Hotel	2,776,170	0.0000	148.1470	148.1470	2.8400e-003	2.7200e-003	149.0486
Hotel	6,940,430	0.0000	370.3675	370.3675	7.1000e-003	6.7900e-003	372.6215
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	5,376,260	0.0000	286.8975	286.8975	5.5000e-003	5.2600e-003	288.6435
City Park	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**19,035,370**	**0.0000**	**1,047.3382**	**1,047.3382**	**0.0201**	**0.0192**	**1,053.7122**

SOURCES: CALEEMOD (V.2013.2.2)

Electricity: Unmitigated electricity energy consumption by land use is presented in Table 3.7-7 below. This table also includes the GHG emissions that are generated by the electricity use. Table 3.7.8 shows the electricity consumption by land use with mitigation incorporated.

As shown, the mitigation incorporated would result in a reduction of 1,523,730 kWh of electricity consumption on an annual basis. This represents a reduction of 14.5 percent in electricity consumption in a year.

TABLE 3.7-7: ELECTRICITY USE AND GHG EMISSIONS BY LAND USE (UNMITIGATED)

	Electricity Use	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	223,400	129.9792	5.8800e-003	1.2200e-003	130.4796
High Turnover (Sit Down Restaurant)	1,260,380	366.6575	0.0166	3.4300e-003	368.0691
Hotel	2,180,800	634.4197	0.0287	5.9400e-003	636.8621
Hotel	872,320	253.7679	0.0115	2.3700e-003	254.7448
Parking Lot	503,360	146.4332	6.6200e-003	1.3700e-003	146.9969
Parking Lot	880,000	256.0021	0.0116	2.3900e-003	256.9876
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6,855,680.00	1,994.3959	0.0902	0.0187	2,002.0737
Total	**10,520,260.00**	**3,781.6556**	**0.1710**	**0.0354**	**3,796.2138**

SOURCES: CALEEMOD (V.2013.2.2)

TABLE 3.7-8: ELECTRICITY USE AND GHG EMISSIONS BY LAND USE (MITIGATED)

	Electricity Use	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	200,026	116.3797	5.2600e-003	1.0900e-003	116.8277
High Turnover (Sit Down Restaurant)	1,167,810	339.7293	0.0154	3.1800e-003	341.0372
Hotel	1,883,380	547.8957	0.0248	5.1300e-003	550.0049
Hotel	753,350	219.1583	9.9100e-003	2.0500e-003	220.0020
Parking Lot	422,822	123.0039	5.5600e-003	1.1500e-003	123.4774
Parking Lot	739,200	215.0418	9.7200e-003	2.0100e-003	215.8696
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	5,945,340.00	1,729.5687	0.0782	0.0162	1,736.2271
Total	**8,996,530.00**	**3,290.7774**	**0.1488**	**0.0308**	**3,303.4458**

SOURCES: CALEEMOD (V.2013.2.2)

Conclusion: As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. With the implementation of the following mitigation measure and those presented in Section 3.1 Air Quality, the overall annual GHG emissions associated with the proposed Project would be reduced by over 36.9 percent by the year 2020, consistent with applicable standards and thresholds of a 29 percent reduction. Because the proposed Project would meet the City's 29 percent minimum reduction threshold, the proposed Project would not hinder the State's ability to reach the GHG reduction target.

As previously discussed, the Final Staff Report for the SJVAPCD's Climate Change Action Plan provides a table of GHG emission reduction measures for development projects, along with a point value that corresponds to a percentage decrease in GHG emissions when available. According to the Final Staff Report, projects achieving a 29% reduction in GHG emissions would be determined to have a less than significant individual and cumulative impact for GHG emissions. The percentage reduction is consistent with the GHG reduction percentage sought by the state's Scoping Plan. As discussed, the GHG emission reductions anticipated from project features plus the proposed mitigation measures would be at 36.9%. Therefore, the proposed Project would be consistent with the reduction target set in the Climate Change Action Plan.

Overall, the proposed Project would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the proposed Project would have an individual and cumulative impact that is less than significant.

The project's energy requirements would be reduced by 13.0 percent (natural gas) and 14.5 percent (electricity) with the incorporation of mitigation. The energy requirements for the proposed project would come from PG&E and would not adversely affect the local and regional energy supplies or cause a need for additional capacity. PG&E manages the supply and transmission of electricity and natural gas for the region in an effort to maintain a quality supply at base and peak periods of demand. The proposed project will comply with Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards. This includes the CALGreen requirements for new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. The City will review individual building plans as they are prepared to ensure that they comply with the latest Title 24 requirements, including CALGreen.

Implementation of the proposed Project would not conflict with any applicable plan, policy, or regulation related to GHG reduction, and impacts related to GHG emissions and global climate change would be considered **less-than-significant** with the implementation of mitigation measures.

MITIGATION MEASURES

Mitigation Measure 3.7-1*: To reduce Greenhouse Gas Emissions and Energy Consumption, the project applicant shall institute measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. As the individual projects are designed and undergo Design Review by the City of Manteca, there should be an explanation as to why certain measures were incorporated in the individual projects and why other measures were dismissed.*

- *Increase transit accessibility in the Plan Area by ensuring a minimum distance of 0.2 miles to transit stops*
- *Ensure that the pedestrian network within the Plan Area connects to offsite pedestrian networks*
- *Provide traffic calming measures on all street segments and intersections*

- *Exceed Title 24 by 15%*
- *Install high efficiency lighting and appliance within all buildings*
- *Apply a water conservation strategy to achieve a 15% reduction in indoor and outdoor water usage*
- *Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)*
- *Install low faucets, toilets, and showers as applicable*
- *Use water-efficient irrigation systems throughout the Plan Area*
- *Institute Recycling and Composting Services to achieve a 50% reduction in waste disposal*

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the project is built and operated in the future. This section is based in part on the following technical studies: *City of Manteca General Plan 2023* (City of Manteca as amended through 2013), *Manteca General Plan 2023 Draft Environmental Impact Report* (City of Manteca 2003), and *Preliminary Wetland Delineation, French Camp Outlet Canal Improvements and Manteca Family Entertainment Zone Project* (De Novo 2014). There were no NOP comments received regarding this topic.

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

The project site is located in the City of Manteca, San Joaquin County, California. The project site is located on the Lathrop, California, USGS 7.5-minute quadrangle, Township 2 South, Range 6 East. The UTM coordinates for the center point of the project site are 652688.47536 W, 4183417.94368 N (zone 10N, NAD 83, meters). The Lat/Long coordinates are 37.7853 N, -121.2660 W (WGS 84, decimal degrees).

The Project site is located to the north and west of the Stadium Shopping Center, to the west of Milo Candini Drive, to the east of McKinley Avenue, to the south of the City of Manteca Wastewater Quality Control Facility (WQCF), and to the north of State Route 120. The property is comprised of approximately 189 acres. The site includes 189 acres to be developed with various public serving regional and local recreation, parks and sporting facilities including visitor serving commercial uses and public infrastructure to be developed in phases.

Vegetation on the project site can be broken up into upland and wetland communities. Common plant species observed within the upland communities 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*), telegraphweed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), barley (*Hordeum* sp.), milkthistle (*Silybum marianum*), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Common plant species in the wetland communities include: tapertip rush (*Juncus acuminatus*), tule (*Schoenoplectus acutus*), arroyo willow (*Salix lasiolepis*), hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), black willow (*Salix goodingia*), stinging nettles (*Urtica dioica*), poison hemlock (*Conium maculatum*), willow herb (*Epilobium brachycarpum*), horseweed (*Conyza canadensis*), Canadian waterweed (*Elodea canadensis*), prickly lettuce (*Lactuca serriola*), cottonwood (*Populus fremontii*), spiny sowthistle (*Sonchus asper*), horehound (*Marrubium vulgare*), cocklebur (*Xanthium strumarium*), and yellow sweetclover (*Melilotus officinalis*).

The project site has been leveled for agricultural uses. Topographic features within the project site include level agricultural fields, an irrigation canal, and wetland areas. Elevation ranges from approximately 20 feet to 25 feet above mean sea level (MSL).

The USDA/NRCS Web Soil Survey indicates the presence of five soil series occurring within the project site. Table 3.8-1 identifies the soils found on the project site.

TABLE 3.8-1: USDA SOIL SERIES INFORMATION

SOIL SERIES	*DESCRIPTION*	*SOURCE MATERIAL*	*PEDON/DEPTH*	*DRAINAGE*
Bisgani	loamy coarse sand, partially drained, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	40 to 60 inches	Poorly drained
Delhi	Loamy sand, 0 to 2 percent slopes	Wind-modified alluvium	40 to 60 inches	Well drained
Timor	Loamy sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	50 to 60 inches	Well drained
Tinnin	Loamy coarse sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	53 to 75 inches	Well drained
Veritas	Fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	54 to 70 inches	Moderately well drained

- *SOURCE: USDA/NRCS, WEB SOIL SURVEY, 2014.*

HAZARDS ASSESSMENT

The project site was assessed for environmental hazards. The objective of the assessment was to provide an evaluation of current and historical use of the project site to assess whether such use has, or is expected to, result in environmental degradation of the project site.

Site Reconnaissance

A site reconnaissance was conducted on March 28, 2014. On the date of the site reconnaissance the project site was observed to be largely under agricultural use. The only structure located on the property is a single-wide mobile home unit that was formerly used in conjunction with the Manteca Police Department shooting range, which was located on the site. The shooting range will need to be decommissioned and inspected for possible contamination from ammunition prior to any ground disturbance.

There are several dirt farm-roadways that transect the project site. The north-south farm-road that is located just north of the shooting range serves as a scrap yard for remnant construction and/or farming materials (i.e. remnant pipes, etc.). These materials will need to be inspected/tested for possible contamination and asbestos, and appropriately disposed of prior to any ground disturbance in this area. The scrap materials appear in aerial photos before at least 2003.

There is an area on the western side of the project near McKinley that has historically served as a farm yard for agricultural equipment, implements, etc. At the time of the site reconnaissance, the area would void of farming equipment and supplies.

There is an overhead transmission lines that bisect the project site from the northeast to the southwest. Additionally, there is an irrigation canal that bisects the project site from the south to northwest. The irrigation canal is proposed to be undergrounded.

Adjoining Properties

The project site is located on the fringe of development, with a commercial development and recreational facility located to the east, agricultural land to the northeast, a wastewater treatment plant to the north, a railroad to the northwest, and west, agricultural and rural residential land to the west, and SR 120 to the south.

Interviews

Interviews with various persons familiar with the site vicinity, including representatives of the City of Manteca, were conducted for the purpose of identifying past and present uses, which may have contributed to Recognized Environmental Conditions on the project site. Results of those interviews are discussed in the following sections.

OCCUPANTS

The project site is vacant agricultural land as of the date of the site reconnaissance, therefore no occupants were interviewed.

OWNER OR KEY SITE MANAGER

The City of Manteca is the owner of the property and has confirmed the project site has historically been vacant and used for agricultural purposes, with the exception of the shooting range for the Manteca Police Department as of the date of the site reconnaissance.

GOVERNMENT OFFICIALS

The City of Manteca is the owner of the property and has confirmed the project site has historically been vacant and used for agricultural purposes, with the exception of the shooting range for the Manteca Police Department as of the date of the site reconnaissance.

ABANDONED PROPERTIES

The project site is not treated as a previously abandoned property. There is no evidence of potential unauthorized uses of the project site or evidence of uncontrolled access to the site.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses of the project site and surrounding area, in order to evaluate the project site and adjoining properties for evidence of Recognized Environmental Conditions. Standard historical sources reviewed during the preparation of this report included the following, as available:

AERIAL PHOTOGRAPHS

Historical aerial photographs of the project site and general vicinity were reviewed for the project site. The project site has historically been vacant agricultural land consistent with what was observed on the date of the site reconnaissance. The only structure located on the property is a single-wide mobile home unit that was formerly used in conjunction with the Manteca Police

Department shooting range, which was located on the site. The shooting range will need to be decommissioned and inspected for possible contamination from ammunition prior to any ground disturbance.

There are several dirt farm-roadways that transect the project site. The north-south farm-road that is located just north of the shooting range serves as a scrap yard for remnant construction and/or farming materials (i.e. remnant pipes, etc.). These materials will need to be inspected/tested for possible asbestos and/or other hazards, and appropriately disposed of prior to any ground disturbance in this area. The scrap materials appear in aerial photos before at least 2003.

There is an area on the western side of the project near McKinley that has historically served as a farm yard for agricultural equipment, implements, etc. There are no records of above ground or below ground storage tanks, but it is anticipated that the area was used to fuel farm equipment and there is a possibility of accidental spills/releases in this area associated with the historical uses. The soils in this area will need to be inspected/tested for possible contamination, and if found to have soil contaminated, the soil must be appropriately disposed of prior to any ground disturbance in this area.

There is an overhead transmission lines that bisect the project site from the northeast to the southwest. Additionally, there is an irrigation canal that bisects the project site from the south to northwest. The irrigation canal is proposed to be undergrounded.

The project site remains largely unchanged from 2003 to present.

BUILDING DEPARTMENT RECORDS

Given the lack of historical or recent development on the project site, it was not deemed warranted to inquire about building department records in order for the environmental professional to make a determination regarding Recognized Environmental Conditions on the project site.

LOCAL STREET DIRECTORIES

Given the lack of historical or recent development on the project site, the site does not have a business address in local street directories.

ZONING AND LAND USE RECORDS

Zoning information for the project site was retrieved from the Manteca General Plan Land Use Map and Zoning Map. According to the reviewed maps, the project site is designated and zoned Public/Quasi-Public.

OTHER HISTORICAL SOURCES

There is no active or abandoned oil/gas wells located on the project site. Additionally, there are no environmental liens on the property. Review of additional historical sources was not warranted in

order for the Environmental Professional to make a determination as to evidence of potential Recognized Environmental Conditions on the project 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. 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.

The CA Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. There is one site located within Manteca. This Site is known as the Gordon Research Center, which is a 3.67-acre site located within a residential district of Manteca. The southwestern corner of the property abuts the northwestern corner of the Brock Elliot Elementary School. This site does not pose a hazardous threat to the proposed project.

The CA Water Resources Control Board maintains the *Geotracker*, which is a database system that tracks and archives compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. There are two LUST cleanup sites located to the north of the project site. The ABF Freight site is located at 2427 Yosemite Avenue and is closed. The Frank's One Stop site is located at 2072 Yosemite Avenue and is an open case with verification monitoring in effect. There are no active or closed cases located on the project site.

There are four Cease and Desist Orders and Cleanup and Abatement Orders located in Manteca. These include animal and food processing facilities, none of which are located on or adjacent to the project site.

CalRecycle maintains the Solid Waste Information System (SWIS), which is a database of solid waste facilities. The SWIS data identifies active, planned and closed sites. The project site does not have any active or planned solid waste facilities listed in the database.

None of the records reviewed for the project site indicates that a Recognized Environmental Condition is associated with the project site.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Manteca Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad lines that are make up the western boundary of the site. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company does implement a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

FIRE HAZARDS

Wild fires are a major hazard in the State of California. Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the County's ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

Wildland fire hazards exist in varying degrees in the foothill portion of the County located to the east and southwest of the project site. The project site is located in the valley floor, which is predominantly under agricultural or urban use. This area has a low fire hazard risk.

3.8.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the Act) 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 substances releases. The Act deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption

of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

LOCAL

City of Manteca General Plan

Policies: Hazardous Materials Safety

S-P-16. The City shall maintain an awareness of hazardous materials throughout the Manteca region.

S-P-17. City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

S-P-18. Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Manteca residents.

Implementation: Hazardous Materials Safety

S-I-10. The City shall require businesses that manufacture, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities.

S-I-11. The City shall require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Manteca. The list shall be maintained through the Manteca Fire Department and updated through periodic review.

S-I-12. The City shall work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

S-I-13. Cooperate fully with Union Pacific Railroad and other agencies, such as the CHP, in the event of a hazardous material emergency.

S-I-14. Continue the City hazardous waste pick-up program for household hazardous materials.

Policies: Emergency Procedures

S-P-19. The City shall maintain and periodically update the City's Emergency Plan.

Implementation Policies: Emergency Procedures

S-I-15. The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-I-16. The City shall review County and State emergency response procedures that must be coordinated with City procedures.

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The San Joaquin County Department of Environmental Health is the CUPA designated for San Joaquin County. The San Joaquin County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

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.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildands are adjacent to urbanized areas or where residences are intermixed with wildlands.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (less than significant with mitigation)

Construction Phase Impacts: Construction activities would occur in phases through the development of the proposed project. Construction equipment and materials would likely require the use of petroleum based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources. This is a potentially significant impact.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the Plan Area have used agricultural chemicals including pesticides and herbicides as a standard practice. Although no contaminated soils have been identified on the project site or the vicinity, residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides, in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-

diphenyl-dichloroethylene (DDE). There are no records of soil contamination on the project site; however, the soils will need to be inspected/tested for possible contamination, and if found to have soil contaminated, the soil must be appropriately treated/disposed of prior to any ground disturbance. This is a potentially significant impact.

The only structure located on the property is a single-wide mobile home unit that was formerly used in conjunction with the Manteca Police Department shooting range. The single-wide mobile home unit will require removal prior to any construction. If the mobile home is demolished, it will require evaluation for asbestos and lead containing materials. If such materials are present in the construction of the mobile home unit, special demolition and disposal practices are required to ensure their safe handling. This is a potentially significant impact.

The Manteca Police Department shooting range will need to be inspected for possible lead contamination from ammunition prior to any ground disturbance. Once it is inspected, a plan for the proper cleanup and decommissioning of the shooting range will need to be prepared and approved by the California Department of Toxic Substances Control. This is a potentially significant impact.

The north-south farm-road that is located just north of the shooting range serves as a scrap yard for remnant construction and/or farming materials (i.e. remnant pipes, etc.). These materials will need to be inspected/tested for possible asbestos and/or other hazards, and appropriately disposed of prior to any ground disturbance in this area. This is a potentially significant impact.

The area on the western side of the project near McKinley that historically served as a farm yard for agricultural equipment, implements, etc. will need to be inspected/tested for possible soil contamination from accidental spills/releases, and if found to have soil contamination, the soil must be appropriately disposed of prior to any ground disturbance in this area. This is a potentially significant impact.

Mitigation measures presented below are intended to require inspection/testing of materials and soil in areas where the potential for contamination from past uses is present on the project site, and if contamination is found, measures are presented to ensure that the contaminated/hazardous material is properly handled and disposed of in accordance with local, state, and federal regulations. Mitigation measures presented below also require a Soils Management Plan (SMP) to be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Implementation of the following mitigation measures will ensure that these potential impacts are reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.8-1*: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP shall establish management practices for handling hazardous materials, including*

fuels, paints, cleaners, solvents, etc., during construction. If surface staining is found to extend to a depth of more than six inches in soil, a hazardous waste specialist (Phase 2) shall be engaged to further assess the stained area. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.

Mitigation Measure 3.8-2: *The applicant shall hire a qualified consultant to perform a Phase 2 ESA prior to the issuance of grading permits or demolition permits for construction activities in the following areas that have been deemed to have potential hazardous conditions present:*

- *Prior to grading activities in areas previously used for agricultural uses.*
- *Prior to removal of the single-wide mobile home unit that was formerly used in conjunction with the Manteca Police Department shooting range.*
- *Prior to grading activities on the shooting range site.*
- *Prior to removal of the remnant construction and/or farming materials (i.e. remnant pipes, etc.) on the project site, most notably those located on the north-south farm-road that is located just north of the shooting range.*
- *Prior to grading activities in the area on the western side of the project near McKinley that historically served as a farm yard for agricultural equipment, implements, etc.*

The intent of the Phase 2 ESA is to: 1) sample the soils for residual agrichemicals, 2) sample any areas that appear stained, and 3) investigate whether any of the buildings or facilities contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If toxic levels of residual agrichemicals are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If any stained soils are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.

Mitigation Measure 3.8-3*: Prior to bringing hazardous material onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Division (CUPA) for review and approval. If the inventory of reportable hazardous materials include fuels stored in Aboveground Storage Tanks (AST) that exceed 1320 gallons (in containers >55 gallons) the applicant must file documents required by the California Aboveground Storage Tank Act (APSA). If one of the AST's is larger than 20,000 gallons or the accumulative storage capacity exceeds 100,000 gallons a Spill Prevention and Countermeasures Plan (SPCC) will be required. If during the construction process the applicant or his subcontractors generates hazardous waste, the*

applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).

OPERATIONAL PHASE IMPACTS

The operational phase of the project will occur after construction is completed and business operators/employees and guests move in to occupy the structures and facilities on a day-to-day basis.

The proposed project includes a hotel, commercial facilities, and recreational facilities. Each of these facilities will likely 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. These facilities will store and use these materials. The waterpark will likely require pool cleaning chemicals including chlorine, acid, and other hazardous chemicals normally used in pool maintenance. Pesticides, fertilizers, and fuel will be required to maintain the landscaping, and potentially the ball fields if they are constructed with grass surfaces in lieu of artificial turf. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Environmental Health Division and the Manteca Fire Department. Implementation of the following mitigation measure will ensure that the proposed project would have a **less than significant** impact relative to this issue.

MITIGATION MEASURES

*Implement **Mitigation Measure 3.8-3***

Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (less than significant)

The proposed project is not anticipated to have businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. In addition, there are no existing or planned schools within a quarter mile of the Plan Area. The closest schools include Sierra High School (0.5 miles east), Stella Brockman Elementary School (1.0 miles northeast), Brock Elliot Elementary School (1.0 miles east), and Manteca High School (2.4 miles east). There are a variety of other schools located beyond 3 miles from the project site. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (less than significant)

The hazards assessment included a site reconnaissance, interviews, historical land use research, and database research. The assessment revealed no evidence of historical or existing Recognized

Environmental Conditions in connection with the project site. Furthermore, the proposed project would not result in the transportation, use, disposal, release, emission, or handling of hazardous or acutely hazardous materials, substances, or waste. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-4: Potential for the project to result in a safety hazards for people residing or working on the project site as a result of public airport or public use airport (less than significant)

There are no documented public airports or public use airports within close proximity to the project site. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-5: Potential for the project to result in safety hazards for people residing or working on the project site as a result of a private airstrip (less than significant)

There are no documented private airstrips within close proximity to the project site. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-6: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant)

The Office of Emergency Services (OES) maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for San Joaquin County. It includes planned operational functions and overall responsibilities of County Departments during an emergency situation. The Emergency Plan also contains a threat summary for San Joaquin County, which addresses the potential for natural, technological and human-caused disasters (County Code, Title 4-3007).

The County OES also prepared a Hazardous Materials Area Plan (§2720 H&S, 2008) that describes the hazardous materials response system developed to protect public health, prevent environmental damage and ensure proper use and disposal of hazardous materials. The plan establishes effective response capabilities to contain and control releases, establishes oversight of long-term cleanup and mitigation of residual releases, and integrates multi-jurisdiction and agency coordination. This plan is now implemented by the San Joaquin County Environmental Health Department.

The San Joaquin County Environmental Health Department maintains a Hazardous Materials Management Plan/ Hazardous Materials Business Plan (HMMP/HMBP). The HMMP/HMBP describes agency roles, strategies and processes for responding to emergencies involving hazardous materials. The Environmental Health Department maintains a Hazardous Materials Database and Risk and Flood Maps available to the public on its website.

In San Joaquin County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The proposed project does not include any actions that would impair or physically interfere with any of San Joaquin County's emergency plans or evacuation routes. Future uses on the project site will have access to the County resources that establish protocols for safe use, handling and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-7: Potential to expose people or structures to a risk of loss, injury or death from wildland fires (less than significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The County has areas with an abundance of flashy fuels (i.e. grassland) in the foothill areas of the eastern and western portion of the County. The project site is located in an area that is predominately agricultural and urban, which is not at a significant risk of wildlife. The proposed project would have a **less than significant** impact with regards to this environmental issue.

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This section describes the regulatory setting, regional hydrology and water quality, impacts that are likely to result from project implementation, and measures to reduce potential impacts to water quality. This section is based in part on the following documents, reports and studies: *City of Manteca General Plan 2023* (City of Manteca as amended through 2013), *Manteca General Plan 2023 Draft Environmental Impact Report* (City of Manteca 2003), *California Water Plan Update 2013* (DWR 2013), *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin* (DWR 2006), *California's Groundwater* (DWR 2003), *Eastern San Joaquin Groundwater Basin Groundwater Management Plan* (SJRGA 2013), *Custom Soils Report for San Joaquin County, California (NRCS 2014), and Web Soil Survey* (NRCS 2014). Comments received during the NOP comment period regarding hydrology and water quality include: Central Valley Regional Water Quality Control Board.

3.9.1 EXISTING SETTING

REGIONAL HYDROLOGY

San Joaquin County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013) .

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne and Merced rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water is pumped north through the Madera Canal and south through the Friant-Kern canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne and Merced rivers.

In an average year, about 1.5 million acre-feet of water is diverted from the San Joaquin River at Friant Dam, leaving little flow in the river until the Merced River joins the San Joaquin northwest of the City of Merced. Additional water also reaches the river via flows returning to the river from municipal wastewater treatment plants, as well as urban and agricultural runoff. The rest of the area's water supply needs are met by importing water from northern California (via the Central Valley Project) and by pumping water from the groundwater basin (SJRGA 2013).

Climate

Summers in the region are warm and dry ranging from an average high in July of 93°F to an average low of approximately 59°F. Winters are cool and mild, with an average high of 53°F and a low of 37°F in January. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1. STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012

Hydrologic Region

San Joaquin County is located in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic

Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin river system drains northwesterly through the Delta to Suisun Bay (DWR 2013, pg. SJR-5).

The City of Manteca and much of the surrounding area is located in the Eastern San Joaquin River Subbasin. This groundwater basin covers approximately 1,105 square miles and extends from the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east. The Eastern San Joaquin Subbasin is bounded on the south, southwest, and west by the Modesto, Delta-Mendota, and Tracy Subbasins, respectively and on the northwest and north by the Solano, South American, and Cosumnes Subbasins. The Solano and South American are subbasins of the Sacramento Valley Groundwater Basin (DWR 2006, pg. 1).

The Project site is located in the Oakwood Lake - San Joaquin River watershed. See Figure 3.9-1.

Groundwater

The City of Manteca is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2006), the ESJGB is in a critical condition of overdraft.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined.

The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the region penetrate through the Victor formation into the Laguna formation.

Groundwater pumping in Manteca increased from 2,277 AFY in 1960 to a maximum of 14,933 AFY in 2004, prior to the South County Water Supply Program (SCWSP) delivering treated surface water to the City. According to the City's 2005 UWMP, the sustainable yield of the groundwater basin was estimated in a1985 study to be approximately 1 acre-foot per acre per year. Although groundwater pumping in some years has exceeded that rate, as part of the SCWSP, the City

intends to limit groundwater pumping to that rate or less. At this time, the area of the City's Primary Urban Service Area (PUSA) is 13,790 acres. Therefore, the City intends to limit groundwater pumping to a long-term average of no greater than 13,790 afy. Groundwater pumping is not projected to reach 13,790 ac-ft/yr prior to 2035 unless the City alters its groundwater/surface water balance, or expands its PUSA.

The groundwater surface generally slopes from south to north, with the highest groundwater elevations occurring near Yosemite Avenue east of McKinley Avenue and the lowest groundwater elevations occurring along Roth Road. There are some localized depressions due to industrial and municipal groundwater pumping operations. Groundwater elevations in the fall, after the high-use summer months, average about 3 feet lower than groundwater elevations in the spring.

LOCAL SETTING

The topography of the Project site is relatively flat with a five foot elevation gain throughout the Project site. There are no natural water courses in the Project site. The French Camp Outlet Canal (a manmade irrigation canal) traverses the project site. The current uses in the Project site and adjacent lands are a mix of agricultural, commercial, and industrial uses. Crop types include alfalfa and winter wheat. The Project site is in the Oakwood Lake - San Joaquin River watershed, which is part of the San Joaquin River watershed.

Groundwater

The local groundwater basin and City groundwater use are described in the City's 2005 UWMP. A brief description of the groundwater basin and a discussion of historical and projected groundwater pumping are provided below.

BASIN BOUNDARIES, SOILS, AND STORAGE CAPACITY

The City's wells are located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2006), the ESJGB is in a critical condition of overdraft. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined.

The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Manteca area penetrate through the Victor formation into the Laguna formation.

PAST AND PROJECTED FUTURE GROUNDWATER PUMPING

Groundwater pumping in Manteca increased from 2,277 AFY in 1960 to a maximum of 14,933 AFY in 2004 prior to the SCWSP delivering treated surface water to the City. According to the City's 2005 UWMP, the sustainable yield of the groundwater basin was estimated in a 1985 study to be approximately 1 acre-foot per acre per year. Although groundwater pumping in some years has exceeded that rate, as part of the SCWSP, the City intends to limit groundwater pumping to that rate or less. At this time, the area of the City's PUSA is 13,790 acres. Therefore, the City intends to limit groundwater pumping to a long-term average of no greater than 13,790 afy. Groundwater pumping is not projected to reach 13,790 ac-ft/yr prior to 2035.

Drainage

The City of Manteca provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally the City enforces storm drain regulations established by the US EPA and the State of California.

The City maintains a dynamic computer model of its storm drainage system. The model was formulated as an XP-SWMM model originally developed by the US EPA. The current version was advanced by a private sector organization, XP Software, Inc. The model provides analysis over time and offers the ability to maximize the efficiency of detention basin and pump operations along with the ability to monitor and control downstream water levels to minimize flooding problems with a minimum of new capital improvements.

The South San Joaquin Irrigation District (SSJID) owns a complex network of irrigation Laterals and Drains that run throughout the City limits. These facilities deliver irrigation water to various farming operations in the region, and they convey excess irrigation water and field runoff to downstream receiving waters, specifically the San Joaquin River. The City relies on SSJID's facilities to convey its storm water runoff to the San Joaquin River and will continue to do so through buildout of the City's General Plan.

The City and SSJID have a long-standing agreement that authorizes the City to discharge its storm water runoff into SSJID facilities for ultimate disposal to the San Joaquin River. In 1975 the City first entered into a storm drainage agreement with SSJID, and in 2006 the City renewed its drainage agreement with SSJID. Of the many requirements in the 2006 Agreement, the two most significant new requirements are that all storm water discharges into SSJID facilities must be monitored and controlled such that the capacity of SSJID's facilities is not exceeded, and that storm water quality must be controlled such that it complies with all applicable laws.

The City meets the first requirement by requiring all new development to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. In addition, the City uses real-time water level monitoring stations at critical low points in the conveyance system complete with SCADA (Supervisory Control and Data Acquisition) facilities. Regarding the water quality requirement, the City is classified as a Phase II city by the State Water Resources Control Board. As such, the City, and consequently new development, is required to comply with the State Board's storm water NPDES permit for Phase II cities.

Per the City/SSJID Master Drainage Agreement, SSJID prohibits the direct discharge of storm water runoffs into its facilities. Accordingly, the City requires all new developments to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. For surface attenuation facilities, there are two allowable basin types for non-residential applications: Interim Percolation Basin or Permanent Sole Use Percolation Basin.

INTERIM PERCOLATION BASIN: RESIDENTIAL AND NON-RESIDENTIAL APPLICATIONS

Percolation basins may be used as an interim measure for retention and disposal of storm water runoff in those areas that will not receive storm drainage service from a major storm drain system by the time development occurs. When discharge capability to a major storm drain system becomes available, the basins are to be exchanged for or converted to detention basins with pumped discharge facilities. Interim percolation basins are to be sized to store two, 10- year, 48-hour duration storm runoff volumes over the entire contributing area.

PERMANENT SOLE USE PERCOLATION BASIN: NON-RESIDENTIAL APPLICATIONS

Sole use percolation basins may be allowed as a permanent measure for retention and disposal of storm water runoff for large (minimum 80 acres) non-residential applications as approved by the City. Permanent percolation basins shall be designed to empty the entire runoff volume of a 10-year, 48-hour duration storm within 96 hours. The permanent percolation basin shall be oversized by 50%.

The groundwater separation distance between the bottom of the percolation basin and the seasonally high ground water table shall be 10 feet to reduce the risk of groundwater contamination. The City may allow an exception to this separation requirement for situations where the groundwater level is less than 10 feet but greater than 5 feet provided that the runoff is fully treated upstream of the percolation basin by pretreatment BMPs such as a regional CDS unit or other City-approved equivalent treatment device. For situations where the groundwater separation is less than 5 feet, percolation basins are prohibited.

The percolation basins require a minimum soil infiltration rate of 0.5 inch per hour, not exceeding 3 inch per hour, should not be used as temporary sediment traps during construction, and are not allowed at sites with Hydrologic Soil Type C and D, e.g., clay. As part of the percolation basin approval process, the developer must prepare an operations and maintenance plan for the facility documenting all maintenance and rehabilitation activities and costs for approval by the City. Access to percolation basin must be provided for regular maintenance activities.

Prior to acceptance of the Basin, the property owner must provide an approved fully funded mechanism or entity for funding all maintenance and rehabilitation needs of the basin. The maintenance entity must be permanent and responsible for meeting all storm water quality requirements of the State Water Resources Control Board.

LATERALS FOR STORM WATER CONVEYANCE

As previously described, SSJID owns a complex network of irrigation Laterals and Drains that run throughout the City's limits. The hydraulic connectivity of SSJID's system is as follows: 1) irrigation water is conveyed to farming operations via a vast network of Laterals; 2) the Laterals carry excess irrigation water and field runoff to several Drains; 3) the Drains convey water to a large central drain called the French Camp Outlet Canal (FCOC); and 4) the FCOC conveys water to the San Joaquin River.

A fundamental goal of previous storm drain master plans was to minimize the use of SSJID's Laterals for conveyance of storm water runoff to SSJID's Drains. Accordingly, previous master plans specified the construction of a separate storm water conveyance network that by-passed the Laterals and transported storm drainage directly to the Drains. Once the City's storm water reached the Drains, the Drains would continue to provide conveyance to the FCOC and to the San Joaquin River. In the 2013 SDMP, however, the City recognizes the opportunity to minimize infrastructure costs for all parties by abandoning the concept of separate conveyance systems and instead expanding the use of SSJID's Laterals. Laterals that are targeted to convey both storm water and irrigation water to Drains are called dual-use facilities.

This concept is viable since SSJID's Laterals are 1) found virtually everywhere in the existing and undeveloped areas of the City, 2) most of these Laterals are already 42-inch diameter pipe, which is a sufficient size for the City's drainage needs, and 3) SSJID already requires new development projects that disturb their Laterals to remove, realign and replace that infrastructure with an equal or larger diameter pipeline. For situations where the existing Lateral is 36-inch diameter, and SSJID does not require a 42-inch or larger pipe to be installed as a replacement, the City will require a minimum 42-inch diameter pipeline to be installed, and the developer will be reimbursed the upsizing cost for the larger diameter pipe via the Public Facilities Implementation Fee (PFIP) program.

FUTURE STORM WATER DRAINAGE DEMAND AND SYSTEM IMPROVEMENTS

Currently storm water is collected by drain 7 in Zone 34. Storm drain monitoring is conducted for drain 7 at the North East corner of Daniel Street and Junction Drive and at the North East corner of Daniel Drive and Stonum Lane. A City storm drain pump station for the Big League Dreams Park is in a position to serve the project site.

The project site is located in Zone 34 and served by Drain 7. Drain 7 is the main existing dual-use facility in Zone 34. There are no additional dual-use facilities proposed for Drain 7 in Zone 34. The City has assessed the need for infrastructure improvements in the planning area. Specifically, two 36 inch culverts will need to be replaced with a single 10 foot by 8 foot box culvert. Although this upgrade has been assessed it is a Group 2 project and will likely occur sometime after 2018.

PLANNED INFRASTRUCTURE UPDATES

To account for an increased need to prevent flooding due to storm water in the planning area several additions to the existing infrastructure have been proposed for the South Drain storm pump station infrastructure. According to the FEZ Utility Master Plan, these additions include four gravity mains, and one force main.

Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

The Project site lies within the larger area known as the Delta Basin, which historically was a tidal marsh formed in an overflow area of the Sacramento and San Joaquin Rivers. During the early part of the 20th century, over 80 percent of the Delta was reclaimed through construction of levees. There are over 1,100 miles of man-made levees protecting land in the Delta from flooding. The RD-17 levee system is designed to a 100-year protection standard. Land within the Project site along the levee frontage was acquired by RD-17 to construct levee improvements approximately in 2009/10. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future. The Project site is currently located in Zone X, protected by levee, which by definition indicates an area protected by levees from the 1% annual chance flood. (Figure 3.9-2). A portion of the project site located along the eastern boundary is located within the 500-year flood zone.

Dam Failure

The Project site is located within four dam failure inundation areas, New Melones Lake, and San Luis Reservoir, while the Lake McClure and Tulloch Reservoir dam inundation areas lie just outside the project site to the west. See Figure 3.9-3. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

New Melones Lake, approximately 45 miles from the Project site, is an artificial lake in the central Sierra Nevada foothills of Calaveras- and Tuolumne County, near Jamestown. This reservoir created by the construction of the New Melones Dam across the Stanislaus River has a 2,400,000

acre-foot capacity with a surface area of 12,500 acres. When full, the shoreline is more than 100 miles.

The *San Luis Reservoir*, approximately 50 miles from the Project site, is an artificial lake on San Luis Creek in the eastern slopes of the Diablo Range of Merced County, approximately 12 miles west of Los Banos. The reservoir stores water taken from the San Joaquin-Sacramento River Delta. Water is pumped uphill into the reservoir from the O'Neill Forebay which is fed by the California Aqueduct and is released back into the forebay to continue downstream along the aqueduct as needed for farm irrigation and other uses. Depending on water levels, the reservoir is approximately nine miles long from north to south at its longest point, and five miles wide. At the eastern end of the reservoir is the San Luis Dam, or the B.F. Sisk Dam, the fourth largest embankment dam in the United States, which allows for a total capacity of 2,041,000 acre feet.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(d) Impaired Water Bodies: Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered

"impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the Project site that are impaired are referred as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council. This includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown).

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

FEDERAL AND STATE

Clean Water Act (CWA)

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

Federal Emergency Management Agency (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of

protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025.

The RD-17 levee system is designed to a 100-year protection standard. Land within the Project site along the levee frontage was acquired by RD-17 to construct levee improvements approximately in 2009/10. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by

the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

LOCAL

City of Manteca General Plan

POLICIES: DOMESTIC WATER

- PF-P-4. Secure sufficient sources of water to meet the needs of the existing community and planned residential and commercial growth.
- PF-P-5. City will continue to rely principally on groundwater resources for its municipal water in the near term, will participate in the regional improvements to deliver surface water to augment the City's groundwater supply.
- PF-P-6. The City shall develop new water sources as necessary to serve new development.
- PF-P-7. The City shall develop new water storage facilities and major distribution lines as necessary to serve new development.

- PF-P-8. The City will provide water for future development to maintain a balance of jobs and housing.
- PF-P-9. City water services shall not be extended to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.
- PF-P-10. Development of private water wells within the City limits shall be allowed only where the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.
- PF-P-11. The City will develop and implement water conservation measures as necessary elements of the water system.
- PF-P-12. The City shall continue to assess a water development fee on all new commercial, industrial, and residential development sufficient to fund systemwide capacity improvements. The water development fee schedule shall be periodically reviewed and revised as necessary.
- PF-P-13. Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.
- PF-P-14. The City shall continuously monitor water flows through the City's water system to identify areas of potential water loss and cases of under billing for water service and shall make improvements in the systems as necessary.
- PF-P-15. The City shall monitor water quality regularly and take necessary measures to prevent contamination.
- PF-P-16. The City of Manteca shall include a groundwater analysis as a technical analysis of water system capacity in the update of the Public Facilities Implementation Plan (PFIP), and shall prepare an environmental analysis in the PFIP that addresses the quality and
- availability of groundwater.
- PF-P-17. The City of Manteca shall consider incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

POLICIES: MAJOR DRAINAGE

- PF-P-26. The City shall continue to complete gaps in the drainage system in areas of existing development.
- PF-P-27. The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of stormwater runoff resulting from each
- development.
- PF-P-28. Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within

neighborhoods. The width and length of the corridors would be determined by the stormwater management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on the open space corridor.

POLICIES: FLOOD SAFETY

- S-P-7. Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.
- S-P-8. Cooperate with other agencies in the pursuit of a regional approach to flood issues.
- S-P-9. Combine flood control, recreation, water quality, and open space functions where feasible.
- S-P-10. Ensure that any existing structures subject to the 200-year flood provide adequate protection from flood hazards.
- S-P-11. Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.
- S-P-12. New residential development, including mobilehomes, shall be constructed so that the lowest floor is at least one foot above the 200-year flood level.
- S-P-13. Non-residential development shall be anchored and floodproofed in accord with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 200-year flood or, alternatively, elevated to at least one foot above the 200-year flood level.
- S-P-14. When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.
- S-P-15. Ensure the city is in compliance with the Central Valley Flood Protect Plan.

8.3.1 POLICIES: WATER CONSERVATION

- RC-P-1. The City shall continue to implement water conservation standards for all commercial and industrial development, and for all existing and new residential development.
- RC-P-2. The City shall explore potential uses of treated wastewater when such opportunities become available.
- RC-P-3. The City shall protect the quantity of Manteca's groundwater.
- RC-P-4. The City shall require water conservation in both City operations and private development to minimize the need for the development of new water sources.
- RC-P-5. Development of private water wells within the city limits shall be allowed only where the City makes a finding that municipal water service is not readily and feasibly available, and such private well systems shall only be allowed to be used until such time as City water service becomes available.

8.5.1 POLICIES: SOILS AND EROSION CONTROL

- RC-P-10. Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

8.6.1 POLICIES: WATER QUALITY

- RC-P-11. Minimize sedimentation and loss of topsoil from soil erosion.
- RC-P-12. Minimize pollution of waterways and other surface water bodies from urban runoff.
- RC-P-13. Protect the quality of Manteca's groundwater.
- RC-P-14. Encourage participation by the County and surrounding communities in a basin-wide groundwater management study.
- RC-P-15. Once sewer service has been extended to incorporated areas, new septic tanks shall not be permitted.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, run-off or flooding on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami or mudflow.

IMPACTS AND MITIGATION

Impact 3.9-1: The proposed project has the potential to violate water quality standards or waste discharge requirements during construction (less than significant)

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

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

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

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

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is*

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

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

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils, ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Implement Mitigation Measure 3.6-1

Impact 3.9-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during operation (less than significant)

Operational Impacts: The long-term operations of the proposed Project (all phases) could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in new impervious areas associated with roadways, driveways, parking lots, buildings, and landscape areas. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutants pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The drainage collection system within the City of Manteca consists of gravity pipes, retention/detention/surge basins, pump station, force mains, outfalls, and irrigation canals/ditches. The collection system for the proposed project will be designed to contain the 10-year storm event within the pipe system and basins while maintaining one foot of freeboard. The streets will be designed in combination with the pipe system to convey the 100-year storm event to the basins and pump station in accordance with City standards. Early phases of development may to rely on temporary basins in order to delay the construction of the overall storm drainage system. The final design of all onsite and offsite storm drain infrastructure improvements is subject to the review and approval of the City of Manteca.

The ongoing operational phase of the proposed Project (all phases) requires discharge of stormwater into the French Camp Outlet Canal. The discharge of stormwater must be treated through BMPs prior to its discharge to the French Camp Outlet Canal. The City of Manteca implements best management practices to the extent they are technologically achievable to prevent and reduce pollutants. Under the City's standard practices, the owner or operator of a commercial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense. The City imposes the same standards on municipal owned projects, such as the proposed project.

There are various non-structural and structural stormwater BMPs that can be implemented to reduce water pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities.

Mitigation Measure 3.4-6 and 3.4-7 contained in Section 3.4 Biological Resources would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the

Project site into the Delta during the operational phase of the project. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards. These are existing regulatory requirements. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge (less than significant)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

Table 3.9-2 below identifies the soils in the Project site and the soils infiltration rate. The Project site has soils with a hydrologic rating of "A", which is indicative of soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

TABLE 3.9-2: SOILS HYDROLOGIC RATING

SOIL SERIES	*DESCRIPTION*	*SOURCE MATERIAL*	*RATING*
Bisgani	Loamy coarse sand, partially drained, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	A
Delhi	Loamy sand, 0 to 2 percent slopes	Wind-modified alluvium	A
Timor	Loamy sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	A
Tinnin	Loamy coarse sand, 0 to 2 percent slopes	Alluvium derived from granitic rock sources	A
Veritas	Fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	A

SOURCE: NCRS 2014

The infiltration rate of the soils on the Project site is considered high. Development of the proposed Project will cover at least 50% of the existing Project site with impervious surfaces and could reduce rainwater infiltration and groundwater recharge further. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system and eventually flow into the San Joaquin River. The ball fields will remain largely pervious. The exact design of the drainage basin in not known at this time, therefore, it is not known whether the drainage basin will percolate or not (i.e. unlined or lined).

The project site is located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate

existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2006), the ESJGB is in a critical condition of overdraft. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined. The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Manteca area penetrate through the Victor formation into the Laguna formation.

Groundwater pumping in Manteca increased from 2,277 AFY in 1960 to a maximum of 14,933 AFY in 2004 prior to the SCWSP delivering treated surface water to the City. According to the City's 2005 UWMP, the sustainable yield of the groundwater basin was estimated in a 1985 study to be approximately 1 acre-foot per acre per year. Although groundwater pumping in some years has exceeded that rate, as part of the SCWSP, the City intends to limit groundwater pumping to that rate or less. At this time, the area of the City's PUSA is 13,790 acres. Therefore, the City intends to limit groundwater pumping to a long-term average of no greater than 13,790 afy. Groundwater pumping is not projected to reach 13,790 ac-ft/yr prior to 2035.

While the Project site's soils have a high infiltration rate based on the high percentage of sands, much of the groundwater recharge in the basin occurs in the sand and gravels along the San Joaquin River from Sierra snowmelt flowing downstream. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into the Delta. While the proposed project would reduce the amount of pervious surfaces within the project site, it will retain at least 50% of the site as a pervious surface.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. As such, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff (less than significant)

Currently, runoff from within the Project site is collected in a system of shallow agricultural and roadside ditches. Public storm drain facilities are not currently installed in the agricultural fields. The project site does, however, contain the French Camp Outlet Canal which functions as a storm drainage outlet for runoff through the City of Manteca.

Storm water in the planning area will be flow to drain 7 in Zone 34, which has not had flooding issues. Drain 7 is the main existing dual-use facility in Zone 34. There are no additional dual-use facilities proposed for Drain 7 in Zone 34. The City has assessed the need for infrastructure improvements in the planning area. Specifically, two 36 inch culverts will need to be replaced with a single 10 foot by 8 foot box culvert. Although this upgrade has been assessed, it is a Group 2 project and it has been planned to occur sometime after 2018. Storm drain monitoring is conducted for drain 7 at the North East corner of Daniel Street and Junction Drive and at the North East corner of Daniel Drive and Stonum Lane. A City storm drain pump station for the Big League Dreams Park is in a position to serve the project site.

To account for increased impervious surfaces in the planning area several additions to the existing infrastructure have been proposed for the South Drain storm pump station infrastructure. According to the FEZ Utility Master Plan, these additions include four gravity mains, and one force main. The proposed project also includes the undergrounding of French Camp Outlet Canal.

The proposed stormwater collection system functions by attenuating its runoff in a storage facility before pumping it into the French Camp Outlet Canal. The City will use real-time water level monitoring stations at critical low points in the conveyance system complete with SCADA (Supervisory Control and Data Acquisition) facilities to determine when stormwater can be pumped into the French Camp Outlet Canal and when it must be retained.

The City and SSJID have a long-standing agreement that authorizes the City to discharge its storm water runoff into SSJID facilities for ultimate disposal to the San Joaquin River. The City / SSJID Master Drainage Agreement requires that all storm water discharges into SSJID facilities must be monitored and controlled such that the capacity of SSJID's facilities is not exceeded, and that storm water quality must be controlled such that it complies with all applicable laws. The proposed storm drainage system is consistent with these requirements.

The exact sizing of the underground piping and basin will be engineered during the preparation of the improvement plans. The relatively shallow groundwater exists throughout the Project site and it is possible that this high ground water condition affect the design and construction of the storm drain system. Infiltration into the storm pipes through joints and underground structures can result in excessive pumping demands throughout the life of the proposed Project. This impact will be reduced by proper installation of pipes having rubber gasket sealed joints. Additionally, high groundwater can impact the effectiveness of detention basins. To the extent that groundwater enters the basins, the storage available for the runoff is diminished. The bottom of the basins will

be designed to maintain a minimum of five feet of separation from groundwater or other design measures will be implemented such as impervious liners with sub drain systems.

Initial development phases may utilize interim retention (percolation) basins until the pump station, force main and basin are constructed.

With the design and construction of flood control improvements included in the proposed storm drainage system, the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9.5 The proposed project has the potential to otherwise substantially degrade water quality (less than significant)

Water Quality Impacts from Discharges to 303(d) Listed Water Bodies: Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the Project site that are impaired are referred as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council. This includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown).

The San Joaquin River is specifically listed by the Central Valley Regional Water Quality Control Board (CVRWQCB) as an impaired water body due to mercury under the Clean Water Act. Mercury is a sediment-based pollutant that can be released into the water column during various in-water construction activities (e.g., construction of the storm drain outfall) that may disturb the sediment and cause turbidity. As a result, such activities may increase the likelihood of mercury exposure to the public and wildlife that utilize the San Joaquin River.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and

implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB.

The ongoing operational phase of the proposed Project (all phases) requires discharge of stormwater into the French Camp Outlet Canal, which ultimately flows into the Delta. The discharge of stormwater must be treated through BMPs prior to its discharge to the French Camp Outlet Canal. Mitigation Measure 3.4-6 and 3.4-7 contained in Section 3.4 Biological Resources would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the Project site into the French Camp Outlet Canal, which ultimately flows into the Delta during the operational phase of the project. There are various non-structural and structural stormwater BMPs that can be implemented to reduce water pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards.

The use of BMPs are intended to treat runoff close to the source during the construction and long term operational phase of the project (All Phases) to reduce stormwater quality impacts. The mitigation measures listed below are existing regulatory requirements. Implementation of proposed Project would have a ***less-than-significant*** impact relative to this topic.

MITIGATION MEASURES

Implement **Mitigation Measure 3.6-1** (from Section 3.6 Geology and Soils) and **Mitigation Measures 3.4-7 and 3.4-8** (from Section 3.4 Biological Resources).

Impact 3.9.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (less than significant)

As shown on Figure 3.9-2, the Project site is not within a 100-year flood zone as delineated by FEMA. Development of the proposed Project would not place housing or structures in a flood hazard area. As a result the proposed Project would have a ***less-than-significant*** impact relative to this topic.

Impact 3.9.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding,

including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow (less than significant)

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunami can cause catastrophic damage to shallow or exposed shorelines. The Project site is approximately 50 miles from San Francisco Bay and 70 miles from the coast, which is sufficiently distant to preclude effects from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influences by the external causes. The Project site is not adjacent to any lakes that pose a risk of a seiche.

A mudflow is a type of mass wasting or landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of factors, including soil type, soil profile, precipitation, and slope. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. Soils most susceptible to mudflow are saturated, loose, non-plastic, uniformly graded, and fine-grained sand deposits. The Project site is relatively flat making the potential of mudflows low.

The Project site is subject to flood inundation as a result of dam failure from two reservoirs/lakes. Figure 3.9-3 shows areas that are susceptible to dam inundation. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. As discussed previously, larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

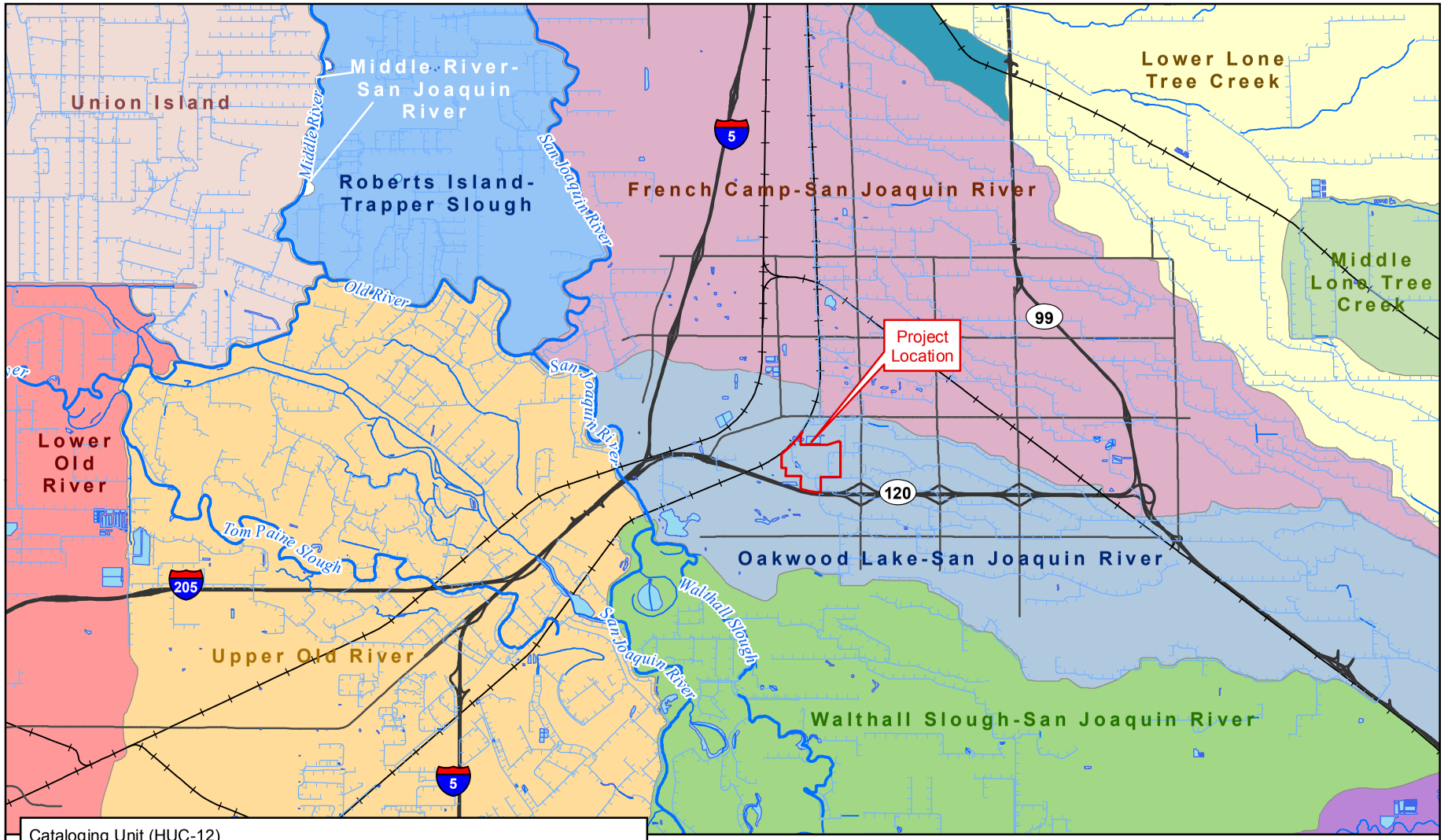
Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The Project site is subject to flood inundation as a result of levee failure. The levees protected the project site are maintained by Reclamation District 0017 (RD 17). The RD 17 levee system was originally constructed in the 1960's and substantially upgraded in 1988. In 1990 the RD 17 levee was accredited by FEMA, which removed large areas of Stockton, Lathrop, Manteca and the County from the 100-year floodplain.

Following the accreditation in 1990, standards for flood protection have been changing and in May 2007 FEMA extended an offer of a Provisionally Accredited Levee (PAL) Agreement for the RD 17 levee system. A PAL is a levee that meets the FEMA requirements for flood protection but requires additional supporting documentation. Since August 2007, RD 17 has been implementing improvements to the levee system and constructed a seepage berm (a bank of earth placed against the existing levee) along the east levee of the San Joaquin River with the RD 17 area. The purpose of these improvements is to meet the flood protection requirements of FEMA and maintain the levee accreditation. FEMA has determined based on the current condition of the levee and the additional supporting documentation, that the RD 17 levee will maintain its accreditation.

Regular inspection and maintenance by RD 17 ensure that the levees are kept in safe operating condition. As such, failure of the levee is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The proposed Project would not result in the exposure people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow. This impact is considered ***less-than-significant***.



MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.9-1: Watersheds

Data sources: USGS and USDA-NRCS Watershed Boundary Dataset; USGS National Hydrography Dataset; San Joaquin County GIS. Map date: June 11, 2014.

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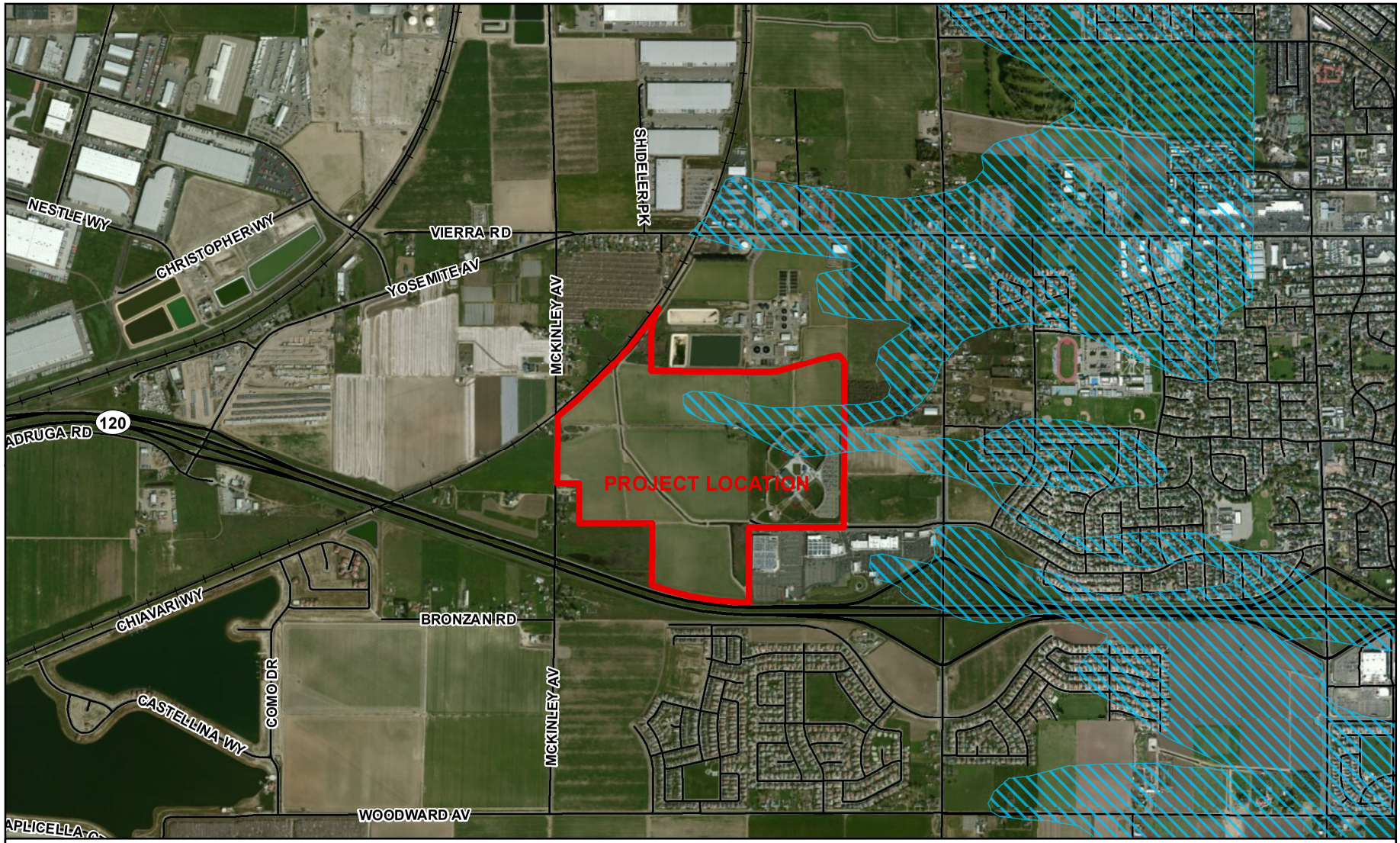

500-yr Flood Zone*

All other areas shown on this map extent are Zone X - areas of minimal hazard, with some areas protected by levee

N

0 500 1,000 2,000
Feet

1:24,000

Data sources: FEMA Map Service Center; San Joaquin County GIS; ArcGIS Online Imagery. Map date: June 11, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.9-2: FEMA Flood Map

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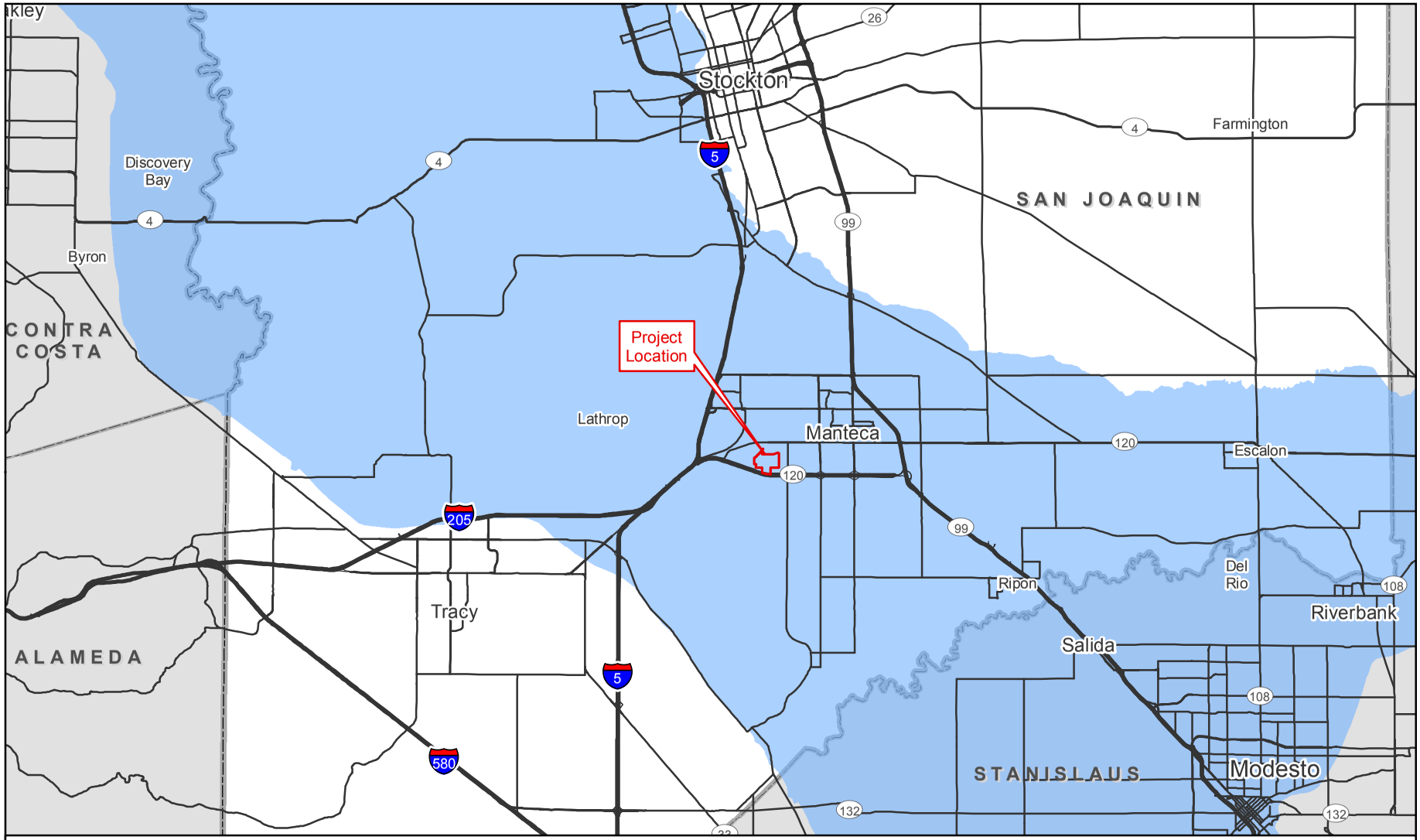

Dam Inundation Area*

* Inundation area shown on map is a combination of the following dam inundation areas:
New Melones
Lake McClure
San Luis
Pine Flat
Tulloch

N

0 1.5 3
Miles

1:280,000

Data sources: Cal EMA Dam Inundation Areas, 2009; San Joaquin County Office of Emergency Services Dam Failure Plan, 2003; ESRI StreetMap North America. Map date: June 11, 2014.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.9-3: Dam Inundation Areas

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This section describes the existing land uses on the Project site and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed Project related to land use, population, and housing. Information in this section is based on information provided in the project materials, site surveys conducted by De Novo Planning Group in 2014, and the following reference documents: *City of Manteca General Plan 2023* (City of Manteca, 2013), City of Manteca *General Plan EIR* (City of Manteca, 2003), the City of Manteca Municipal Code, Title 17 - Zoning (City of Manteca, 2011), and the San Joaquin County General Plan (County of San Joaquin, 1992). No comments were received during the NOP review period regarding environmental impacts associated with land use, population, or housing.

3.10.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

The City of Manteca is located in southern San Joaquin County, approximately 15 miles from Stockton and Tracy and 18 miles from Modesto. State Route 99 travels through Manteca near the eastern edge of the city and State Route 120 travels through the city near the southern edge of the city. Manteca occupies an area of just under 16 square miles.

Project Site

The Project site is located in the western area of the City of Manteca (Figure 2-1). The Project site is located to the north and west of the Stadium Shopping Center, to the west of Milo Candini Drive, to the east of McKinley Avenue and the Union Pacific Railway right-of-way, to the south of the City of Manteca Wastewater Quality Control Facility (WQCF), and to the north of State Route 120. The Project site is comprised of approximately 189 acres.

The approximately 217-acre Project site has relatively flat terrain. As shown in Figure 3.10-1, the majority of the Project site is composed of agricultural uses. The Big League Dreams ballpark, which is developed with six replica ballparks, an indoor soccer facility, two restaurants and other supporting facilities, is located on 28 acres in the eastern portion of the Project site. High voltage power lines, within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Project site running northeast/southwest. The undeveloped portion of the Project site is currently used for land application of treated effluent from the WQCF.

Surrounding Land Uses

North: The boundary on the north of the Project site is primarily occupied by a public use, the Manteca WQCF. A small portion of the eastern edge of the northern boundary is bordered by agricultural land.

East: The project site is bordered by agricultural, undeveloped land, and rural residential uses to the east.

South: The western portion of the Project site's southern boundary is bordered by primarily by SR 120. There is some additional vacant land to the south of the westernmost portion of the site. The Stadium Shopping Center is located to the south of the Big League Dreams portion of the Project site

West: To the west, the Project site is bounded by McKinley Avenue and the Union Pacific Railway right-of-way. The parcels located to the west of those right-of-ways are rural residential, agricultural, and undeveloped land. With the exception of the southernmost portion of the western boundary of the Project site, the majority of the western boundary of the Project site aligns with the City border and lands west of the Project site beyond the City's border are located in the unincorporated area of San Joaquin County.

DEMOGRAPHICS

Population Trends

The City experienced a population increase from 2000 to 2010 of 17,841 persons (36.2%) as shown in Table 3.10-1. During the period from 2010 to 2014, population continued to increase in the City, resulting in a total population of 72,880 in 2014.

TABLE 3.10-1: POPULATION GROWTH

YEAR	*POPULATION*	*CHANGE*	*PERCENT CHANGE*
2000	49,255		
2010	67,096	17,841	36.2%
2014	72,880	5,784	8.6%

SOURCES: US CENSUS, 2000; DOF, 2014

Housing Stock

Table 3.10-2 summarizes the growth of the City's housing stock between 2000 and 2014. The number of housing units increased from 16,936 in 2000 to 23,132 in 2014. This represents 36.6 percent growth in the City's housing stock. The City's housing stock totaled 24,553 units in 2014.

TABLE 3.10-2: HOUSING UNIT GROWTH

YEAR	*HOUSING UNITS*	*CHANGE*	*PERCENT CHANGE*
2000	16,936		
2010	23,132	6,196	36.6%
2014	24,553	1,421	6.1%

SOURCES: US CENSUS 2000; DOF, 2014

Persons Per Dwelling Unit

The average number of persons residing in a dwelling unit in the City of Manteca in 2014 was 3.15 (DOF, 2014).

3.10.2 REGULATORY SETTING

STATE

Government Code

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a jurisdiction and of any land outside its boundaries that, in the jurisdiction's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the jurisdiction's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

LOCAL

City of Manteca General Plan (Manteca GP)

As noted above, General Plans are prepared under a mandate from the State of California, which requires each city and county to prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands. State law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. In addition to those components required by State law, the Manteca GP also contains optional elements, including Community Design, Economic Development, Public Facilities and Services, and Air Quality.

The Manteca GP is comprehensive, long-range, and general. The Manteca GP has the following purposes:

- To identify the community's land use, transportation, environmental, economic and social goals and policies as they relate to land use, conservation and development.
- To enable the City Council and the Planning Commission to establish long-range conservation and development policies.

- To provide a basis for judging whether specific private development proposals and public projects are in harmony with these policies.
- To inform citizens, developers, decision makers, and other jurisdictions of the policies that will guide development and conservation within the City.

General Plan Land Use Map (2012): The Manteca GP Land Use Map portrays the ultimate uses of land in the City of Manteca through land use designations. The Land Use Map designates the Project site as Public/Quasi-Public (Figure 3.10-2). Lands to the north of the Project site are also designated Public/Quasi-Public. To the west of the Project site, lands within the City's Planning Area are designated Light Industrial. To the south of the Project site, lands are designated General Commercial and SR 120, located to the south of the Project site, does not have a land use designation. Lands to the east of the Project site are primarily designated Light Industrial; the southernmost parcel located to the east of the Project site is designated Public/Quasi-Public.

Public/Quasi-Public: This designation provides for government-owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and churches.

General Commercial: The General Commercial designation provides for wholesale, warehousing, and heavy commercial uses, highway oriented commercial retail, public and quasi-public uses, and similar and compatible uses. The designation is also intended to accommodate visitor commercial, lodging, commercial recreation and public gathering facilities, such as amphitheaters, or public gardens. The General Commercial designation allows for a maximum floor area ratio of 0.6 and maximum site coverage of 40%.

Light Industrial: The Light Industrial designation provides for industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses. The Light Industrial designation allows for a maximum floor area ratio of 0.7 and maximum site coverage of 60%.

City of Manteca General Plan Policies: General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils/mineral resources, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR.

Municipal Code, Title 17 - Zoning

The purpose of Title 17, Zoning, of the City's Municipal Code is to protect and promote public health, safety, peace, comfort, convenience, prosperity, and general welfare and to regulate land use and development in accordance with the Manteca GP.

Zoning Map: The Zoning Map identifies zoning districts within the City at the parcel level. The Zoning Map designates the Project site as PQP (Public/Quasi-Public) (Figure 3.10-2). Lands to the north of the Project site are also zoned PQP. To the west of the Project site, lands within the City

are zoned M1 (Light Industrial); lands to the west that are beyond the City limits are not zoned by the City. To the south of the Project site, lands are zoned CG (General Commercial) and SR 120, located to the south of the Project site, does not have a zoning designation. Lands to the east of the Project site are primarily zoned M1; the southernmost parcel located to the east of the Project site is zoned PQP.

PQP (Public/Quasi-Public): The PQP district provides for government-owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and religious institutions. Outdoor commercial recreation and outdoor community recreation uses are allowed in the PQP district.

M1 (Light Industrial): The M1 district provides for industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses, and similar and compatible uses.

CG (General Commercial): The CG district provides for wholesale, warehousing, and heavy commercial uses, highway-oriented commercial retail, public and quasi-public uses, and similar and compatible uses. The designation is also intended to accommodate visitor lodging, commercial recreation and public gathering facilities, such as amphitheaters, or public gardens. It also allows most neighborhood and mixed commercial uses.

County of San Joaquin General Plan (County GP)

The San Joaquin County General Plan is a policy guide for physical and economic growth of the County. Unincorporated land located west of the Project site is under the jurisdiction of San Joaquin County. The County GP designates these lands for agricultural-general (A/G) uses (http://sjmap.org/DistrictViewer/Viewer.asp, 2014).

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

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) provides comprehensive measures for compensation and avoidance of impacts on various biological resources, including agricultural land. One of the primary goals of the SJMSCP is to preserve productive agriculture where that goal is compatible with protecting and preserving lands with biological resources and habitat. The SJMSCP is administered by the San Joaquin Council of Governments (SJCOG). The project applicant will pay fees to SJCOG on a per-acre basis for designated agricultural lands and habitat that are converted to urban use. SJCOG will then use these funds to purchase conservation easements on agricultural and habitat lands in the region. The purchase of conservation easements allow the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity. The Project site is designated Category C – Agricultural Habitat Open Spaces, Pay Zone B by the SJSMSCP.

The City of Manteca is a permit holder and is responsible for local implementation responsibilities including collection of fees, maintenance of implementing ordinances/resolutions and coordinating with the JPA for annual reporting requirements.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on land use and planning if it will:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- Induce substantial 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed Project would not physically divide an established community. (no impact)

The Project site is located at the western edge of the City of Manteca and is adjacent primarily undeveloped land, agricultural land, and the Manteca WQCF to the north, east, and west. The Project site would result in a northerly extension of developed uses, including the commercial lands south of the site and the Big League Dreams Ballpark located on the Project site. The Project would provide roadways and pedestrian pathways to connect the Project to the existing circulation system and to allow access to and from the site. Development of the Project site would not result in any physical barriers, such as a highway, wall, or other division, that would divide an existing community, but would serve as an orderly extension of existing development. The Project would have **no impact** in regards to the physical division of an established community.

Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the

project adopted to avoid or mitigate an environmental effect. (less than significant)

Land use plans, policies, and regulations that govern the land uses on the Project site and have jurisdiction over the Project include the Manteca GP, Manteca Zoning Code, and the SJCMSCP.

MANTECA GENERAL PLAN

Since general plans often contain numerous policies emphasizing differing legislative goals, a development project may be "consistent" with a general plan, taken as a whole, even though the project appears to be inconsistent or arguably inconsistent with some individual policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.) The Project is consistent with the key land use issues and development concepts of the Manteca GP which provide for logical growth of the City, emphasize community form, scale, and identify, encourage attractive, sustainable neighborhoods, support public transit and bicycle and pedestrian circulation, encourage housing opportunity, promote employment and economic development, encourage a mix of land uses that balance public services and fiscal sustainability, promote access to open space, and encourage agricultural productivity through a compact, concentric development form.

The Project is located within City limits and will provide for employment-generating uses that will improve the City's jobs:housing balance. The Project is consistent with the General Plan land use policies that encourage an orderly pattern of development that is contiguous with the City boundary, require growth to contribute to a diversified economic base and balance between employment and housing opportunities, and allow recreation uses that are attractive and have high day/evening activity levels adjacent to the highways.

The Manteca GP designates the Project site Public/Quasi-Public, which allows government-owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and churches. The Project would be a government-owned facility that provides recreation and visitor-serving uses. As a government-owned facility, the Project does not conflict with the uses allowed under the Manteca GP. Therefore, the Project is substantially consistent with the Manteca GP land use requirements and would have a **less than significant** impact relative to the Manteca GP. It is noted that consistency with Manteca GP policies and programs related to environmental topics other than land use (aesthetics, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, noise, public services, transportation, and utilities) are discussed in the relevant sections of this EIR.

MANTECA ZONING CODE

The Manteca Zoning Code implements the General Plan. The Project site is zoned PQP by the Zoning Code, which allows government-owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and religious institutions. Outdoor commercial recreation and outdoor community recreation uses are allowed in the PQP district. The Project proposes to rezone the site to Master Plan. The FEZ Master Plan will

accommodate indoor and outdoor recreation uses, including ball fields and courts, a waterpark, and playground, and visitor-serving uses, including a hotel, food and beverage operations, and conference and meeting facilities, as described in Chapter 2.0, Project Description.

A primary purpose of the Zoning Code is to ensure that development that occurs is consistent with the General Plan. The Master Plan zoning would be consistent with the General Plan designation of Public/Quasi-Public and will provide the appropriate zoning standards to accommodate the Project. The Master Plan will establish permitted uses, development densities and intensities, and development standards to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Zoning Code. All existing City development standards and zoning requirements would remain in effect, except as specifically addressed in the Master Plan. Subsequent development plans for the Project must be consistent with the Master Plan. Compliance with the Master Plan regulatory document would ensure the Project's consistency with the City's Zoning Code. The Project will be consistent with the intent and purpose of the Zoning Code and will have a ***less than significant*** impact relative to potential conflicts with zoning.

Impact 3.10-3: The proposed Project would not significantly conflict with an applicable habitat conservation plan or natural community conservation plan. (less than significant)

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

The City's participation in the SJMSCP allows projects within Manteca's jurisdiction to seek coverage under the SJMSCP for impacts to endangered, threatened, and species of special concern. The SJMSCP provides a process to offset impacts to biological resources, conserve open space, maintain the agricultural economy, and allow development within the County. It was also created to obtain the necessary 32 permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Game for the next 50 years in exchange for participating projects paying mitigation fees. Fees are based on the amount and quality of land converted from agricultural or open space uses to urban uses. These fees are used to preserve and create habitats to be managed in perpetuity through the establishment of habitat preserves. Ninety-seven species are covered under the SJMSCP, with the intent to provide comprehensive mitigation pursuant to local, state, and federal regulations for impacts on these species from permitted activities under the Plan. Participation in the SJMSCP confers authorization for activities that result (or may result in) incidental take of covered state-listed species, federally listed species, and other covered.

As described in Section 3.3, Biological Resources, prior to issuance of grading permits, the Project proponent will be required to coordinate with SJCOG and will be responsible for the appropriate coverage, permits, compensatory mitigation or fees, and project-specific avoidance, minimization, and mitigation measures as defined within the SJMSCP. The Project does not conflict with the implementation of the SJMSCP and has appropriate measures to ensure compliance with payment of mitigation fees. Implementation of the Project would have a **less than significant** impact relative to compliance with the SJMSCP.

Impact 3.10-4: The proposed Project has the potential to induce substantial population growth in an area (less than significant)

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply or wastewater treatment/collection in an area where this service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

Components of Growth: The timing, magnitude, and location of land development and population growth in a region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public

services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

GROWTH EFFECTS OF THE PROJECT

Direct Population Growth: The Project does not propose any housing that would result in direct population growth.

Indirect Population Growth: As described above, projects that do not directly induce population growth still have the potential to result in indirect population growth through the creation of jobs or the extension of infrastructure into areas that were not previously served. Implementation of the Project would provide job growth to the area. It is anticipated that local employment would be increased to provide administrative, management, recreation, visitor-serving establishments, retail services, and landscape and maintenance to the Project. The proposed Project is expected to require both full-time and part-time employees. It is anticipated that the employment growth would be met both by existing residents and through the attraction of new residents.

The Project would establish a variety of business opportunities that can support the skilled and educated workforce of Manteca and the local area. The Project is consistent with the Manteca GP, which anticipated use of the Project site for Public/Quasi-Public uses, anticipated that job-creating uses would occur on the Project site, and anticipated that public infrastructure and services would be extended to the Project site as envisioned by the General Plan Land Use Map. The Manteca GP designates sites for residential growth to ensure a balance between new residential development and jobs-creating uses. The Housing Element of the Manteca GP identifies that the City has capacity for 4,922 residential units on vacant and underdeveloped sites. The Project would not result in indirect population growth beyond the City's capacity that is planned in the General Plan.

Therefore, the Project is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City of Manteca General Plan. Growth inducement is a **less than significant** impact of the Project.

Impact 3.10-5: The proposed Project has the potential to displace substantial numbers of people or existing housing (less than significant)

There are no existing homes or other types of residential structures on the Project site. Therefore, development of the Project would not directly displace any persons or existing housing. The Project will have a **less than significant impact** related to the displacement of substantial numbers of people or existing housing.

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.10-1: Aerial Photo

Data sources: ArcGIS Online Basemap Imagery with Transportation. Map date: June 11, 2014.

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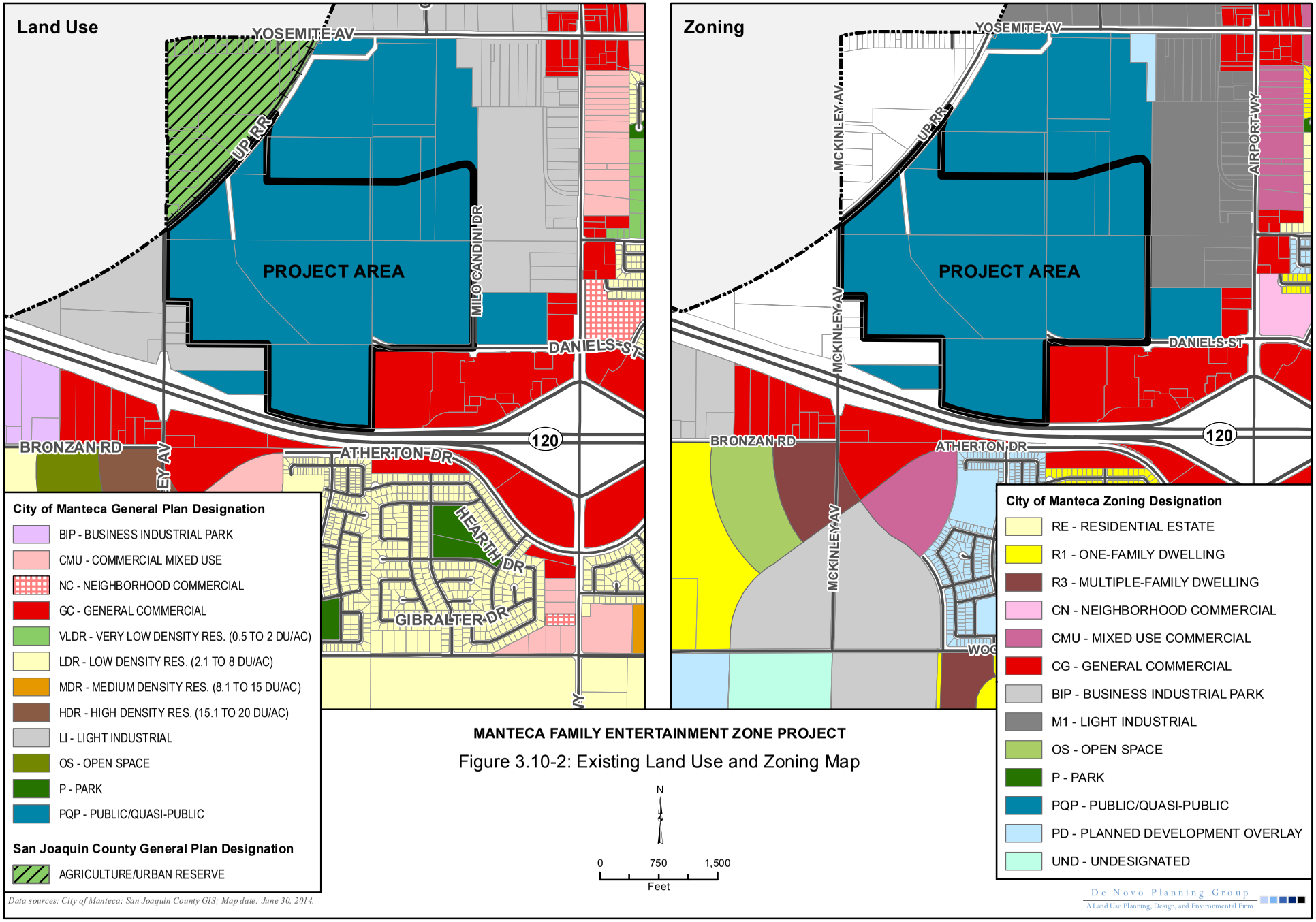

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.10-2: Existing Land Use and Zoning Map

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This section describes mineral resources located on the project site, as well as the regional setting for mineral resources and environmental impacts associated with mineral resources. Information in this section is based on the following: *Special Report 199 Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Stockton-Lodi Production-Consumption Region, San Joaquin and Stanislaus Counties, California* (California Geological Survey, 2012), *San Joaquin County Planning Handout-GP-V3-IV-B* (San Joaquin County 19923), *San Joaquin County General Plan Background Report – Natural Resources* (San Joaquin County, July 2009), *City of Manteca General Plan 2023* (City of Manteca as amended through 2013), and *Manteca General Plan 2023 Draft Environmental Impact Report* (City of Manteca 2003),

3.11.1 ENVIRONMENTAL SETTING

STATEWIDE

In 2012, the California Geological Survey identified that approximately 4 billion tons of permitted aggregate reserves lie within the 31 aggregate study areas in California. These permitted aggregate reserves have been determined to be acceptable for commercial use, exist within properties owned or leased by aggregate producing companies, and have permits allowing mining of aggregate material. Sand, gravel, and crushed stones are construction materials that are collectively referred to as construction aggregate. These materials provide the bulk and strength to Portland cement concrete (PCC), asphaltic concrete (AC), plaster, and stucco. Other uses include road base, subbase, railroad ballast, and fill. From 1981 to 2010, California consumed an average of about 180 million tons of construction aggregate (all grades) per year. (CGS, 2012)

REGIONAL SETTING

The primary mineral resources in San Joaquin County are sand, gravel, and natural gas, with limited mining of peat, gold, and silver. In 2012, the California Geological Survey assessed the Stockton-Lodi Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. Mineral resources in the region are classified based on whether the aggregate meets the specifications for use in PCC. This aggregate is termed “PCC-grade aggregate.” The material quality specifications for PCC-grade aggregate are more restrictive than the specifications for aggregate for other applications. As a result of the strict specifications, PCC-grade aggregate deposits are more scarce and valuable than other aggregate resources.

Known Mineral Resources

The California Geological Survey issued Special Report 199 designating areas within the Stockton-Lodi P-C Region based on the significance of mineral resources. The Stockton-Lodi P-C Region contains about 969 million tons PCC-grade aggregate resources and 67 million tons PCC-grade sand resources. These resources are classified into different mineral resource zone designations, as described below.

To be considered significant for the purpose of mineral land classification, a mineral deposit or group of deposits, must meet criteria adopted by the State Mining and Geology Board. These criteria include marketability and threshold values. The threshold value is approximately $17.375 million for a construction aggregate deposit. PCC-grade aggregate sells for about $13 per ton in the Stockton-Lodi P-C Region; therefore, $17,375,000 equates to about 1.3 million tons of PCC-grade aggregate material.

The following Mineral Resource Zone (MRZ) descriptions are for PCC-grade aggregate.

> *MRZ-1:* Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
>
> *MRZ-2:* Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
>
> *MRZ-3:* Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
>
> *MRZ-4:* Areas where available information is inadequate for assignment to any other MRZ zone.

Mineral Extraction Activities

Approximately 232 million tons of PCC-grade aggregate reserves are permitted for production in the County (CGS, 2012). There are 34 active and inactive aggregate mines within San Joaquin County (San Joaquin County, 2009). Three mines are located in the vicinity of the Project site:

- Mine ID# 91-39-0001 – Oakwood Lake. Mine is closed and was operated by Beck Properties.
- Mine ID# 91-39-0012 – Mossdale Road. Mine is closed and was operated by FTG Construction Materials.
- Mine ID# 91-39-0022 – Mossdale-Brown Sand. Mine is active and is operated by Brown Sand, Inc.

PROJECT SITE

The Project site is not located in either of the MRZ-2 (PCC sand) areas designated in Manteca. The MRZ-2 zones (PCC sand) are located to the south and west of the project site along the San Joaquin River. The project site, and much of Manteca has been mapped as an MRZ-3, which suggests that the area contains mineral deposits, but the significance of which cannot be evaluated from available data. The justification for the MRZ-3 designation is largely due to the proximity of Manteca (including the project site) to the San Joaquin River.

No known natural gas fields were identified in the vicinity of the project site (San Joaquin County, 19920).

3.11.2 REGULATORY SETTING

STATE

Surface Mining and Reclamation Act of 1975

The State Mining and Reclamation Act of 1975 (California Public Resources Code [PRC] Section 2710 et seq.) (SMARA) required that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur. This information is intended to be considered in local land use planning activities through the adoption of general plan mineral resource management policies (California Public Resources Code Section 2762). The California State Mining and Geology Board (SMGB) classifies such urban and non-urban lands according to a priority list, or when the Board is otherwise petitioned to classify a particular land area.

As mandated by SMARA, aggregate mineral resources within the State are classified by the SMGB through application of the MRZ System. The MRZ is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials).

PRC Section 2762(d) and 2763 requires a lead agency to prepare a statement specifying its reasons for permitting a use that would threaten the potential to extract mineral resources either 1) in an area that has been designated in its general plan as having important minerals to be protected, or 2) f the use is proposed in an area with significant resources pursuant to Section 2761(b)(2) and the lead agency has not yet acted on State's designation. PRC Section 2763 requires that lead agency land use decisions involving areas designated as being of regional significance shall be in accordance with the lead agency's mineral resource management policies and shall also, in balancing mineral values against alternative land uses, consider the importance of these minerals to their market region as a whole and not just their importance to the lead agency's area of jurisdiction.

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 General Plan

Section 8.11 of the Resource Conservation Element addresses mineral resources as follows:

8.11 MINERAL RESOURCES

The State of California has identified lands in the General Plan Study Area, near the San Joaquin River, as areas of significant mineral resources. In particular, sand deposits in these areas are considered to be of regional significance. However, Brown Sand and Gravel, Incorporated, the only operator within the Study Area (Oakwood Lake Pit), has completed mining operations. Oakwood Lake Resort has been created from reclaimed mined lands.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

- 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; and/or
- 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.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: The project would result in the loss of a known mineral resource that would be of value to the region (less than significant)

The Project site is not mapped as having a known mineral resource of value to the region. Implementation of the proposed Project would not result in the loss of a known mineral resource of value to the region. Therefore, this impact is considered **less than significant**.

Impact 3.11-2: The project would result in the loss of a locally important mineral resource recovery site delineated on a local general plan (less than significant)

The Project site is not designated as a locally important mineral resource recovery site in the City's General Plan. Implementation of the proposed Project would not result in the loss of a locally important mineral resource recovery site delineated on the Manteca General Plan. Therefore, this impact is considered **less than significant**.

This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts.

3.12.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-

hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

TABLE 3.12-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;

- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project (Fehr & Peers, June 2014). Day/night traffic distributions were based upon continuous hourly noise measurement data collected and file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Locations of continuous noise monitoring sites are shown on Figure 3.12-2. Table 3.12-2 shows the results of this analysis. Appendix A provides the complete inputs and results for the FHWA traffic noise modeling.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (L_{DN}), DB	DISTANCES TO TRAFFIC NOISE CONTOURS, L_{DN} (FEET)		
			70 DB	65 DB	60 DB
Airport Way	North of Yosemite	63.8	29	62	134
Airport Way	Yosemite to Wawona	64.5	32	69	149
Airport Way	Wawona to Daniels	64.4	32	68	147
Airport Way	Daniels to Atherton	64.1	40	87	187
Airport Way	South of Atherton	64.6	33	70	152
McKinley Avenue	North of Yosemite	55.1	20	44	94
McKinley Avenue	South of Yosemite	60.4	12	25	53
Yosemite Avenue	West of McKinley	59.2	19	41	89
Yosemite Avenue	McKinley to Airport	62.2	23	49	105
Yosemite Avenue	East of Airport	65.5	38	82	176
Wawona Street	East of Airport	57.9	8	17	36
Daniels Street	East of Airport	65.7	31	66	143
Atherton Drive	West of Airport	52.2	5	10	23
Atherton Drive	East of Airport	49.0	3	6	14

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. EXISTING NOISE LEVELS ARE BASED ON PREDICTIONS, NOT FULL MEASUREMENTS.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS., CALTRANS AND J.C. BRENNAN & ASSOCIATES, INC. 2014.

Railroad Noise Levels

Railroad activity in the project vicinity occurs on the Union Pacific Railroad (UPRR) line which borders the northwestern boundary of the project site.

In order to quantify noise exposure from existing train operations, a continuous (24-hour) noise level measurement survey was conducted adjacent the railroad line. The purpose of the noise level measurements was to determine the typical Sound Exposure Level (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns, and other factors which may affect noise generation. In addition, the noise level measurement equipment was programmed to identify individual train events, so that the typical number of train operations could be determined.

Locations of continuous noise monitoring sites are shown on Figure 3.12-2. Table 3.12-3 shows a summary of the continuous noise measurement results.

TABLE 3.12-3 : RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	RAILROAD TRACK	GRADE CROSSING/ WARNING HORN	TRAIN EVENTS PER 24-HR PERIOD	DISTANCE TO CL	SEL
1	UPRR	Yes	10	50’	107 dB

SOURCE: J.C. BRENNAN & ASSOCIATES, INC - 2014

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using an LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average (L_{dn}) railroad contours, it is necessary to calculate the L_{dn} for typical train operations. This was done using the SEL values and above-described number and an even day/night distribution of daily freight train operations. The L_{dn} may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day.

Based upon the above-described noise level data, number of operations and methods of calculation, the L_{dn} value for railroad line operations have been calculated, and the distances to the L_{dn} noise level contours are shown in Table 3.12-4.

TABLE 3.12-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS

EXTERIOR RAILROAD NOISE LEVEL AT MEASUREMENT SITE, LDN	*DISTANCE TO LDN CONTOUR*		
	60 DB	*65 DB*	*70 DB*
UPRR Line			
74 dB @ 50 feet – With Warning Horns	409 feet	190 feet	88 feet

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. 2014

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels in the project area. Continuous 24-hour noise monitoring was conducted at four sites to record day-night statistical noise level trends. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-5. Figure 3.12-2 shows the locations of the noise monitoring sites. The completed 24-hr noise monitoring results are contained in Appendix B.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3.12-5: EXISTING AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	DATE	L_{DN} (dBA)	MEASURED HOURLY NOISE LEVELS, LOW-HIGH (AVERAGE), dBA					
				DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
				L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
LT-1	South center on Project Site – 120 feet from centerline of SR 120	Friday 2/21/14	77	70-73 (71)	68-73 (70)	84-94 (88)	66-73 (70)	60-72 (66)	80-90 (84)
		Saturday 2/22/14	75	69-73 (71)	68-70 (69)	85-95 (89)	65-71 (68)	60-68 (64)	79-91 (85)
LT-2	Northwest on project site – 50' to UPRR Railroad centerline	Friday 2/21/14	73	45-75 (68)	43-57 (48)	61-108 (82)	47-74 (66)	46-56 (51)	59-105 (76)
		Saturday 2/22/14	72	46-74 (63)	43-54 (47)	59-105 (74)	46-75 (66)	45-53 (48)	60-106 (70)
LT-3	West center on project site. Near existing single-family residential	Friday 2/21/14	63	53-63 (57)	52-61 (54)	64-85 (73)	52-61 (57)	51-60 (55)	62-80 (69)
		Saturday 2/22/14	63	53-59 (55)	51-58 (54)	64-76 (69)	50-62 (57)	49-59 (53)	58-86 (69)
LT-4	North center on property – south of waste water treatment plant	Friday 2/21/14	60	49-62 (54)	48-55 (50)	60-83 (70)	50-56 (53)	49-53 (51)	55-79 (67)
		Saturday 2/22/14	60	48-56 (53)	47-53 (50)	59-79 (67)	48-60 (54)	48-51 (49)	55-84 (65)

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. - 2014

The results of the community noise survey shown in Table 3.12-5 indicate that existing transportation noise sources were the major contributor of ambient noise in the project vicinity. Specifically, traffic noise from SR 120 and railroad noise on the UPRR were observed to be the primary noise sources in the project area.

3.12.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance criteria section.

California State Building Codes

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room.

Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment

CITY OF MANTECA

The City of Manteca General Plan

The City of Manteca General Plan Noise Element contains goals, policies, and implementation measures for assessing noise impacts within the City. Listed below are the noise goals, policies, and implementation measures that are applicable to the proposed project (City of Manteca General Plan, 2003):

Goals

N-1. Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.

N-3. Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.

N-4. Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.

N-5. Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

Policies

N-P-2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1.

N-P-3: The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2. Noise mitigation may be required to meet Table 9-2 performance standards.

N-P-5: In accord with the Table 9-2 standards, the City shall regulate construction-related noise impacts on adjacent uses.

Implementation Measures

N-I-1. New development in residential areas with an actual or projected exterior noise level of greater than 60 dB Ldn will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB Ldn.

N-I-3. In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- the resulting noise levels
- the duration and frequency of the noise
- the number of people affected
- the land use designation of the affected receptor sites
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence
- prior CEQA determinations by other agencies specific to the project

N-I-4. Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.

MAXIMUM ALLOWABLE NOISE EXPOSURE MOBILE NOISE SOURCES

Land Use[4]	Outdoor Activity Areas[1]	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[3]
Residential	60[2]	45	
Transient Lodging	60[2]	45	
Hospitals, Nursing Homes	60[2]	45	
Theaters, Auditoriums, Music Halls			35
Churches, Music Halls	60[2]		40
Office Buildings	65		45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

[1]Outdoor activity areas for residential development are considered to be backyard patios or decks of single family dwellings, and the common areas where people generally congregate for multi-family developments. Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2]In areas where it is not possible to reduce exterior noise levels to 60 dB L_{dn} or below using a practical application of the best noise-reduction technology, an exterior noise level of up to 65 L_{dn} will be allowed.

[3]Determined for a typical worst-case hour during periods of use.

[4]Where a proposed use is not specifically listed on the table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.

Table 9-1 of the City of Manteca General Plan Noise Element

PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES OR PROJECTS AFFECTED BY STATIONARY NOISE SOURCES[1,2]

Noise Level Descriptor	Daytime	Nighttime
	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Hourly Leq, dB	50	45
Maximum Level, dB	70	65

[1]Each of the noise levels specified above should be lowered by five (5) dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints.

[2]No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

Table 9-2 of the City of Manteca General Plan Noise Element

City of Manteca Municipal Code Noise Ordinance

Section 9.52.030 of the City of Manteca Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the City. The following general rules are outline in the ordinance:

9.52.030 PROHIBITED NOISES—GENERAL STANDARD

No person shall make, or cause to suffer, or permit to be made upon any public property, public right-of-way or private property, any unnecessary and unreasonable noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time or place as to cause or contribute to the unnecessary and unreasonable discomfort of any persons within the neighborhood from which said noises emanate or which interfere with the peace and comfort of residents or their guests, or the operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such residences or places of business. (Ord. 1374 § 1(part), 2007)

17.58.050 D. EXEMPT ACTIVITIES

8. Construction activities when conducted as part of an approved Building Permit, except as prohibited in Subsection **17.58.050**(E)(1) (Prohibited Activities) below.

17.58.050 E. PROHIBITED ACTIVITIES

1. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure

waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Manteca does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.12-6 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v. The threshold of damage to buildings is approximately 0.2 in/sec p.p.v.

TABLE 3.12-6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		*HUMAN REACTION*	*EFFECT ON BUILDINGS*
MM/SEC.	*IN./SEC.*		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The project site is not located within two miles of a public or private airport or airstrip. Therefore, airport and airport noise is not discussed further in this analysis.

Determination of a Significant Increase in Noise Levels

California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas".

The City of Manteca General Plan Noise Element Implementation Measure N-I-3 provides specific guidance for assessing increases in ambient noise, as follows:

> *In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:*
>
> - *the resulting noise levels*
> - *the duration and frequency of the noise*
> - *the number of people affected*
> - *the land use designation of the affected receptor sites*
> - *public reactions or controversy as demonstrated at workshops or hearings, or by correspondence*
> - *prior CEQA determinations by other agencies specific to the project*

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed project has the potential to increase traffic noise levels at existing receptors (less than significant)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic

volumes provided by Fehr & Peers. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict L_{dn}/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Table 3.12-7 shows the noise levels associated with traffic on the local roadway network under the existing and existing plus project traffic conditions. Table 3.12-8 shows the noise levels associated with traffic on the local roadway network under the cumulative and cumulative plus project traffic conditions. As indicated by Table 3.12-7 and Table 3.12-8, the related noise level increases under development of the proposed project are predicted to range between 0.1 to 0.6 dB. The Table 3.12-7 and Table 3.12-8 data indicate that some noise sensitive receptors located along the project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels with implementation of the proposed project.

The project's contribution to existing traffic noise increases is predicted to be 0.6 dB, or less. This is less than the City's substantial increase criteria of 5-10 dB. Therefore, the increase of 0.6 dB L_{dn} is considered less than significant relative to the City's substantial increase threshold.

The proposed project would not cause increased noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard at existing noise-sensitive residential receptors. This would be a **less-than-significant** impact relative to this topic.

TABLE 3.12-7: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO EXITING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		EXISTING	EXISTING + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Airport Way	North of Yosemite	63.8	63.9	0.1	29	63	136
Airport Way	Yosemite to Wawona	64.5	64.7	0.2	33	72	154
Airport Way	Wawona to Daniels	64.4	64.5	0.2	32	70	151
Airport Way	Daniels to Atherton	64.1	64.6	0.5	43	93	201
Airport Way	South of Atherton	64.6	64.3	-0.3	31	67	145
McKinley Ave	North of Yosemite	55.1	55.3	0.2	21	45	97
McKinley Ave	South of Yosemite	60.4	61.0	0.6	13	27	59
Yosemite Ave	West of McKinley	59.2	59.3	0.0	19	42	90
Yosemite Ave	McKinley to Airport	62.2	62.2	0.1	23	49	105
Yosemite Ave	East of Airport	65.5	65.7	0.1	39	83	179
Wawona St	East of Airport	57.9	58.0	0.1	8	17	37
Daniels Street	East of Airport	65.7	65.8	0.2	32	68	146
Atherton Drive	West of Airport	52.2	51.7	-0.5	4	10	21
Atherton Drive	East of Airport	49.0	49.0	0.0	3	6	14

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2014.

TABLE 3.12-8: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO 2030 + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		2030	2030 + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Airport Way	North of Yosemite	67.0	67.0	0.0	47	102	219
Airport Way	Yosemite to Wawona	66.1	66.3	0.2	42	91	196
Airport Way	Wawona to Daniels	66.5	66.6	0.2	45	96	208
Airport Way	Daniels to Atherton	66.3	66.1	-0.2	55	119	257
Airport Way	South of Atherton	68.6	68.7	0.1	62	133	286
McKinley Ave	North of Yosemite	60.7	60.7	0.0	48	104	224
McKinley Ave	South of Yosemite	70.2	70.2	0.1	52	111	240
Yosemite Ave	West of McKinley	63.1	63.1	0.0	35	74	160
Yosemite Ave	McKinley to Airport	65.2	65.2	0.0	36	77	166
Yosemite Ave	East of Airport	66.7	66.8	0.1	46	99	214
Wawona St	East of Airport	59.5	59.6	0.1	10	22	47
Daniels Street	East of Airport	69.3	69.3	0.1	54	117	251
Atherton Drive	West of Airport	54.4	54.4	0.0	7	15	32
Atherton Drive	East of Airport	54.8	54.8	0.0	7	16	34

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2014.

Impact 3.12-2: The proposed project has the potential to increase noise levels associated with construction activities (less than significant)

The site improvements and building construction would include the use of heavy equipment and impact tools that can generate noise. Table 3.12-9 provides a list of the types of equipment which may be associated with construction activities and the associated noise levels.

TABLE 3.12-9: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, L_{MAX} DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 DB L_{MAX} CONTOUR	65 DB L_{MAX} CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354

Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2014.

Activities involved in project construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. The nearest residential receptors would be located 100 feet or more from construction activities occurring at the southwest boundary of the project site (PA-6). At this distance, construction related activities are predicted to generate maximum noise levels ranging between 72-84 dB L_{max}. Based upon the daytime maximum noise levels of 64-85 dB L_{max}, maximum noise levels due to project construction are predicted to be within the range of existing maximum noise levels at the nearest sensitive receptors.

Construction could result in periods of elevated ambient noise levels and the potential for annoyance. However, predicted maximum noise levels associated with project construction are predicted to be less than existing average maximum (L_{max}) noise levels, as measured at the nearest sensitive receptors. The City of Manteca General Plan establishes allowable hours of operation and noise limits for construction activities as follows:

> ***8.20.110 Construction of buildings and projects.***
> *It shall be unlawful for any person within a residential zone or within a radius of five hundred (500) feet therefore, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of ten p.m. of one day and seven a.m. of the next day, or eleven p.m. and nine a.m. Fridays, Saturdays and legal holidays, in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit therefore has been duly obtained from the office or body of the city having the function to issue permits of this kind. No permit shall be required to perform emergency work as defined in Sections 8.20.010 through 8.20.040. (Prior code § 99.40)*

Maximum (L_{max}) construction related noise levels are predicted to be less than existing maximum noise levels at the nearest sensitive receptors. Additionally, all construction activities will be subject to the requirements of the City of Manteca Noise Ordinance with respect to limits on construction noise. Implementation of the proposed project would have a **less than significant** impact relative to this topic.

Impact 3.12-3: The proposed project has the potential to increase noise vibration association with construction activities (less than significant)

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 100 feet or further from the project area. At this distance construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 3.12-10 shows the typical vibration levels produced by construction equipment.

TABLE 3.12-10: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

The Table 3.12-10 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a **less than significant** impact.

Impact 3.12-4: The proposed project has the potential to expose new sensitive receptors to excessive transportation noise (less than significant with mitigation)

Development of the project would result in new hotel and outdoor recreational uses. These uses are considered noise sensitive. Table 9-1 of the City of Manteca General Plan Noise Element establishes acceptable noise levels of 60 dB L_{dn} for outdoor activity areas of transient lodging uses along with an interior noise level standard of 45 dB L_{dn}. The City applies an exterior noise level standard of 70 dB L_{dn} at playground and neighborhood park uses.

EXTERIOR TRAFFIC NOISE LEVEL IMPACTS:

The FHWA traffic noise prediction model was used to predict Cumulative + Project traffic noise levels at the proposed sensitive uses associated with the project. Table 3.12-11 shows the predicted traffic noise levels at the proposed sensitive uses adjacent to SR 120.

The complete inputs and results to the FHWA traffic noise prediction model are contained in the appendix. The modeled noise barriers assume flat site conditions where roadway elevations, base of wall elevations, and building pad elevations are approximately equivalent.

UNION PACIFIC RAILROAD LINE (UPRR) NOISE LEVELS

Based upon the Table 3.12-4 data, the UPRR line was measured to generate an exterior noise level of 74 dBA L_{dn} at a distance of 50 feet. Based upon this measurement, railroad noise levels at the project site were predicted, as shown in Table 3.12-11. Railroad noise level are not predicted to exceed the City of Manteca 70 dB L_{dn} exterior noise level standard at proposed outdoor recreation areas, as shown in Table 3.12-11.

TABLE 3.12-11: CUMULATIVE + PROJECT TRANSPORTATION NOISE LEVELS AT PROPOSED RESIDENTIAL USES

ROADWAY	*RECEPTOR DESCRIPTION*	*APPROXIMATE SETBACK, FEET1*	*ADT*	*PREDICTED TRAFFIC NOISE LEVELS, DB LDN*			
				NO WALL	*6' WALL*	*7' WALL*	*8' WALL*
SR 120	Hotel Pool Area [2]	500	130,200	60 dB	--	--	--
SR 120	PA-6	750	130,200	68 dB	--	--	--
N/A	PA-10/11	150	Rail	67 dB	--	--	--

[1] Setback distances are measured in feet from the centerlines of the roadways to the center of the outdoor recreation area.
[2] Includes a partial view correction to account for shielding from proposed building facades.
-- Meets the City of Manteca exterior noise standard without mitigation.
Source: FHWA-RD-77-108 with inputs from Fehr & Peers, and j.c. brennan & associates, Inc. 2014.

The Table 3.12-11 data indicate that predicted traffic noise levels would comply with the City's 60 dB L_{dn} exterior noise level standard at the proposed outdoor pool area of the proposed hotel use. Additionally, exterior traffic and railroad noise levels would comply with the City's 70 dB L_{dn} exterior noise level standard for playground and neighborhood park uses.

INTERIOR NOISE IMPACTS:

Modern construction typically provides a 25 dB exterior-to-interior noise level reduction with windows closed. Therefore, sensitive receptors exposed to exterior noise of 70 dB L_{dn}, or less, will typically comply with the City of Manteca 45 dB L_{dn} interior noise level standard. Additional noise reduction measures, such as acoustically rated windows are generally required for exterior noise levels exceeding 70 dB L_{dn}.

It should be noted that exterior noise levels are typically 2-3 dB higher at second floor locations. Additionally, noise barriers do not reduce exterior noise levels at second floor locations. The proposed hotel use is predicted to be exposed to unmitigated first floor exterior transportation noise levels of approximately 76 dB L_{dn}. Therefore, upper floors are predicted to be exposed to

exterior noise levels of up to 79 dB L_{dn}. Based upon a 25 dB exterior-to-interior noise level reduction, interior noise levels are predicted to range between 51 to 54 dB L_{dn}. These noise levels would exceed the City of Manteca 45 dB L_{dn} interior noise level standard for hotel uses. In order to achieve compliance with the 45 dB L_{dn} interior noise level standard, interior noise control measures would be required. This would likely include the use of sound transmission class (STC) 40 rated window assemblies and resilient channel (RC) installation in building facades. These measures will need to be detailed when building plans for the hotel are available.

The following mitigation measures will minimize noise impacts resulting from transportation noise impacts on the proposed project site. Implementation of this mitigation measure would ensure consistency with the City's noise standards and would reduce this potentially significant impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.12-1: *A detailed interior noise analysis would be required for the proposed hotel use to ensure that interior noise levels will comply with the City of Manteca 45 dB Ldn interior noise level standard. This analysis would also be required for future sensitive uses located within a distance of 846 feet from the centerline of SR 120. This analysis should specify required sound ratings for glazing as well as any modification to be the building envelope to meet the City's interior noise level standard. This analysis shall be prepared by a qualified noise control engineer.*

Impact 3.12-5: The proposed project has the potential to increase stationary noise at sensitive receptors (less than significant with mitigation)

The nearest existing sensitive receptors include single-family residences west of the areas PA-6, PA-9, PA-10, and PA-11, as shown on Figure 3.12-2. Additionally, single-family residential uses are located east of area PA-1, along Airport Way. Activities occurring at the site of the proposed hotel facility are not located near any existing sensitive receptors. Therefore, the proposed project would not have the potential to increase stationary noise at existing sensitive receptors. However, build out of the project site could cause increased stationary noise at sensitive receptors around the project site. These future uses may include the following:

- Baseball/Softball Fields (2)
- Multi-purpose/Soccer Fields (5-10) in varying sizes.
- Shared public parking in PA-15 and PA-14
- Man-made passive lake/retention basin, approximately six (6) acres. Lakeside boardwalk promenade with semi-pervious pavers.
- Small Outdoor Amphitheater
- Outdoor entertainment / performance plaza
- Destination Playground
- Family Party Pavilions
- Beach Volleyball Courts (2)

- Customer/visitor parking and shared parking
- Concessions to support recreation, sporting uses and events and all visitor serving uses
- Retail shops
- Restaurants, cafes, bistro's, coffee shops
- Sports bar/ Micro-brewery

Table 3.12-12 provides an estimate of noise levels associated the above-listed types of use. The estimated noise level data for a small outdoor amphitheater or entertainment/performance plaza would be representative of the most intensive type uses that could be conditionally permitted due to the likely use of amplified sound. Noise contours for these uses could potentially exceed the City's daytime 50 dBA L_{eq} and nighttime 45 dBA L_{eq} noise level standards up to 2,812-8,891 feet from the use. If acoustic shielding is provided through the project design, these distances could be reduced to 1,581-5,000 feet, or less depending on the site design and hours of operation.

Less intensive uses include athletic fields, parking lots, playgrounds, party pavilions, and retail/restaurant uses may only generate noise levels exceeding the City's 50 dBA L_{eq} daytime noise level standard at distances of 89-473 feet. If noise shielding is provided these distances would be reduced to 50-266 feet. The following mitigation measures will minimize noise impacts resulting from on-site noise sources. Implementation of this mitigation measure would ensure consistency with the City's noise standards and would reduce this potentially significant impact to a **less than significant** level.

MITIGATION MEASURES

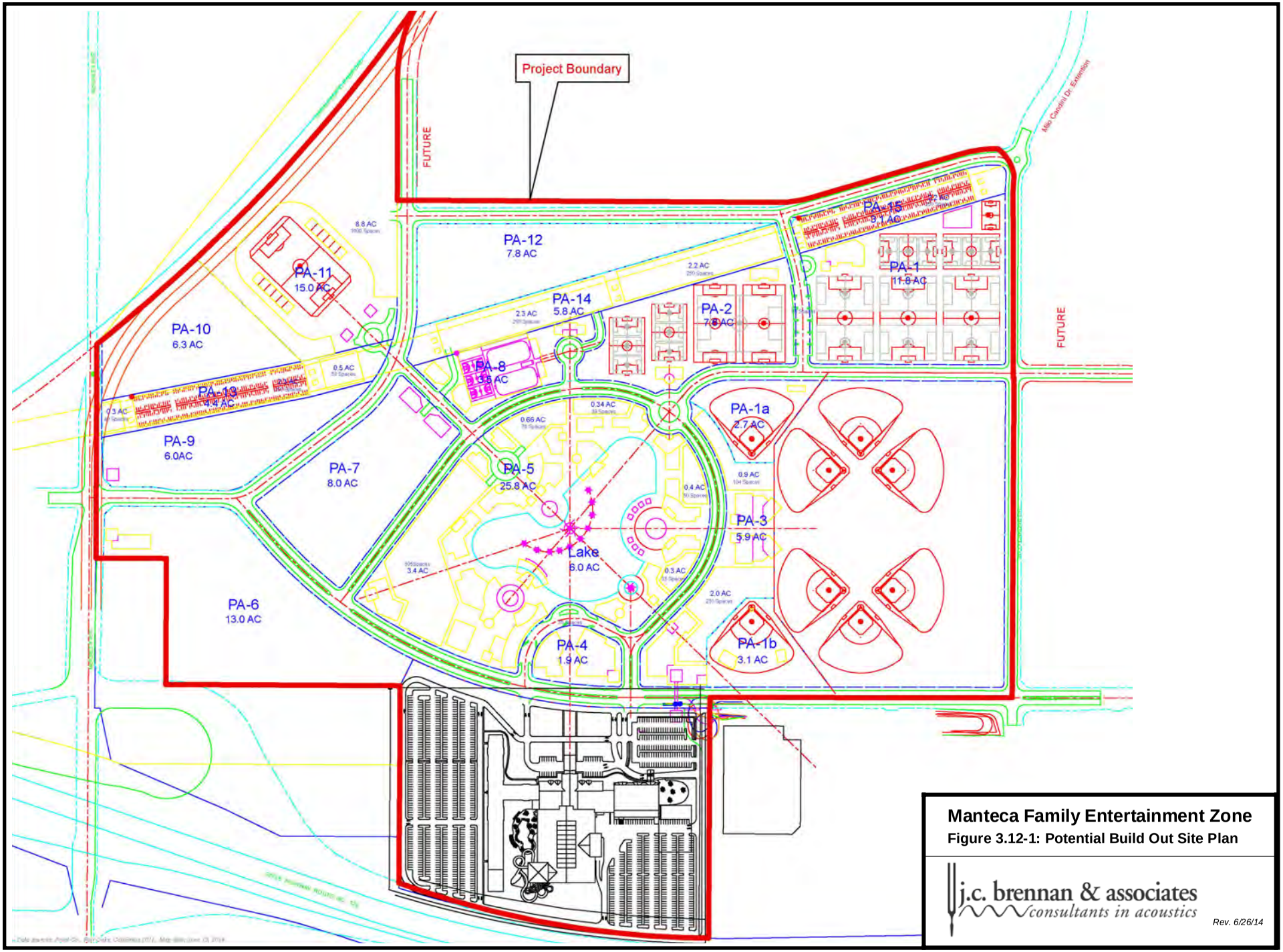
Mitigation Measure 3.12-2: *Proposed uses which include extensive noise generating uses shall be reviewed by the City of Manteca to ensure that exterior noise levels would not exceed the applicable City of Manteca noise standards. The Table 3.12-12 data shall be used as a screening tool to determine which uses may exceed the City's standards. The City shall prohibit the approval of a use that would cause an exceedance of the noise standards at a sensitive receptor unless sufficient noise control measures are implemented in the project design. The specific development proposals within the project site shall be reviewed by the City of Manteca when the detailed information is available for the individual development/construction approvals, which may occur during Architectural Design Review and/or Building Permit.*

TABLE 3.12-12: ESTIMATED NOISE LEVELS FOR FUTURE PROJECT DEVELOPMENT USES

USE	TYPICAL NOISE LEVEL AT, 50 FEET L_{EQ} [1]	DISTANCE TO 50 DBA L_{EQ} NOISE CONTOUR - DIRECT LINE OF SITE	DISTANCE TO 50 DBA L_{EQ} NOISE CONTOUR - WITH SHIELDING FROM 6' TALL SOUND WALL OR SIMILAR SHIELDING	DISTANCE TO 45 DBA L_{EQ} NOISE CONTOUR - DIRECT LINE OF SITE	DISTANCE TO 45 DBA L_{EQ} NOISE CONTOUR - WITH SHIELDING FROM 6' TALL SOUND WALL OR SIMILAR SHIELDING
Athletic fields	66 dBA	315'	177'	561	315
Busy Parking Lot, 250 spaces	59 dBA	147'	83'	262	147
Small outdoor amphitheater	90 dBA	5,000	2,812	8,891	5,000
Outdoor entertainment, performance plaza	85 dBA	2,812'	1,581'	5,000	2,812
Destination Playground, 100 kids	65 dBA	281'	158'	500	281
Family Party Pavilions	60 dBA	158'	89'	281	158
Loading Dock (retail, restaurant, etc.)	70 dBA	473'	266'	842	473
Truck Circulation (retail, restaurant, etc.)	55 dBA	89'	50'	158	89
Vendor Deliveries (retail, restaurant, etc.)	59 dBA	133'	75'	237	133

[1] *ACTUAL NOISE LEVELS MAY VARY DEPENDING ON SITE DESIGN AND LOCATION OF NOISE SOURCES.*

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. 2014.



Manteca Family Entertainment Zone

Figure 3.12-1: Potential Build Out Site Plan

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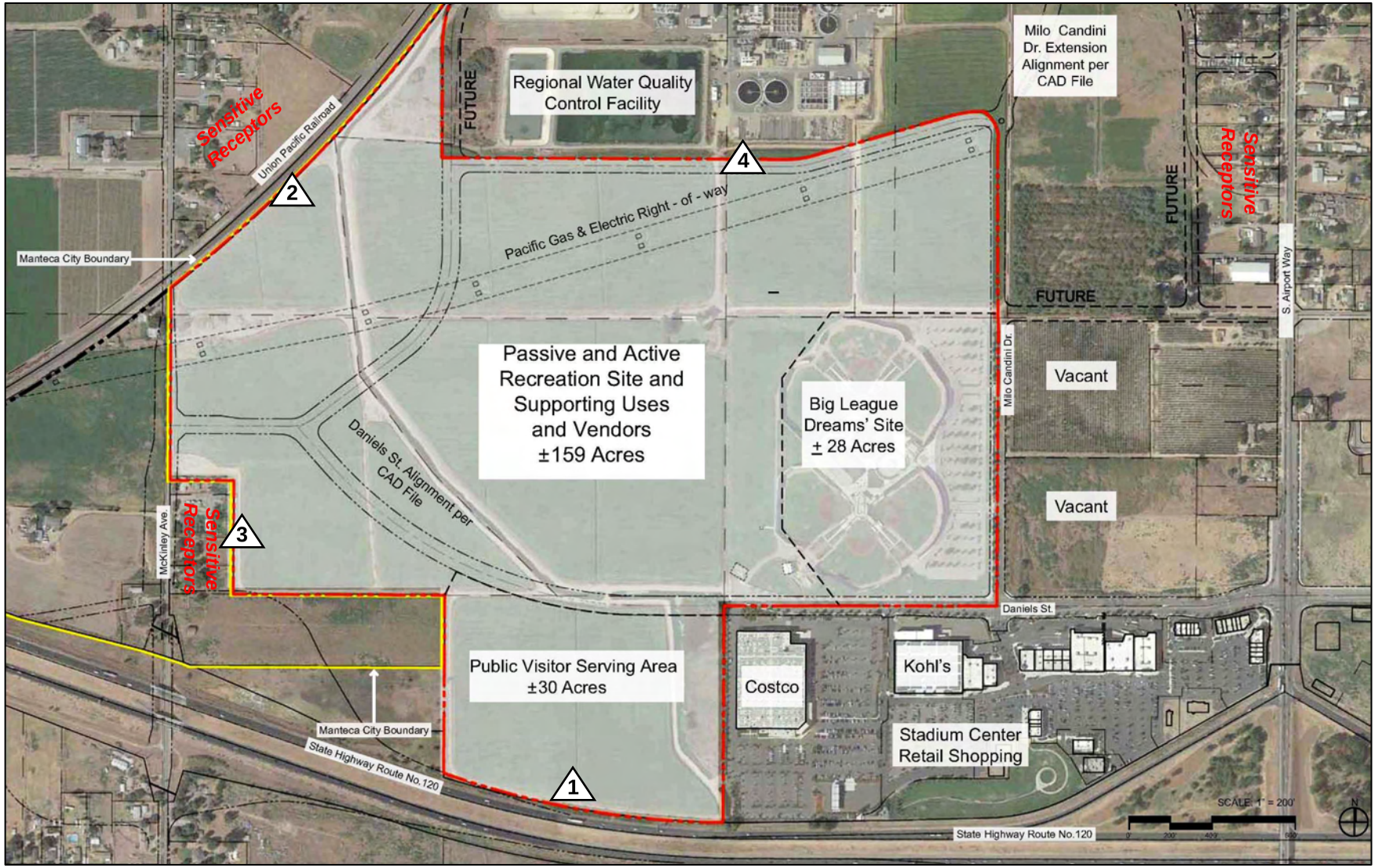

Figure 3.12-2: Noise Monitoring Sites

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Legend:

△ : Noise Measurement Site

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, parks and recreation, schools, and other public facilities for the proposed project. The information in this section is primarily derived from the *City of Manteca General Plan* (Manteca 2003), *City of Manteca General Plan Environmental Impact Report (*Manteca 2003), *Draft Manteca Draft Municipal Services Review and Sphere of Influence Plan (Manteca 2014).* No comments regarding public services and recreation were received during the public review period or scoping meeting for the Notice of Preparation.

3.13.1 EXISTING CONDITIONS
CITY OF MANTECA SERVICES

The City of Manteca receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Manteca, these fees apply. The City of Manteca reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City intends to include discussion of these fees and charges as part of the annual budget hearings. The FY 2013-2014 budget for the Manteca Police Department is $15,251,818.

City of Manteca Police Department

Police protection services in the City of Manteca are provided by the Manteca Police Department (MPD). The MPD operates out of its headquarters located at 1001 W. Center Street**.** Currently the MPD has 63 sworn officers.

The MPD classifies calls for service as priority 1, priority 2 or priority 3. Priority 1 calls are calls where a threat is posed to life or a crime of violence. Priority 2 calls are calls for service where there is an urgency or suspicious behavior. Priority 3 calls are for service where no emergency or serious problem is involved. The average response times by priority call for 2012 and 2013 are listed below.

- Priority 1 calls: 2012, 4 minutes and 16 seconds. 2013, 4 minutes and 46 seconds.
- Priority 2 calls: 2012, 18 minutes and 39 seconds. 2013, 17 minutes and 54 seconds.
- Priority 3 calls: 2012, 37 minutes and 17 seconds. 2013, 37 minutes and 49 seconds

ORGANIZATION

The MPD is organized into two divisions: Operations and Services. Additionally, the MPD operates a Public Affairs Unit. For budgeting purposes the MPD is organized into the following programs: administration, patrol, investigations, support services, dispatch, code enforcement, jail services, and animal services.

Operations Division

The Operations Division is the largest division of the Department. It includes all uniformed officers and their support teams. The units included in the Operations Division are patrol, traffic, community service officers, SWAT, crisis response team, mounted patrol, canine, and bomb squad.

Services Division

The Services Division includes all the teams and units that support the line police function of the MPD. These teams include Dispatch, Records, Property and Evidence, Crime Analysis, and Animal Services, as well as Detectives, School Resource Officers, Gang Unit, and Manteca's Street Crimes Unit (SCU), which is the department's proactive narcotic and street crime suppression unit.

The MPD also has several very active volunteer groups. The Police Explorers, Citizen's Police Academy graduates, Police Reserves, and the SHARPs allow members of the community of all ages and experience to give back to the community through volunteering.

Public Affairs Unit

The MPD's Public Affairs Officer (PAO) works directly with the Chief of Police on issues that affect the MPD and community. In addition to being a community liaison, the PAO works with the public in providing current information regarding issues effecting Manteca. This is done by working with local news media outlets, issuing information bulletins and conducting neighborhood meetings, and by using the local government channel for a program called StreetBeat. In addition to assisting the Chief of Police, the PAO also coordinates several crime prevention programs to include the Citizen Police Academy, Drug Awareness Education, and various workplace-training programs such as Workplace Violence Prevention. The PAO also coordinates with other city offices special projects and does site plan reviews for new commercial and residential projects using a process called CPTED (Crime Prevention Through Environmental Design). Table 3.13-1 shows the recent crime statistics for the City of Manteca between 2010 and 2012.

TABLE 3.13-1: MANTECA POLICE DEPARTMENT CRIME STATISTICS (2010-2012)

CATEGORY/CRIME	*2010*	*2011*	*2012*
Total Violent Crimes	241	206	265
Homicide	1	4	0
Rape	20	7	11
Robbery	71	53	83
Assault	159	142	171
Total Property Crimes	1883	2367	2681
Burglary	344	511	454
Motor Vehicle Theft	235	266	383
Larceny	1304	1590	1844
Arson	9	19	19

SOURCE: FBI CRIME STATISTICS; HTTP://WWW.FBI.GOV/ABOUT-US/CJIS/UCR/CRIME-IN/THE-U.S./TABLES/TABLE-8/10TBL08CA.XLS

City of Manteca Fire Department

The Manteca Fire Department is responsible for the primary provision of fire service and emergency medical response for the City of Manteca and its residents. The Manteca Fire Department serves approximately 71,164 residents throughout approximately 17.2 square miles within the City limits. The Manteca Fire Department operates out of four (4) facilities that are strategically located in the City of Manteca. The Manteca Fire Department is headquartered in Station 242 located at 1154 S. Union Road. This building serves as the Fire Department headquarters and the Fire Prevention Bureau. Fire training and emergency medical services are managed out of Station 241. Apparatus includes three engines, three reserve engines, one ladder truck, one medium rescue unit, one USAR rescue trailer, eight staff vehicles, two pick-up trucks, and a public education trailer. The FY 2013-2014 budget for the Manteca Fire Department is $8,007,790 (Administration $750,825, Operations $6,987,970, Prevention $268,995).

The Manteca Fire Department maintains a goal for the initial company of three (3) firefighters to arrive on scene for fire and emergency medical service (EMS) incidents within five (5) minutes 90% of the time (Response Effectiveness). In 2013 the department averaged a 4:35 response time City-wide and was on scene within five minutes 71% of the time. On September 11, 2013, Fire Station No. 4 opened in northwest Manteca. The data so far this year (2014) shows that the response time to this area has dropped by 42%. Based on the half-year data, it is expected that the addition of Fire Station No. 4 will improve both the average response time and the percent of response effectiveness.

The construction of Fire Station No. 5, which is planned in southwest Manteca, will have a similar impact on response times and response effectiveness. The City has funded the design of this station in fiscal year 2014/15 with the intent of constructing and staffing this station by 2017. Funding for this station is dependent on additional annexations and development in the area. The construction and staffing of Fire Station No. 5 will allow the City the ability to achieve the full alarm standard outlined by NFPA 1710 for the first time in the City's History; this will directly affect the ISO rating, enhance service to the citizens of Manteca, and improve the department's ability to obtain grants.

ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the Fire Department as **THREE** on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. The recent construction and staffing of Fire Station No. 4 as well as the imminent construction and staffing of Fire Station No. 5 will have a positive impact on the City's ISO rating. The ISO ratings are used to establish fire insurance premiums. The City plans to apply for ISO re-classification when Fire Station No. 5 is complete. In addition, upon completion

the Fire Department will apply for Accreditation through the Commission of Fire Accreditation International (CFAI).

City of Manteca Parks and Recreation Department

Manteca is home to more than 50 public park spaces totaling more than 400 acres. Parks and Recreation amenities include several baseball and softball diamonds, sports fields, picnic areas, barbecues, playgrounds and tot lots, a 3+ mile Class 1 bike and pedestrian path, lighted tennis courts, a BMX bicycle track, a skate park, an 18-hole municipal golf course, and a public swimming pool (with tot pool).

Existing rental facilities include:

- Northgate: Full Picnic Shelter; Half Picnic Shelter
- Lincoln Picnic Shelter
- Woodward: Full Picnic Shelter; Half Picnic Shelter
- Library Park Gazebo
- Lincoln Pool
- Sports Fields

On a regional scale, the City is located in the Sacramento-San Joaquin Delta (Delta), which contains several recreational areas and facilities, primarily for water-based recreation. Regional County parks near the City include the 9.85-acre Dos Reis Regional Park and the 3.7-acre Mossdale Crossing Regional Park, both located along the San Joaquin River. Mossdale Crossing Park is located near the project site on the west side of Interstate 5. Each of these parks includes boat launch ramps, picnic/barbeque areas, and children's play areas. Dos Reis Regional Park also has camping facilities. Also in the vicinity is the Haven Acres Marina, a private marina located on the San Joaquin River north of Dos Reis Regional Park. This facility provides river access to the San Joaquin River and includes parking areas, a boat ramp, and 10 boat berths.

TABLE 3.13-2: COMMUNITY/SPECIALTY PARK FACILITIES INVENTORY

COMMUNITY / SPECIALTY PARKS & FACILITIES											
Map Key	Name	Address	Acres	Picnic Tables	Barbecues	Play Equipment	Tot Lot	Basketball	Baseball Backstop	Restrooms	Other
1	Big League Dreams Sport Park	1077 Milo Candini Dr	37.91	•		•				•	6 lighted ballfields, indoor soccer field
2	BMX Track	941 Spreckels Av	6.70								1,200-foot-long ABA BMX track
3	Center St Tennis Courts	311 W Center St	.46	•							2 Tennis courts (no lights)
4	Civic Center	1001 W Center St	5.87	•						•	Parks & Recreation offices, classrooms
5	Library Park	320 W Center St	1.25	•		•				•	Gazebo, interactive water feature, bocce ball court, murals
6	Lincoln Park & Pool	245 S Powers Av	3.71	•	•	•	•		•	•	Swimming pool, lighted ballfield
7	Manteca Park Golf Course	305 N Union Rd	101.00							•	18-hole course, driving range, snack bar, banquet facilities, pro shop
8	Morenzone Ballfield	1323 W Center St	3.30	•					•	•	Lighted ballfield
9	Northgate Park	1750 Hoyt Ln	15.11	•	•	•	•		•	•	Sports fields, softball complex (3 lighted fields), horseshoe pit, sand volleyball
10	Senior Center	295 Cherry Ln		•						•	Auditorium w/stage, kitchen, craft room
11	Skate Park	Center St and Elm Av	.32								Small & large bowls, quarter pipes, etc.
12	Spreckels Recreation Park	941 Spreckels Av	3.27								Sports field turf area
13	Tidewater Bikeway	Lathrop Rd to Moffat Bl	34.00								3.4 mi. Class 1 bike & pedestrian path
14	Union Road Tennis Park	307 N Union Rd	7.73	•							6 lighted tennis courts
15	Union Road Park	245 N Union Rd	1.40								
16	Wilson Park	224 W Center St	.37	•							
17	Woodward Park	710 E Woodward Av	50.62	•	•	•	•	•		•	Sports fields

SOURCE: CITY OF MANTECA PARKS AND RECREATION DEPARTMENT WEBSITE, HTTP://WWW.CI.MANTECA.CA.US/PARKS/FACILITIES/DEFAULT.HTM

TABLE 3.13-3: NEIGHBORHOOD PARK FACILITIES INVENTORY

NEIGHBORHOOD PARKS											
Map Key	Name	Address	Acres	Picnic Tables	Barbecues	Play Equipment	Tot Lot	Basketball	Baseball Backstop	Restrooms	Other
18	Antigua Park	1055 Collins St	5.08	•	•	•	•	•			
19	Baccilieri Park	154 Stockton St	1.26	•					•		
20	Bella Vista Park	1580 Bella Terra Dr	9.24	•	•	•	•				
21	B. & C. Giles Memorial Park	545 W. Alameda St	4.00	•	•	•					At the Boys and Girls Club
22	Button Estates Park	1457 Discovery Creek Dr	3.70						•		
23	Chadwick Square Park	1953 London Av	9.00	•		•	•				
24	Colony Park	1232 Trailwood Av	5.03	•	•	•	•	•			
25	Cotta Park	505 Mission Ridge Dr	3.70								
26	Crestwood Park	1901 Crestwood Av	3.85	•		•		•			
27	Curran Grove Park	196 Berndt Av	4.50	•	•	•	•		•		
28	Diamond Oaks Park	1179 Pestana Av	6.46	•	•	•	•	•	•		
29	Doxey Park	1355 Northgate Dr	8.40	•	•	•		•			
30	Dutra Estates Park	2701 Ancestry St	5.27	•	•	•		•			
31	Dutra Northeast Park	1282 Laurel Park Cr	1.76								
32	Dutra Southeast Park	1850 Sparrowhawk St	6.90	•	•	•	•	•			
33	Franciscan Park	1041 Elm Av	4.02	•	•	•					
34	Gonsalves/Cambridge Greenbelt	407 Fishback Rd	3.40								
35	Graystone Park	810 Agate Av	5.19	•		•	•	•	•		
36	Hildebrand Park	431 Pine St	.58	•	•	•	•	•			
37	Mayor's Park	1440 Kelley Dr	4.03	•	•	•		•			
38	Mini Park	246 Elm St	.17	•							
39	Moffat Basin Park	800 Moffat Blvd	1.60								
40	Paseo Circle Park	1759 Buena Vista Dr	1.03	•							
41	Primavera Park	1253 Primavera Av	6.91	•	•	•	•				
42	Quail Ridge Park	1020 Mission Ridge Dr	3.07				•	•			
43	Roberts Estates Park	1740 Rail St	5.07	•	•	•	•				
44	Rodoni Park	1006 Lucio St	2.75	•		•	•				
45	Sequoia Park	868 Wawona St	3.97	•		•		•			
46	Shasta Park	955 E Edison St	10.96	•	•	•	•	•			
47	Southside Park	409 Oregon St	3.32	•	•	•	•	•			
48	Springport Park	746 Pestana Av	6.45			•			•		
49	Springtime Park	1268 Springtime Av	4.04	•		•					
50	St. Francis Park	1273 Devonshire Av	4.76	•	•	•		•			
51	Stadium Plaza Park	2470 Daniels St	4.77								Fountain
52	Terra Bella Park	1630 Luna Bella Ln	3.39	•	•	•	•				
53	Tesoro Park	1399 Tesoro Dr	9.51	•	•	•	•				
54	Union Ranch East Park	925 Raccoon Valley Dr	7.5	•	•	•	•	•			
55	Union West Park	1291 Parkview St	3.64	•	•	•		•	•		
56	Villa Ticino Park	1970 Geneva Wy	5.60				•				
57	Walnut Place Park	360 Victory Av	2.04								
58	William Martin Park	1605 Maywood Av	1.56	•	•	•		•			
59	Yosemite Park	600 El Portal Av	5.00	•	•	•		•	•		

SOURCE: CITY OF MANTECA PARKS AND RECREATION DEPARTMENT WEBSITE, HTTP://WWW.CI.MANTECA.CA.US/PARKS/FACILITIES/DEFAULT.HTM

The City currently has over 400 acres of developed parkland. Based on the Department of Finance estimated 2014 population of 72,880, the City more than meets its General Plan parkland goal of five acres per 1,000 residents.

OTHER AGENCY SERVICES

Manteca Unified School District

The Project is located within the service boundaries of the Manteca Unified School District (MUSD). 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 23,000 students. MUSD operates 20 elementary schools, five high schools, three alternative schools, and one adult school (MUSD, 2013). Within the City of Manteca, there are two K-2nd schools, two 3rd – 8th schools, twelve additional elementary schools, and five high schools. According to the MUSD School Accountability Report Card (SARC), the schools in the City had a total enrollment of approximately 14,220 students, of which 9,232 were enrolled in elementary school (grades 1 – 8) and 4,988 were enrolled in high school (grades 9 – 12).

TABLE 3.13-4: CITY OF MANTECA SCHOOL INVENTORY

SCHOOL
George McParland Elementary School Annex (K – 2nd grades)
Stella Brockman Elementary School Annex (K – 2nd grades)
George McParland Elementary School (3rd – 8th grades)
Stella Brockman Elementary School Annex (3rd – 8th grades)
Brock Elliott Elementary School
Golden West Elementary School
Joshua Cowell Elementary School
Lincoln Elementary School
Manteca Day School
Neil Hafley Elementary School
New Haven Elementary School
Nile Garden Elementary School
Sequoia Elementary School
Shasta Elementary School
Veritas Elementary School
Walter Woodward Elementary School
Calla High School
East Union High School
Manteca Community Day School
Manteca High School
Sierra High School

SOURCE: MANTECA UNIFIED SCHOOL DISTRICT, 2011/2012 SARC

Library Services

The Manteca Branch Library, a branch library of the Stockton - San Joaquin County Library system, is located at 320 West Center Street. The library offers a circulating collection of books, magazines, CDs, and DVDs in both English and Spanish.

3.13.2 REGULATORY SETTING

STATE

Police Protection

There are no federal or state regulations related to police protection services applicable to the proposed project.

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial

processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

UNIFORM FIRE CODE

The Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NFPA 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department

Parks/Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a

case-by-case basis with new residential development. The City collects fees imposed by the park and recreation districts impact fees. The impact fees are collected at the time of building permit and include both capital impacts and land acquisition.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses;
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the

California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- **Level III** fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

LOCAL

City of Manteca Municipal Code

The City of Manteca Municipal Code, Fee Schedule VI *Development Fee* includes development impact fees to fund public facilities, including the San Joaquin County Facilities Fee to fund police services. (City of Manteca Municipal Code)

City of Manteca General Plan

Policies: Police Protection

PF-P-39. The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls.

PF-P-40. The City shall provide police services to serve the existing and projected population.

PF-P-41. The City will establish the criteria for determining the circumstances under which police service will be enhanced.

Policies: Fire Protection

PF-P-42. The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better.

PF-P-43. The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls.

PF-P-44. The City shall provide fire services to serve the existing and projected population.

PF-P-45. The City will establish the criteria for determining the circumstances under which fire service will be enhanced.

Policies: Parks and Recreation

PF-P-46. The City shall expand the community and neighborhood park system with the goal of providing neighborhood park facilities within reasonable walking distance of all city residential areas.

PF-P-47. The City shall use joint development of park and drainage detention basins in the development of neighborhood parks.

PF-P-48. The City shall cooperate with the Manteca Unified School District in opportunities for joint-use of school and park and recreational facilities.

PF-P-49. City park acquisition and development efforts shall be based on a goal of 5 acres of developed neighborhood and community parkland per 1,000 residents within the city limits. The distribution of land between neighborhood and community parks shall be determined within the Parks and Recreation Master Plan.

PF-P-50. Neighborhood parks shall conform to the following general guidelines (specific details and standards to be determined within the Parks and Recreation Master Plan):

- The typical minimum size shall be set to support active and passive recreation activities.
- The typical service area for a neighborhood park is approximately ¼ mile walking distance.
- Neighborhood parks shall include a turf area above the basin flood line of sufficient area to be used for playgrounds, sports, picnic areas, and other recreational facilities.

PF-P-51. The City shall aggressively pursue State and County funding to supplement City revenues to the extent such funding is available.

PF-P-52. The City shall endeavor to identify, acquire, and develop one or more community parks as defined in the Parks and Recreation Master Plan.

PF-P-53. All new residential development will be required to pay a park acquisition and improvement fee, based on providing 5 acres per 1,000 residents, to fund system-wide improvements.

PF-P-54. The City shall require the provision of private open space and recreational facilities as part of new residential developments.

PF-P-55. The City shall not discourage the expansion of private commercial recreational facilities.

PF-P-56. The City shall develop a convenient system of pedestrian sidewalks and pathways linking City parks, major open space areas, and the downtown core.

PF-P-57. The City shall adopt a Bicycle Route Master Plan and develop a bicycle route system linking areas, schools, public facilities, the downtown core, and neighborhoods.

Policies: Education

PF-P-33. The City shall cooperate with the Manteca Unified School District and others in locating and reserving appropriate sites for new neighborhood walking distance schools. Adequate facilities shall be planned to accommodate new residential development and endeavor to create neighborhood schools.

PF-P-34. The City shall cooperate with the Manteca Unified School District in their collection of school facility development fees from new development.

PF-P-35. Financing of new school facilities will be planned concurrent with new development.

PF-P-36. The City and Manteca Unified School District will work together to develop criteria for the designation of school sites and consider opportunities for reducing the cost of land for school facilities. The City will encourage the school district to comply with City standards in the design and landscaping of school facilities.

PF-P-37. The City will consider opportunities for joint-use of facilities with the school district. When feasible, a joint-use agreement will be pursued to maximize public use of facilities, minimize duplication of services provided, and facilitate shared financial and operational responsibilities.

PF-P-38. Schools must be located away from hazards of sensitive resource conservation areas, except where the proximity of resources may be of educational value and the protection of resources is reasonably assured.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services if it would result in:

- Substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Police Protection
    - Fire Protection
    - Parks and Recreation
    - Schools
    - Other public facilities
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.
- Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: The proposed project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts (less than significant)

The City's General Plan includes policies and implementation measures that would allow for the Manteca Police Department to continue providing adequate staffing levels. Below is a list of relevant policies:

- The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls. Currently the City has 63 sworn officers. With a population of 71,164, that equates to a staffing level of .85 officers per 1000 residents.
- The City shall provide police services to serve the existing and projected population. The Police Department will continuously monitor response times and report annually on the results of the monitoring.

Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant,

and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with police services. Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with police services.

Based on the current adequacy of existing response times and the ability of the MPD to serve the proposed project, it is anticipated that the existing police department facilities are sufficient to serve the proposed project. Consequently, any impacts would be **less-than-significant**.

Impact 3.13-2: The proposed project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts (less than significant)

The City of Manteca General Plan 2023 includes policies and implementation measures that would allow for the Department to continue providing adequate facilities and staffing levels. Below is a list of relevant policies:

- The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better (Policy PF-P-42).
- The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls (PF-P-43).
- The City shall provide fire services to serve the existing and projected population (PF-P-44).
- The City will establish the criteria for determining the circumstances under which fire service will be enhanced (PF-P-45).
- The Fire Department shall continuously monitor response times and report annually on the results of the monitoring (PF-I-24).
- The General Plan also outlines land use policies to take full advantage of the use of existing public services and minimize the need for additional ones.
- The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities (LU-P-4).
- The City shall continue the practice of annexation with detachment from the fire district in an effort to achieve compliance with NFPA 1710 for the citizens of Manteca.

The Manteca Fire Department maintains a goal for the initial company of three (3) firefighters to arrive on scene for fire and emergency medical service (EMS) incidents within five (5) minutes 90% of the time (Response Effectiveness). In 2013 the department averaged a 4:35 response time City-wide and was on scene within (5) minutes 71% of the time. On September 11, 2013, Fire Station No. 4 opened in northwest Manteca. The data so far this year (2014) shows that the response time to this area has dropped by 42%. Based on the half-year data, it is anticipated that the addition of Fire Station No. 4 will improve both the average response time and the percent of response effectiveness.

The construction of Fire Station No. 5, which is planned in southwest Manteca, will have a similar impact on response times and response effectiveness. The City has funded the design of this station in fiscal year 2014/15 with the intent of constructing and staffing this station by 2017. Funding for this station is dependent on additional annexations and development in the area. The construction and staffing of Fire Station No. 5 will allow the City the ability to achieve the full alarm standard outlined by NFPA 1710 for the first time in the City's History; this will directly affect the ISO rating, enhance service to the citizens of Manteca and improve the department's ability to obtain grants.

Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with fire protection services. The impact of the proposed project on the need for additional fire services facilities is **less-than-significant**.

Impact 3.13-3: The proposed project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts (less than significant)

The proposed project is located within the service boundaries of the Manteca Unified School District (MUSD). MUSD provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. Within the City of Manteca, there are two K-2nd grade schools, two 3rd – 8th grade schools, 12 elementary schools, and five high schools, including alternative and community high schools. According to the MUSD School Accountability Report Card (SARC), the schools in the City had a total enrollment of approximately 14,220 students, of which 9,232 were enrolled in elementary school (grades 1 – 8) and 4,988 were enrolled in high school (grades 9 – 12).

The proposed project does not include any residential units or any other type of use that would directly increase the student population in the area; however, the project may indirectly increase the number of persons in the area as a result of employment potential. It is not possible to determine at this time whether employment opportunities would be utilized by the existing population with existing students in the schools or if employees would be recruited from outside the region, bringing new students to Manteca. Regardless, the MUSD collects impact fees from each new development under the provisions of SB 50. A project's impacts on school facilities are fully mitigated via the payment of the requisite school impact fees established pursuant to Government Code Section 65995. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services.

The MUSD performs a needs analysis and adopts an annual budget allocating resources for new school facilities as they are warranted. The proposed project does not trigger the need for a new school directly, or indirectly, nor has the MUSD planned to construct a new school in the proposed project vicinity. If the MUSD proposes a new school in the future elsewhere in the City to accommodate new demand in Manteca, including any indirect demand created from new employment related to the proposed project, then the new school will require environmental review when it is proposed. The environmental review will determine if there will be an adverse physical impact associated with its construction. A new school is not proposed at this time. The proposed project would not result in the need for new school facilities, thus it will have a **less-than-significant** impact relative to this topic.

Impact 3.13-4: The proposed project has the potential to have effects on other public facilities (less than significant)

The proposed project may bring employees to the area which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed project, would fund capital and labor costs associated with these other public services.

The proposed project does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The proposed project would not result in the need for new facilities for other public services, thus it will have a **less-than-significant** impact relative to this topic.

Impact 3.13-5: The proposed project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts (less than significant)

The proposed project includes additional recreational facilities to serve the community and surrounding area. While the project may indirectly increase the number of persons in the area as a result of employment potential and visitor-serving uses, the proposed project does not include any residential units or any other type of use that would directly increase the residential population in the area.

The proposed project would not have the potential to require construction of additional park and recreational facilities which may cause substantial adverse physical environmental impacts. As such, the proposed project is anticipated to result in a ***less-than-significant*** impact.

Impact 3.13-6: Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated (less than significant)

The project may indirectly increase the number of persons in the area as a result of employment potential and visitor-serving uses; however, the proposed project does not include any residential units or any other type of use that would directly increase the residential population in the area. It is not anticipated that the proposed project would result in any significant increased use of existing neighborhood and regional parks or other recreational facilities from people associated with the employment potential and visitor-serving uses. The proposed project does, however, include extensive new recreational facilities for the community, which would more than offset any new demand for parks or recreational facilities that could result from the employment potential and visitor-serving uses.

Since the proposed project would not significantly increase the use of an existing park, or other recreational facility, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. As such, the proposed project would have a ***less-than-significant*** impact relative to this topic.

3.14 TRANSPORTATION AND CIRCULATION

This section of the EIR analyzes the potential impacts of the proposed project on the surrounding transportation system including roadways, bicycle/pedestrian facilities, rail, and transit facilities/services. As described previously, Phase 1 of the project is analyzed at a project-specific level, while project buildout is analyzed at a programmatic level. This chapter identifies the significant impacts of both Phase 1 and project buildout and recommends mitigation measures to lessen their significance. All technical calculations can be found in the appendix.

3.14.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The project site is located in San Joaquin County, north of State Route (SR) 120 and west of Airport Way. Access to Phase 1 would be provided by Daniels Street, which extends westerly from Airport Way. As part of Phase 1, Daniels Street would be extended further west to connect to McKinley Avenue. Project buildout would include new roadway connections to Airport Way and Yosemite Avenue. Figure 3.14-1 displays the project location.

STUDY AREA ROADWAYS AND INTERSECTIONS

The following describes the key roadways in the study area.

State Route (SR) 120 is an east-west four-lane freeway within the study area that connects Interstate 5 and State Route 99 through south Manteca. It features interchanges at Yosemite Avenue, Airport Way, Union Road, and Main Street. It is grade-separated above McKinley Avenue. SR 120 has a posted speed limit of 65 miles per hour (mph).

Airport Way is a north-south roadway that extends from downtown Stockton into Manteca, and continues south beyond SR 120 into unincorporated San Joaquin County. Between Woodward Avenue and SR 120, Airport Way is two-lanes with a posted speed limit of 40 mph. It widens to four lanes north of the SR 120 westbound ramp-terminal intersection to Daniels Street. North of Daniels Street, Airport Way narrows to two lanes.

McKinley Avenue is a north-south two-lane rural road that extends north from Woodward Avenue under SR 120 to Lathrop Road. South of Yosemite Avenue, McKinley Avenue has a posted speed limit of 50 mph and permits passing in certain sections. An interchange with SR 120 is planned at McKinley Avenue.

Daniels Street is an east-west street that begins at Union Road and extends westerly beyond Airport Way. It currently terminates approximately 1,200 feet west of Milo Candini Drive. West of Airport Way, it is a four-lane median divided road with a post speed limit of 30 mph. It provides access to the Manteca Big League Dreams Athletic Complex and the Stadium Shopping Center.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Figure 3.14-2 displays existing pedestrian and bicycle facilities in the project vicinity. As shown, sidewalks exist along the entirety of Daniels Street west of Airport Way. Crosswalks are present at all legs of the signalized Daniels Street/Milo Candini Drive and Daniels Street/Airport Way intersections. Sidewalks are present on Airport Way for a short distance north of Daniels Street, and not present at the SR 120/Airport Way interchange.

Bicycle facilities in the project vicinity consist of a Class II lane (on-street with appropriate signage and striping) on Milo Candini Drive.

TRANSIT SERVICE

Public transit in the study area includes both bus and rail passenger components. Bus service is provided by Manteca Transit while rail passenger service is provided by Altamont Commuter Express (ACE).

Figure 3.14-2 shows that a bus stop is provided on Daniels Street west of Milo Candini Drive. This stop services Manteca Transit bus routes 1, 2, and 3. Route 1 runs in a generally east-west direction along Airport Way and Yosemite Boulevard, through downtown, to east of SR 99. Routes 2 and 3 operate in a counter-directional loop system that connects the northern and southern areas of the City. Service runs from about 6:30 AM to 6:30 PM on one-hour headways during weekdays. Adult fares run $1 per ride.

The ACE regional passenger rail service operates a commuter rail service between Stockton and San Jose. The Lathrop-Manteca ACE Rail Station is located at the northeast corner of the McKinley Avenue/Yosemite Avenue intersection, approximately two miles from the project site. Manteca bus service does not currently stop at this ACE station.

RAIL

The study area includes a Union Pacific Railroad (UPRR) track that extends southerly from Stockton between Airport Way and McKinley Avenue. The track (i.e, Oakland Subdivision line) features at-grade crossings with Yosemite Avenue and McKinley Avenue. Table 3.14-1 provides an inventory of train crossings, equipment, and the accident history at each crossing based on USDOT data (http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/XingLocResults.aspx?state=06&countycity=115&railroad=&reportinglevel=ALL&radionm=County&street=&xingtype=%25&xingstatus=%25&xingpos=%25.

Both at-grade crossings have advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, and warning bells. According to US Department of Transportation Crossing Inventory, an average of 13 trains per day use this line. The last reported collision at the Yosemite Avenue crossing occurred in 1993. The McKinley Avenue crossing has not had any reported collisions.

Table 3.14-1: Inventory of At-Grade Railroad Crossings in Study Area

Crossing #	Location	Train Activity		Equipment Present	Vehicular Conditions		Accident History
		Number of Daily Trains[1]	Average Speed Range		Number of Lanes	Estimated ADT[2]	
833918C	Yosemite Avenue	13	30 to 50 mph	advanced warning signs, stop lines, RR Xing symbols, gates, bells	2	7,000	No reported accidents since 1993. Four (4) reported accidents between 1979 and 1993.
833917V	McKinley Avenue	13	30 to 50 mph	advanced warning signs, stop lines, RR Xing symbols, gates, bells	2	1,700	None reported

Notes:
[1] 8 of the 13 trains are ACE commuter rail trains.
[2] Estimated ADT calculated assuming the AM and PM peak hour volumes are 16% of daily. Values rounded to the nearest 100 vehicles.
Source: Federal Railroad Administration Office of Safety Analysis and Fehr & Peers, 2014.

3.14.2 ANALYSIS METHODS

The operational performance of the roadway network is commonly described with the term Level of Service or LOS. LOS is a qualitative description of operating conditions, ranging from LOS A (free-flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the *Highway Capacity Manual* (Transportation Research Board, 2000 and 2010) were used in this study.

Table 3.14-2 summarizes the relationship between the control delay and LOS for signalized and unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 3.14-2: Intersection LOS Criteria

Level of Service	Description (for signalized intersections)	Ave Control Delay Per Vehicle (Sec)	
		Signalized Intersections	Unsignalized Intersections
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

The HCM procedures were applied using the Synchro 7 traffic analysis software and the SimTraffic microsimulation software. A SimTraffic micro-simulation model was developed for study facilities in the vicinity of the SR 120/Airport Way interchange including both the ramp terminal intersections and adjacent surface street intersections at Daniels Street and Atherton Drive. The use of SimTraffic at these locations is appropriate given the spacing of intersections, and levels of traffic in the corridor. Per standard practice, 20 runs were conducted, statistical outliers were omitted, and the results were then averaged to yield reported conditions.

The study intersections not located in the vicinity of the SR 120/Airport Way interchange interchange were analyzed using the Synchro (version 7) software program, which is consistent with HCM procedures. While Version 8 was recently released to apply the 2010 HCM update, the program has been found to have some glitches, which prohibit certain lane configurations from being analyzed. Furthermore, the 2000 and 2010 HCM intersection analysis methodologies did not change dramatically. Fehr & Peers has used (and continues to use) version 7 of Synchro in dozens of EIR analyses throughout California.

The Synchro and SimTraffic analysis relies on peak hour factors and heavy vehicle percentages that were measured in the field. Other model inputs include lane configurations, traffic volumes, and traffic controls (including signal phasing/timing). For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. The delay and LOS for the intersection as a whole and for the worst movement are reported for side-street stop intersections.

Per Caltrans standards, freeway segment operations are evaluated using methodologies from the Transportation Research Board's 2010 *Highway Capacity Manual* using the HCS 2010 software program. The LOS for a freeway segment is based on the vehicle density (passenger cars/lane/mile) as shown in Table 3.14-3.

The performance LOS for merge and diverge sections is computed in one of two ways. If both the ramp and the adjacent freeway mainline segment are under capacity, then LOS is based on the density of the ramp junction. If either the ramp or the adjacent freeway mainline segment have reached (or exceed) capacity, then the merge/diverge segment is considered to operate at LOS F regardless of the computed ramp junction density. The LOS for ramp junctions is based on the vehicle density (passenger cars/lane/mile) as shown in Table 3.14-3.

Table 3.14-3: Freeway Level of Service Definitions		
Level of Service[1]	**Mainline (Density) [1]**	**Ramp Junctions (Density) [1]**
A	≤ 11	≤ 10
B	> 11 to 18	> 10 to 20
C	> 18 to 26	> 20 to 28
D	> 26 to 35	> 28 to 35
E	> 35 to 45	> 35
F	> 45 or Demand exceeds capacity [2]	Demand exceeds capacity [2]

Notes: [1]. Density expressed in passenger car equivalents per hour per mile per lane.
[2]. Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.
Source: *HCM* (Transportation Research Board, 2010) Exhibits 11-5 and 13-2

ANALYSIS SCENARIOS

The transportation system was analyzed for the following scenarios:

Existing Conditions – establishes the existing setting, which is used to measure the significance of project impacts.

Existing Plus Phase 1 Conditions – adds traffic from Phase 1 of the proposed project to existing conditions.

Cumulative No Project Conditions – represents cumulative travel conditions based on output from the San Joaquin Council of Governments (SJCOG) Travel Demand Model assuming no development on the project site.

Cumulative Plus Phase 1 Conditions – adds traffic from Phase 1 of the proposed project to the cumulative no project condition.

Cumulative Plus Project Buildout Conditions – includes a programmatic assessment of expected travel conditions that would result at project buildout.

These scenarios provide for a transportation impact analysis that supports a project-level environmental review of Phase 1 of the proposed project. Due to the uncertainty of the timing, precise uses, and activities associated with many of the future phases of the project, project buildout is evaluated at a programmatic level. This chapter describes expected travel conditions under this scenario, identifies significant impacts associated with this condition, and recommends mitigation measures, which may include additional environmental review for project buildout conditions.

DATA COLLECTION

Study facilities were selected based on the project's expected travel characteristics (i.e., location and amount of project trips) as well as facilities susceptible to being impacted by the project.

INTERSECTIONS

Eight existing intersections were selected for study as well as three future intersections. Traffic counts were conducted in February 2014 at the following study intersections:

1. Airport Way/Atherton Drive
2. Airport Way/SR 120 EB Ramps
3. Airport Way/SR 120 WB Ramps
4. Airport Way/Daniels Street
5. Airport Way/Wawona Street
6. Airport Way/Yosemite Avenue
7. McKinley Avenue/Yosemite Avenue
8. Daniels Street/Milo Candini Drive

All intersection turning movement counts were collected during the midweek AM peak period (6:30 – 9 AM) and PM peak period (3:30 – 6:00 PM). Counts included heavy vehicles, bicycles, and pedestrians. Weather conditions were dry and schools were in session at the time of all counts. Figure 3.14-3 displays the existing AM and PM peak hour traffic volumes at the study intersections. This figure also displays the existing traffic controls and lane configurations at each intersection.

SR 120 FREEWAY

Mainline vehicle counts collected for the *Final Traffic Operations Report for the State Route 120/McKinley Avenue Interchange PA&ED* (Fehr & Peers, April 2013) were used to analyze the SR 120 corridor for this project. A fully operational Caltrans PeMS traffic monitoring station is located on SR 120 at the Union Road overcrossing. Traffic data from this count station was obtained for every Tuesday and Thursday for the months of March, April, May, September, October, and November 2011 (excluding holidays). Caltrans Traffic Operations staff stated that the busiest day of traffic volume observations should be used for the analysis. Mainline volumes at other locations along SR 120 were calculated by balancing ramp volumes.

The following SR 120 study segments were analyzed. The distance between the Airport Way and Union Road interchanges meet Caltrans minimum spacing standards. However, the section between successive on- and off-ramps is not sufficient to qualify as a basic section. Therefore, the EB off-ramp at Union Road and WB on-ramp at Union Road were analyzed instead of the mainline.

1. SR 120 EB between Yosemite Avenue and Airport Way
2. SR 120 WB between Yosemite Avenue and Airport Way
3. SR 120 EB off-ramp at Airport Way
4. SR 120 EB on-ramp at Airport Way
5. SR 120 WB off-ramp at Airport Way
6. SR 120 WB on-ramp at Airport Way
7. SR 120 EB off-ramp at Union Road
8. SR 120 WB on-ramp at Union Road

EXISTING INTERSECTION OPERATIONS

Existing operations were analyzed for the weekday AM and PM peak hours at the study intersections. Table 3.14-4 displays the intersection analysis results.

The data in this table indicates that the study intersections currently operate at LOS D or better with the exception of the minor street (eastbound left-turn) stop-controlled movement at the Airport Way/Atherton Drive intersection, which operates at LOS F during the AM peak hour. This occurs as a result of 207 vehicles attempting to find gaps and turn left onto northbound Airport Way.

Table 3.14-4: Intersection Operations – Existing Conditions

Intersection	Jurisdiction	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	16 (57)	C (F)	6 (25)	A (C)
2. Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	15	B	29	C
3. Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	13	B	20	B
4. Airport Way/Daniels Street	City of Manteca	Traffic Signal	22	C	34	C
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	3 (20)	A (C)	2 (30)	A (D)
6. Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	28	C	42	D
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	All-Way Stop	9	A	14	B
8. Daniels Street/Milo Candini Drive	City of Manteca	Traffic Signal	12	B	11	B

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.

Source: Fehr & Peers, 2014

EXISTING PEAK HOUR TRAFFIC SIGNAL WARRANTS

Three of the eight study intersections are currently controlled by stop signs. To assess the potential need for their signalization, applicable signal warrants from the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Caltrans, 2012 were consulted. The CA MUTCD includes eight potentially applicable signal warrants. Generally, meeting one of the signal warrants could justify signalization of an intersection. However, a detailed evaluation of all applicable warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made. The peak hour volume warrant (Warrant 3) was evaluated using the available data.

The results of the traffic signal warrant analysis are shown in Table 3.14-5. Detailed signal warrant assessments are provided in the appendix. As shown, the peak hour volume traffic signal warrant is currently satisfied during the PM peak hour at the McKinley Avenue/Yosemite Avenue intersection.

Table 3.14-5: Peak Hour Signal Warrant Analysis – Existing Conditions			
Intersection	**Jurisdiction**	**Traffic Control**	**Peak Hour Warrant Met? [1]**
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	NO
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	NO
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	All-Way Stop	YES

Note:
1. Evaluated based on peak hour volume warrant contained in *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Caltrans, 2012.

Source: Fehr & Peers, 2014

EXISTING FREEWAY OPERATIONS

Table 3.14-6 displays AM and PM peak hour operations of the study freeway segments.

Table 3.14-6: Freeway Operations – Existing Conditions					
		AM Peak Hour		**PM Peak Hour**	
Intersection	**Type**	**Density**	**LOS**	**Density**	**LOS**
1. SR 120 EB between Yosemite Avenue and Airport Way	Basic Section	18	C	37	E
2. SR 120 WB between Yosemite Avenue and Airport Way	Basic Section	29	D	25	C
3. SR 120 EB off-ramp at Airport Way	Diverge	23	C	39	E
4. SR 120 EB on-ramp at Airport Way	Merge	21	C	31	D
5. SR 120 WB off-ramp at Airport Way	Diverge	33	D	32	D
6. SR 120 WB on-ramp at Airport Way	Merge	29	D	25	C
7. SR 120 EB off-ramp at Union Road	Diverge	23	C	36	E
8. SR 120 WB on-ramp at Union Road	Merge	28	C	27	C

Notes:
1. Evaluated using the HCS2010 software, which applies the methods from the *Highway Capacity Manual* (Transportation Research Board, 2010).

Source: Fehr & Peers, 2014

According to this table, the eastbound direction of SR 120 currently operates at LOS E during the PM peak hour between Yosemite Avenue and Airport Way. Operations are also at LOS E during the PM peak hour at the eastbound off-ramps at Airport Way and Union Road. All other study freeway facilities currently operate at LOS D or better.

3.14.3 PROJECT TRAVEL CHARACTERISTICS

PROJECT DESCRIPTION

The proposed project is a multi-use family entertainment venue consisting of a variety of indoor and outdoor recreational amenities, retail, restaurants, and hotels. It would be developed in several phases, depending on market conditions and the availability of financing. The projected timeframe for the construction is up to 15 years.

Phase 1 is the currently proposed hotel facility. All subsequent phases are presented to illustrate a potential phasing scheme; however, these subsequent phases have not yet been proposed via applications for site review and entitlements. Therefore, detailed project travel characteristics are

presented in this section for Phase 1 only. General travel characteristics that may be expected with project buildout are described in the cumulative conditions section.

Phase 1 Project Description

For analysis purposes, the Phase 1 project was assumed to consist of the following trip generating land uses:

- 500-room Great Wolf Lodge hotel including an indoor waterpark, a 20,000 square foot convention/meeting/exhibition facility, and approximately 1,100 parking spaces.

In addition, Phase 1 would extend Daniels Street from its current terminus westerly approximately 2,800 feet to a new intersection at McKinley Avenue. This roadway improvement would provide a second point of access to the project. It would also enable secondary access to be provided into the Big League Dreams and Stadium Retail Center uses along Daniels Street. By making this connection, some background traffic (e.g., residents south of SR 120) that currently uses the Airport Way corridor will divert to the new connection.

TRIP GENERATION

The description and expected operating characteristics of the Great Wolf Lodge closely match the description of the "Resort Hotel" land use category contained in *Trip Generation* (Institute of Transportation Engineers, 2012). The "Resort Hotel" provides a wide array of on-site amenities and recreation opportunities, but generally does not include convention or meeting space. This description leads to the following important conclusions regarding the project's trip generation:

- The ITE Resort Hotel trip rates account for the project's indoor waterpark (which is reserved for hotel guests) and restaurant uses (which cater primarily to hotel guests).
- Since Resort Hotel trip rates do not account for conference center space and events, its trip generation is quantified using anticipated attendance levels, data from Great Wolf Resorts Inc., and travel behavior characteristics.

Conference center activities during the weekday peak hours typically consist of business/ professional events, marketing events, fundraisers, and related activities. Past studies have shown that special events such as weddings, concerts, and sporting events have average vehicle occupancies of 2.0 to 3.5 persons per vehicle. However, given the types of attendees expected at weekday conference center events, this analysis applies an average vehicle occupancy (AVO) of 1.5 persons per vehicle. To the extent conference attendees arrive from airports (via shuttle) or from more remote destinations such as Sacramento or the Bay Area, the AVO could increase. Therefore, the use of a 1.5 AVO is a reasonably conservative, yet realistic estimate.

This study uses the following calculations to estimate the conference center trip generation:

- The conference center is assumed to accommodate business/professional activities that attract 577 attendees. This attendance level is derived from the Great Wolf Lodge website,

which indicates that an average of one attendee for every 34.7 square feet based on a "classroom-style" arrangement, which has among the greatest seating capacities (i.e., 20,000 sq. ft. divided by 34.7 equals 577 attendees).

- Based on data provided by Great Wolf Resorts Inc. at their other resorts, approximately 50 percent of conference center attendees are expected to either stay at the hotel the night before (25 percent) or night of the conference activity (25 percent). For those that do not stay overnight, they are assumed to arrive during the AM peak hour.
- Some conference attendees who do not stay overnight at the hotel after the event may choose to remain on-site for drinks/hors d'oeuvres, stay for dinner, or participate in later meetings. Although this is fairly typical for a conference, the analysis conservatively assumes that only 10 percent of non-overnight conference attendees depart the facility after the PM peak hour, meaning that 90 percent depart during the PM peak hour.
- As is typical for conferences, employees for conference center activities arrive prior to guests, and depart after guests leave (i.e., outside of the study peak hours).
- 5 percent of conference attendees are dropped off and picked up by non-attendees.

Table 3.14-7 displays the Phase 1 project's expected AM and PM peak hour trip generation. The project is expected to generate approximately 490 AM peak hour trips and 520 PM peak hour trips. The vast majority of AM peak hour trips are inbound, while PM peak hour trips are outbound.

The daily trip generation of the Phase 1 project was also estimated. The results, which are shown in Table 3.14-8, necessarily rely upon a series of reasonable estimates and assumptions regarding attendance levels, employment levels, vehicle occupancy, deliveries, and arrival/departure patterns. Using these methods, the trip generation was estimated to be 3,856 daily trips.

Table 3.14-7: Phase 1 Project Trip Generation – AM and PM Peak Hour Conditions

Land Use	ITE Land Use Code	Units	Trip Rates[1,2]		AM Peak Hour Trips			PM Peak Hour Trips		
			AM	PM	In	Out	Total	In	Out	Total
Great Wolf Lodge	330	500 rooms	0.37	0.49	133	52	185	105	140	245
Conference Center	N / A	20 KSF (577 attendees)	N / A	N / A	289	15	304	13	260	273
				Total	422	67	489	118	400	518

Notes: [1]Trip rates for Great Wolf Lodge based on fitted curve equation assuming 100% occupied rooms as published in *Trip Generation 9th Edition* (Institute of Transportation Engineers, 2012).
[2]Refer to prior page for methodology used to estimate conference center trip generation. Calculations are as follows:
AM Peak Hour IN = (577*75%)/1.5 = 289 trips
AM Peak Hour OUT = (577*75%*.05)/1.5 = 15 trips
PM Peak Hour IN = (577*90%*75%*.05)/1.5 = 13 trips
PM Peak Hour OUT = (577*90%*75%)/1.5 = 260 trips
KSF = thousand square feet; N / A = Not Applicable.
Source: Fehr & Peers, 2014.

Table 3.14-8: Phase 1 Project Trip Generation – Daily Conditions

Land Use	ITE Land Use Code	Units	Quantity/Type	Trip Rate	Trips
Great Wolf Lodge	N / A	500 rooms	Guests & Hotel Employees & Deliveries	5.4 [1]	2,700
		Waterpark	Employees [2]	N / A	112
Conference Center	N / A	20 KSF (577 attendees)	Attendees [3]	N / A	938
			Employees [4]	N / A	96
			Deliveries [5]	N / A	10
				Total	3,856

Notes: [1] Since the Resort Hotel land use category in *Trip Generation* does not have daily rates, the daily rate was estimated by applying the ratio of AM/PM rates to daily for the All Suites Hotel category to the proposed use.
[2] Waterpark assumed to have 50 on-site employees during a typical weekday. Daily trips estimated based on 20% pick-up/drop-off, and a 1.1 AVO.
[3] Based on 50% of attendees either staying overnight at hotel the night prior to or that evening. Assumes 20% of all attendees make a mid-day round trip to an off-site destination.
[4] Conference Center assumed to have 50 on-site employees during a typical weekday event. Daily trips estimated based on 20% pick-up/drop-off, and a 1.1 AVO. Daily trips estimated based on 5% pick-up/drop-off, and a 1.1 AVO.
[5] Assumes five vehicle deliveries per day to conference center.
Source: Fehr & Peers, 2014.

The trip generation estimates in Tables 3.14-7 and 3.14-8 should be viewed in the context of the frequency in which conference center activities would occur during the weekday AM and PM peak hours. According to data provided by Great Wolf Resorts, Inc.:

- On average, there are about 60 days per year in which the conference center space use is near its maximum.
- On average, about 75 percent of conference events begin around 8 am and end near 5 pm.

Based on the above, the resort is expected to have near capacity conference center activities that overlap with the AM and PM peak hours about 10 to 15 percent of days during a typical year. Since this scenario is being analyzed in this study, it represents a worst-case assessment of the potential impacts of the Phase 1 proposed project.

TRIP DISTRIBUTION/ASSIGNMENT

The distribution of project trips was derived from the Phase 1 project's expected land uses/activities, existing travel patterns on the Airport Way corridor, and the location of complementary land uses (i.e., residences and shopping).

The Great Wolf Lodge is expected to have synergistic (i.e., internal trip-making) effects with the nearby complementary recreational and retail land uses such as Big League Dreams and Stadium Retail Center (located on Daniels Street), and Bass Pro Shops (located south of SR 120 at the Union Road interchange). In contrast, the distribution of trips by attendees to the conference center would likely be based on the general distribution of population in the region, though some internalization of trips to the adjacent retail center may be expected. Accordingly, separate distribution percentages are expected for each land use type.

Figure 3.14-4 displays the expected Phase 1 project trip distribution for the Great Wolf Lodge and the Conference Center.

Project trips were assigned to study facilities in accordance with the trip generation and trip distribution described previously. The project trips were added to existing traffic volumes to yield "existing plus project" traffic volumes, which are shown on Figure 3.14-5. It should be noted that the connection of Daniels Street to McKinley Avenue would result in a minor redistribution (less than 100 vehicles per hour) of some trips that are currently traveling between residential areas south of SR 120 and the retail/recreational uses along Daniels Street. These trips can avoid traffic signals, queuing, and slowing along Airport Way by instead using McKinley Avenue.

3.14.4 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions and development of significance criteria for evaluating project impacts.

FEDERAL AND STATE REGULATIONS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in California. Federal Highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the City of Manteca need to be approved by Caltrans. The City of Manteca does not have the ability to unilaterally make improvements to the state highway system.

The *State Route 120 Transportation Concept Report – TCR* (Caltrans, 2005) identifies a concept LOS of "D" for the segment of SR 120 from I-5 to SR-99. The TCR identifies the need for widening of this facility to six lanes with an ultimate facility being eight lanes to meet projected travel demands. The TCR identifies interchange upgrades at Yosemite Avenue, McKinley Avenue, Airport Way, Union Road, and Main Street.

LOCAL REGULATIONS

City of Manteca General Plan

Circulation Element Policies

C-P-1 The City shall strive to attain the highest possible traffic levels of service (LOS) consistent with the financial resources available and the limits of technical feasibility. The impact of new development and land use proposals on LOS should be considered in the review process.

C-P-2 Manteca's target for transportation LOS is to provide Citywide average LOS of C or better, and a minimum of LOS D at any individual location. This "C average, D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS C is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS C than to provide LOS D.
b. Where it is difficult or impossible to maintain LOS C because surrounding facilities in other jurisdictions operate at LOS D or worse.
c. Where free-flowing roadways or interchange ramps would discourage use of alternate travel modes.
d. Where maintaining LOS C will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel.

C-P-3 Streets shall be dedicated, widened, extended, and constructed according to the Street cross-section diagrams established in the City Improvement Standards. Dedication and improvement of full rights-of-way as shown in the Street Standards shall not be required in existing developed areas where the City determines that such improvements are either infeasible or undesirable.

C-P-5 Development that would necessitate roadway improvements prior to the development of lands abutting those roadway improvements shall be required to make such improvements, or participate in such improvements, as a condition of approval.

C-P-6 New development will pay a fair share of the costs of street and other traffic and transportation improvements based on traffic generation and impacts on levels of service in conformance with the standard and policies established in the Public Facilities Implementation Plan.

C-P-18 In accord with PFIP, the City shall assess development fees for traffic signals and highway interchanges sufficient to fund system wide improvements. The development schedule for these traffic improvements shall be periodically reviewed, and revised as necessary.

C-P-33 The City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the City.

C-P-35 Route sidewalks so that they connect to major public parking areas, transit stops, and intersections within the bikeway system.

C-P-36 Provide adequate bicycle parking facilities at commercial, business/professional, and light industrial uses.

City of Lathrop General Plan

The City of Lathrop General Plan (partial amendment in November 2004) contains various transportation-related goals and policies that are relevant to the proposed project because of the proximity of the project site to Lathrop, and because of the roadway connectivity. The City General Plan includes proposed improvements to existing expressways and arterial streets in Lathrop east

of I-5. These improvements would allow east-west traffic to access I-5 by traveling around the existing developed area of Lathrop. This would reduce traffic impacts on the Lathrop Road and Louise Avenue interchanges and on freeway sections between Roth Road on the north and the I-5/SR 120 merge on the south. The following improvements within the study area were identified:

- Improve Airport Way to six lanes from Roth Road to SR 120.
- Improve Yosemite Avenue to six lanes from SR 120 to the Manteca City limits.

The City's General Plan identifies LOS C operations on City streets and LOS D operations at interchange ramps.

San Joaquin County Regional Transportation Plan

San Joaquin Council of Governments (SJCOG) is currently preparing the 2014 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS). However, because this document is still under development and has not been adopted by the SJCOG Board, the 2011 RTP is applicable in this study. The 2011 RTP (see project list at http://www.sjcog.org/DocumentCenter/View/170) outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The RTP contains several proposed improvements that would benefit the regional roadway network within the study area. The improvements, which are listed in Table 3.14-9, are in the Tier 1 category, meaning they have programmed funding sources. This table also shows the projects included in the draft 2014 RTP (see project list at http://www.sjcog.org/DocumentCenter/View/495).

Table 3.14-9: Status of Planned Improvements in Study Area

Project	Included in Tier I List in 2011 RTP?	Included in Tier I List in Draft 2014 RTP?	Included in Measure K?	Included in RTIF?
SR 120 Widening – 4 to 6 lanes from I-5 to SR 99 ($90.6M, OTD = 2027)	Yes	Yes	Yes	Yes
New SR 120/McKinley interchange ($30M, OTD = 2020)	Yes	Yes	Yes	Yes
Upgrade SR 120/Union Road interchange ($33M, OTD = 2015)	Yes	Yes	Yes	No
Airport Way Widening – 2 to 4 lanes from SR 120 to Lathrop Road ($7.2M, OTD = 2012)	Yes	Yes	Yes	Yes
Raymus Expressway – 2 to 6 lane expressway from SR 120 to SR 99 ($18M, OTD = 2019)	Yes	Yes	No	Yes

Note: OTD = Open to Traffic Date and cost based on the adopted 2011 Regional Transportation Plan
Source: Fehr & Peers, 2014

San Joaquin County Congestion Management Plan

SJCOG operates a Regional Congestion Management Program (RCMP), which monitors cumulative transportation impacts of growth on the regional roadway system, identifies deficient roadways,

and develops plans to mitigate the deficiencies. The RCMP considers LOS E or F operations to be deficient and includes segments of SR 120 and Airport Way (north of SR 120) as CMP facilities.

San Joaquin County Regional Traffic Impact Fee (RTIF)

SJCOG has implemented a regional traffic impact fee that is assessed on new developments throughout San Joaquin County. The RTIF capital project list provides funding for various freeway and local road widening (project list found at: http://www.sanjoaquincountytimf.com). The RTIF capital project began in 2005, and has generated nearly $30 million in funding for project delivery. For fiscal year 2012 (per: http://www.sjcog.org/AgendaCenter/ViewFile/Agenda/01102013-166), the fee schedule for new residential development is approximately $2,987 for single-family units and $1,792 for multi-family units. RTIF funds are expended on regionally significant capital improvements. Table 3.14-9 lists those projects included in this fee program within the study area.

Measure K

Measure K is the half-cent sales tax dedicated to transportation projects in San Joaquin County. Measure K was passed in November 1990, and began collecting funds for a system of improved highways and local streets, new passenger rail service, regional and inter-regional bus routes, park-and-ride lots, new bicycle facilities, and railroad crossings. On November 7, 2006, San Joaquin County voters decided to extend Measure K for an additional 30 years. The renewal of Measure K is estimated to generate $2.552 billion for the transportation programs identified in the Measure K Expenditure Plan. Table 3.14-9 lists those projects included in this fee program within the study area.

City of Manteca Public Facilities Implementation Plan

The City of Manteca is in the midst of updating the Public Facilities Implementation Plan (PFIP). The PFIP is a fee program which collects fees from new development to finance capacity expansion of public facilities (i.e., water, sewer collection, drainage, and transportation) necessary to accommodate the new demands. The City's draft PFIP includes a variety of roadway widenings or extensions such as Airport Way, Atherton Drive, McKinley Avenue, and other roadways within the City. It also includes various intersection improvements.

3.14.5 THRESHOLDS OF SIGNIFICANCE

This section describes the thresholds or criteria that determine whether the project causes a significant impact on the roadway, bicycle, pedestrian, rail and/or transit systems. These thresholds are based on policies from the General Plans of Manteca and Lathrop, Caltrans policies, and Appendix G of the CEQA Guidelines (2013). For the purposes of this Draft EIR, the project would cause a significant impact if it would:

Signalized Intersections

a) Worsen operations maintained by Manteca or Caltrans from LOS D or better to LOS E or worse.
b) Increase the average delay by three (3) seconds or more at a signalized intersection in Manteca currently operating (or projected to operate) at LOS E or worse.
c) Add traffic to a signalized intersection on a Caltrans facility that is currently operating (or projected to operate) at LOS E or worse.
d) Worsen the LOS at an intersection in Lathrop from LOS C or better to LOS D or worse;
e) Increase the average delay at an intersection in Lathrop currently operating (or projected to operate) at LOS D or worse by five (5) seconds or more;

All-Way Stop Intersections

a) Worsen operations at an intersection in Manteca from LOS D or better to LOS E or F, and cause the peak hour volume signal warrant to be met.
b) Increase the average delay by three (3) seconds or more at an intersection in Manteca currently operating (or projected to operate) at LOS E or worse and cause the peak hour volume signal warrant to be met.
c) Add traffic to an unsignalized intersection on a Caltrans facility that is currently operating (or projected to operate) at LOS E or worse and cause the peak hour volume signal warrant to be met.
d) Worsen the LOS at an intersection in Lathrop from LOS C or better to LOS D or worse;
e) Increase the average delay at an intersection in Lathrop currently operating (or projected to operate) at LOS D or worse by five (5) seconds or more;

Side-Street Stop Intersections

a) Worsen operations (for the highest delayed side-street movement) at an intersection in Manteca from LOS D or better to LOS E or F, and cause the peak hour volume signal warrant to be met.
b) Increase the average delay for the highest delayed side-street movement at an intersection in Manteca currently operating (or projected to operate) unacceptably by three seconds or more and cause one of the peak hour signal warrants to be met.
c) Add traffic to a side-street stop intersection on a Caltrans facility that is currently operating (or projected to operate) at LOS E or worse and cause the peak hour volume signal warrant to be met.

Freeway Facilities

a) Worsen operations from LOS D or better to LOS E or F.
b) Add 100 vehicles per day or more to a freeway segment that is currently operating (or projected to operate) unacceptably.

c) Increase traffic by one percent or more at a freeway ramp that is currently operating (or projected to operate) unacceptably.
d) Cause vehicular queues on a freeway off-ramp to spill back to the freeway mainline.

Transit System

a) Disrupt or interfere with existing or planned public transit services or facilities.
b) Create an inconsistency with policies concerning transit systems set forth in a General Plan or other adopted policy document.

Bicycle/Pedestrian System

a) Disrupt or interfere with existing or planned bicycle/pedestrian facilities.
b) Result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/vehicle conflicts.
c) Result in unsafe conditions for bicycles, including unsafe bicycle/pedestrian or bicycle/vehicle conflicts.
d) Create an inconsistency with policies related to bicycle or pedestrian systems set forth in a General Plan or other adopted policy document.

At-Grade Railroad Crossings

a) Cause motorists to incur delays corresponding to LOS E or F conditions due to preemptions caused by train crossings.
b) Add traffic to an at-grade railroad crossing that has a demonstrated record of having an above-average rate of accidents.

3.14.6 IMPACTS AND MITIGATION MEASURES

EXISTING PLUS PROJECT TRAFFIC IMPACT ANALYSIS

An Existing Plus Project (Phase 1) analysis was performed to identify potential impacts under existing conditions. This scenario focuses on the project-specific effects of Phase 1 of the project.

Existing plus project (Phase 1) operations were analyzed for the weekday AM and PM peak hours at the study intersections. Table 3.14-10 displays the intersection analysis results. The data in this table indicates that the addition of project trips would degrade operations at the SR 120 EB Ramps/Airport Way intersection by one service level during each peak hour. However, operations would remain at an acceptable LOS D or better. All study intersections would also continue to operate acceptably under this scenario.

Traffic signal warrant analyses were prepared for the existing plus project (Phase 1) scenario. The results are shown in Table 3.14-11. Detailed signal warrant assessments are provided in the appendix. As noted previously, the peak hour volume traffic signal warrant is currently satisfied at

the McKinley Avenue/Yosemite Avenue intersection. The project would not cause either of the two other unsignalized intersections to satisfy the signal warrant.

Table 3.14-12 displays AM and PM peak hour operations of the study freeway segments. The project would add traffic to segments of SR 120, which currently operate at LOS E. The project would not cause any off-ramp queues to exceed the available storage. Thus, queues would not spill back onto the SR 120 mainline.

Table 3.14-10: Intersection Operations – Existing Plus Project (Phase 1) Conditions

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing		Existing Plus Project (Phase 1)	
				Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	AM	16 (57)	C (F)	19 (79)	C (F)
			PM	6 (25)	A (C)	4 (18)	A (C)
2. Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	15	B	21	C
			PM	29	C	36	D
3. Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	13	B	20	B
			PM	20	B	19	B
4. Airport Way/Daniels Street	City of Manteca	Traffic Signal	AM	22	C	27	C
			PM	34	C	33	C
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	AM	3 (20)	A (C)	3 (23)	A (C)
			PM	2 (30)	A (D)	2 (34)	A (D)
6. Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	AM	28	C	30	C
			PM	42	D	43	D
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	All-Way Stop	AM	9	A	10	A
			PM	14	B	15	B
8. Daniels Street/Milo Candini Drive	City of Manteca	Traffic Signal	AM	12	B	17	B
			PM	11	B	17	B

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.

Source: Fehr & Peers, 2014

Table 3.14-11: Peak Hour Signal Warrant Analysis – Existing Plus Project (Phase 1) Conditions

Intersection	Jurisdiction	Traffic Control	Peak Hour Warrant Met? [1]
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	NO
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	NO
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	All-Way Stop	YES

Note:
1. Evaluated based on peak hour volume warrant contained in *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Caltrans, 2012.

Source: Fehr & Peers, 2014

Table 3.14-12: Freeway Operations – Existing Plus Project (Phase 1) Conditions

Intersection	Type	Existing Conditions				Existing Plus Project (Phase 1) Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1. SR 120 EB between Yosemite Avenue and Airport Way	Basic Section	18	C	37	E	19	C	37	E
2. SR 120 WB between Yosemite Avenue and Airport Way	Basic Section	29	D	25	C	29	D	26	D
3. SR 120 EB off-ramp at Airport Way	Diverge	23	C	39	E	24	C	40	E
4. SR 120 EB on-ramp at Airport Way	Merge	21	C	31	D	21	C	33	D
5. SR 120 WB off-ramp at Airport Way	Diverge	33	D	32	D	34	D	33	D
6. SR 120 WB on-ramp at Airport Way	Merge	29	D	25	C	29	D	26	C
7. SR 120 EB off-ramp at Union Road	Diverge	23	C	36	E	24	C	38	E
8. SR 120 WB on-ramp at Union Road	Merge	28	C	27	C	29	D	27	C

Notes:
1. Evaluated using the HCS2010 software, which applies the methods from the *Highway Capacity Manual* (Transportation Research Board, 2010).
2. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2014

Impact 3.14-1: The proposed project (Phase 1) would not cause significant impacts at intersections (Less than Significant).

The project (Phase 1) would not cause any significant impacts to intersections maintained by the City of Manteca, Lathrop, or Caltrans. Although the project would cause additional delays on the side-street stop-controlled approaches (which currently operate at LOS F) at the Airport Way/Atherton Drive intersection, this increase is not considered significant because the resultant volumes would not meet the peak hour signal warrant. Similarly, the project would not cause any intersections maintained by Caltrans to worsen from acceptable to unacceptable levels based on their established significance thresholds. Accordingly, Phase 1 project impacts to study intersections are considered **less than significant**.

MITIGATION MEASURES

No mitigation required.

Impact 3.14-2: The proposed project (Phase 1) would result in a significant impact to freeway facilities (Significant and Unavoidable).

The addition of project (Phase 1) traffic would exacerbate unacceptable (i.e. LOS E) PM peak hour operations on the following freeway facilities. Project traffic would cause in excess of a 100 vehicle-per-day increase on the impacted SR 120 mainline, and in excess of a 1 percent increase in off-ramp volumes at these locations. This is a potentially significant impact.

- Eastbound SR 120 mainline between Yosemite Avenue and Airport Way
- Eastbound SR 120 diverge at Airport Way

- Eastbound SR 120 diverge at Union Road

The widening of SR 120 to six lanes would improve operations at each impacted location to an acceptable level. Implementation of this mitigation measure would reduce the significance of the impact. However, the impact would remain **significant and unavoidable** because this improvement is within the jurisdiction of Caltrans and is not scheduled to be completed until 2027 according to the adopted 2011 Regional Transportation Plan.

MITIGATION MEASURES

Mitigation Measure 3.14-1: *The following mitigation measures would improve SR 120 operations to an acceptable level:*

- *The project applicant shall pay the appropriate San Joaquin Regional Traffic Impact Fee (RTIF), which is collecting fees from new developments to help fund widening of SR 120 to six lanes.*

Impact 3.14-3: The proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities (Less than Significant with Mitigation).

The project (Phase 1) would provide sidewalks along the extension of Daniels Street. The project would not disrupt or interfere with existing bicycle/pedestrian facilities. However, the *City of Manteca Bicycle Master Plan* (2003) indicates that a Class II bicycle lane is planned along Daniels Street from Airport Way to McKinley Avenue. Since the project description does not describe any planned on-street bicycle facilities, the project could create an inconsistency with policies related to bicycle systems. Therefore, this impact is considered a potentially significant impact. Mitigation Measure 3.14-2 would provide consistency with the *City of Manteca Bicycle Master Plan* (2003). Consequently, this impact would be reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.14-2: *The project applicant shall include Class II bicycle lanes in each direction of Daniels Street westerly from its existing terminus to McKinley Avenue.*

Impact 3.14-4: The proposed project (Phase 1) would not adversely affect transit services or facilities (Less than Significant).

The project (Phase 1) could potentially increase transit ridership on Manteca Transit bus routes 1, 2, and 3, which includes a stop on Daniels Street near the project site. The project would not disrupt or interfere with existing or planned public transit services or facilities. It would not create an inconsistency with policies concerning transit systems set forth in a General Plan or in the *City of Manteca Short Range Transit Plan* (2009). Therefore, this impact is considered **less than significant.**

MITIGATION MEASURES

No mitigation required.

Impact 3.14-5: The proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings (Less than Significant).

Yosemite Avenue and McKinley Avenue each feature at-grade crossings of a UP railroad track. The project (Phase 1) would add about 200 and 100 vehicles per day, respectively, to these two at-grade crossings. Each crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, and warning bells. The project would not cause an increase in delay during train crossings that would correspond to LOS D or worse conditions. Furthermore, the project would not add traffic to an at-grade crossing with a known safety problem. Therefore, this impact is considered less than significant.

MITIGATION MEASURES
No mitigation required.

CUMULATIVE (2030) CONDITIONS TRAFFIC IMPACT ANALYSIS

A Cumulative Conditions analysis was performed to identify potential impacts of Phase 1 of the project under Year 2030 conditions. Roadway assumptions and associated traffic forecasts along with the intersection and freeway segment operations analysis results are presented in this section.

Traffic Forecasts

The future cumulative roadway network includes certain roadway improvements, consistent with the SJCCOG RTP Tier I project list, which support the level of development anticipated to be in place in 2030. Major improvements within the study area included under Cumulative Conditions are summarized below:

- SR 120 – widened to six lanes from I-5 to SR 99.
- SR 120/McKinley Avenue interchange – partial cloverleaf design with lane configurations based on those in the *Final Traffic Report for the State Route 120/McKinley Avenue Interchange Project Approval and Environmental Document (PA/ED)* (Fehr & Peers, 2013) including an auxiliary (weave) lane on WB SR 120 from Airport Way to McKinley Avenue.
- Airport Way Widening – widened to four lanes between Yosemite Avenue and Woodward Avenue (with exception of SR 120 overcrossing which remains two lanes).
- Yosemite Avenue Widening – widened to four lanes from SR 120 to east of Airport Way.

In addition to the above, a number of other improvements are assumed including the extensions of Atherton Drive and Daniels Street, and widening of Union Road. Improvements were not assumed at the SR 120/Airport Way interchange because they are shown as a Tier II (unfunded) improvement in the 2011 Final RTP. Planned roadway improvements in the study area are shown on Figure 3.14-6.

Selected intersection improvements were assumed to occur by 2030 based on planned roadway widenings and specific intersection improvements identified in the City's draft PFIP.

The SJCOG model was modified to reflect the following reasonable and foreseeable land uses in the study area:

- Lathrop Gateway Business Park – situated north of SR 120 between Yosemite Avenue and McKinley Avenue, which could yield a maximum of 5.43 million square feet of non-residential according to that project's EIR.
- Machado Estates – 575 dwelling units located south of Woodward Avenue and west of Airport Way.
- Terra Ranch – 409 dwelling units located directly west of Machado Estates.
- Oakwood shores – a partially developed residential project (475 dwelling units at build-out) located south of the project site on Oakwood Lane that has two access locations on Woodward Avenue west of McKinley Avenue.
- Manteca Trails – 1,651 dwelling units located south of Woodward Avenue and west of McKinley Avenue.
- South Lathrop Specific Plan – 3.9 million square feet of industrial located directly south of the SR 120/Yosemite Avenue interchange.

Cumulative traffic forecasts were developed using the SJCOG travel demand model. The process of developing forecasts followed a series of commonly-used quantitative steps in which the amount of growth projected by the model is added to the existing counts in order to estimate future year traffic volumes. Traffic forecasts for the Cumulative (2030) Year analysis were developed for the following project scenarios:

- The **Cumulative No Project** scenario includes the 2030 planned roadways and developments, but assumes no development within the project site. This scenario also does not assume the extension of Daniels Street westerly from its current terminus to McKinley Ave.
- The **Cumulative Plus Project (Phase 1)** scenario adds traffic from Phase 1 of the project to the surrounding roadway system. This scenario assumes the extension of Daniels Street westerly from its current terminus to McKinley Avenue.

Traffic forecasts for the Cumulative No Project scenario were developed using the SJCOG travel demand model. A forecasting procedure known as the "difference method" was utilized to develop year 2030 forecasts from the SJCOG future year model. This method accounts for potential differences between the base year model and existing traffic counts that could otherwise transfer to the future year traffic forecast. This forecasting procedure is calculated as follows:

Year 2030 Forecast = Existing Volume + (Year 2030 SJCOG TDM – Base Year SJCOG TDM)

Figures 3.14-7a and 7b display the Cumulative No Project traffic forecasts. Figure 3.14-8 shows the cumulative distribution of Phase 1 project trips, which would be slightly different than existing conditions due to additional development near the project site as well as the construction of the SR 120/McKinley Avenue interchange, which would become the project's primary access for travel

to/from the west on SR 120. Figures 3.14-9a and 9b display the Cumulative Plus Project (Phase 1) traffic forecasts.

Intersection Operations

The study intersections, including the two future SR 120/McKinley interchange ramp-terminal intersections, were analyzed under Cumulative No Project and Cumulative Plus Phase 1 conditions. As shown in Table 3.14-13, many of the study intersections are projected to operate at unacceptable service levels regardless of whether the project is developed. This is due to expected traffic growth and a lack of any planned improvements at these locations.

Table 3.14-13: Intersection Operations – Cumulative Conditions

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Phase 1)	
				Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	AM	**83 (2570)**	**F (F)**	**109 (378)**	**F (F)**
			PM	**49 (1193)**	**E (F)**	**46 (1178)**	**E (F)**
2. Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	**101**	**F**	**112**	**F**
			PM	**87**	**F**	**58**	**E**
3. Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	42	D	54	D
			PM	**105**	**F**	**76**	**E**
4. Airport Way/Daniels Street	City of Manteca	Traffic Signal	AM	27	C	31	C
			PM	**189**	**F**	**219**	**F**
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	AM	4 **(48)**	A **(E)**	4 **(60)**	A **(F)**
			PM	9 **(161)**	A **(F)**	11 **(216)**	B **(F)**
6. Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	AM	39	D	41	D
			PM	**75**	**E**	**79**	**E**
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	Traffic Signal	AM	36	D	37	D
			PM	46	D	47	D
8. Daniels Street/Milo Candini Drive	City of Manteca	Traffic Signal	AM	23	C	23	C
			PM	14	B	20	B
9. McKinley Ave/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	15	B	24	C
			PM	17	B	20	B
10. McKinley Ave/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	14	B	18	B
			PM	12	B	17	B
11. McKinley Ave/Daniels St Extension	City of Manteca	Traffic Signal	AM	Intersection does not exist under this scenario		11	B
			PM			21	C

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. **Bold** indicates unacceptable LOS.

Source: Fehr & Peers, 2014

The two unsignalized study intersections were re-evaluated under cumulative conditions to determine if they would satisfy the Peak Hour warrant for consideration of a traffic signal. Both intersections would satisfy the warrant during one or both peak hours under Cumulative No Project and Plus Project (Phase 1) conditions.

Freeway Analysis

Cumulative No Project and Cumulative Plus Project (Phase 1) freeway operations were evaluated for the AM and PM peak hours. The results are shown in Table 3.14-14. This table shows only those freeway facilities that would be used by project trips. As shown, all ramp merge/diverge movements would operate at LOS D or better. These results assume the planned widening of SR 120 to six lanes. They also include the planned two-lane off-ramp (and deceleration lane) on eastbound SR 120 at McKinley Avenue.

Table 3.14-14: Freeway Operations – Cumulative Conditions

Intersection	Type	Cumulative No Project Conditions				Cumulative Plus Project (Phase 1) Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1. SR 120 EB off-ramp at McKinley Ave	Diverge	14	B	27	C	15	B	28	C
2. SR 120 WB on-ramp at McKinley Ave	Merge	33	D	26	C	33	D	27	C
3. SR 120 EB on-ramp at Airport Way	Merge	25	C	31	D	25	C	32	D
4. SR 120 WB off-ramp at Airport Way	Diverge	30	D	33	D	31	D	33	D
5. SR 120 EB off-ramp at Union Road	Diverge	16	D	21	C	16	B	31	C
6. SR 120 WB slip on-ramp at Union Road	Merge	25	C	27	C	27	C	27	C

Notes:
1. Evaluated using the HCS2010 software, which applies the methods from the *Highway Capacity Manual* (Transportation Research Board, 2010).
2. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2014

Project Buildout Travel Characteristics

Future phases of the Manteca Family Entertainment Zone may include a variety of new sports, recreation, entertainment, and shopping facilities within the project site. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow for their implementation. The following conceptual land uses have been prepared for the various numbered, Planning Areas (PA) within the project site:

- PA-1 (northeast corner of Project Site): Potential land uses could include three international soccer fields, two U-12 soccer fields, and one U-8 soccer field. Alternatively, the international soccer fields could be divided into two U-12 youth soccer fields, yielding a total of eight U-12 play fields, and one U-8 size field.
- PA-1a & PA-1b (directly west of the existing Big League Dreams complex): Two new baseball fields.
- PA-2 (northcentral portion of Project Site): Two U-12 and two U-13 sized youth soccer fields.
- PA-3, PA-4, and PA-5 (north of the Daniels Street extension and west of the existing Big League Dreams Complex): 512,000 square feet of food and beverage, restaurant, and general retail space.

- PA-6 and PA-6a (southwest portion of Project Site): serves as expansion for the family entertainment offerings, and potential location of the Yosemite/South Sierra Nevada Visitors Center, relocated Manteca Convention and Visitors Bureau, and bus terminal / temporary bus parking for tours connecting to Yosemite and the Sierras.
- PA-7 (west portion of Project Site, north of Daniels Street): intended to be developed as an Adventure Zone with active and passive recreational facilities.
- PA-8 (central portion of Project Site): incorporates an Indoor All-Season Sports & Exhibition Center.
- PA-9 and PA-10 (west portion of Project Site, north of Daniels Street and east of McKinley Avenue): is slated for future FEZ expansion.
- PA-11 (northwest portion of Project Site): is intended to be developed as a sport field with spectator seating.
- PA-12 (northcentral portion of Project Site): is envisioned to serve as an outdoor sports zone.
- PA-13, PA-14, and PA-15 (northern portion of Project Site): comprises the PG&E right-of-way, which will be used for shared parking for the FEZ property.

In addition, future expansion of the hotel facility is being contemplated. It could include a future expansion of 200 additional hotel rooms, an additional 20,000 square feet for conference facilities, and a 76,000 square foot addition to the indoor water park. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow implementation. Development of such facilities would require additional environmental review if applications for such development are submitted to the City for consideration.

To support buildout of the FEZ, the following roadway improvements would be completed.

- Extend Daniels Street as a four-lane roadway from its current terminus to McKinley Avenue.
- Extend Wawona Street westerly as a two-lane roadway from Airport Way to Milo Candini Drive.
- Extend Milo Candini Drive northeasterly from the FEZ property to Yosemite Avenue.

A detailed technical analysis of project buildout was not conducted due to the speculative nature of the land use proposals. At this time, the specific amount of retail versus restaurant is not known. The degree to which retail and restaurant uses will be configured to complement the sporting activities is not known. The types of sporting activities (i.e., soccer practices versus matches, and spectator sizes for the international fields) are not known. The size and types of land uses on PA-6 through PA-12 are not known. Therefore, any analysis that attempts to analyze (and mitigate for) project-specific or cumulative transportation impacts with project buildout would be speculative. Instead, a programmatic assessment of travel conditions under cumulative conditions was conducted. This evaluation consisted of estimating the average daily traffic (ADT) volume on

roadways bordering and within the project site assuming no development and with project buildout.

Figure 3.14-10 displays the Cumulative No Project ADT forecasts using the same forecasting procedure described earlier in this section. The 'no project' forecasts assume no additional development west of Airport Way, north of SR 120, east of McKinley Avenue, and south of Yosemite Avenue.

The following four-step process was then used to estimate the Cumulative Plus Project ADT forecasts. The "project buildout" forecasts are also shown on Figure 3.14-10.

- Step 1: Add proposed roadway improvements to travel demand model.
- Step 2: Develop four new traffic analysis zones (TAZs) to represent project buildout. Inputs to each TAZ are as follows:
  - TAZ 1 (PA-1 and PA-2): Input retail employees such that zone generates 910 daily trips, which is ITE's estimate of the trip generation of 13 soccer fields.
  - TAZ 2 (FEZ commercial uses): Enter two retail employees per thousand square feet.
  - TAZ 3 (Hotel Facility): Use multi-family residential, office, and retail employees to match expected trip generation (model doesn't have a hotel land use category).
  - TAZ 4 (PA-6 through PA-12): Enter two retail employees per thousand square feet (based on the square footage yields in the NOP).
- Step 3: Review reasonableness of model forecasts in terms of trip generation, internalization, and external directionality of trips.
- Step 4: Develop ADT forecasts using the procedure described earlier in this section.

According to Figure 3.14-10, project buildout (along with planned roadway improvements) would cause increases in traffic on segments of Airport Way and McKinley Avenue. The following key conclusions are drawn from this figure:

- The SR 120/McKinley Avenue interchange has been 'sized' to accommodate buildout of the Manteca and Lathrop General Plans (including development of the FEZ property). Accordingly, project buildout would not adversely affect its design or operations.
- Buildout would cause the ADT on Airport Way between Daniels St and SR120 to increase from 32,100 to 36,000, a 12 percent increase. This could potentially cause impacts to the SR120/Airport Way interchange, which is not currently planned to be upgraded.
- According to Figure 3.14-10, project buildout would result in Daniels Street between Airport Way and McKinley Avenue carrying no more than 12,500 ADT, which is well within the capacity of a four-lane road. It is noted that the Wawona Street extension to Milo Candini Drive would carry 11,200 ADT. This volume is due, partially, to the assumption that a significant amount of parking would be provided along the power line corridor, which is directly accessible via this road. The Airport Way/Wawona Street intersection would require signalization and additional lanes to accommodate this traffic.
- The Milo Candini extension to Yosemite Ave is projected to accommodate a modest traffic volume (2,100 ADT). Accordingly, it may be included in one of the later phases of the FEZ.

Impact 3.14-6: Under cumulative conditions, the proposed project (Phase 1) would cause significant impacts at intersections (Significant and Unavoidable).

The project (Phase 1) would cause the following intersections to worsen to a significant degree according to the results in Table 3.14-13 and the established significance criteria:

- Airport Way/SR 120 EB Ramps (LOS F operations worsened during the AM peak hour)
- Airport Way/Daniels Street (LOS F operations worsened during the PM peak hour)
- Airport Way/Wawona St (LOS E or F operations worsened during the AM and PM peak hours)
- Airport Way/Yosemite Avenue (LOS E operations worsened during the PM peak hour)

Phase 1 project impacts to these study intersections are considered a potentially significant impact. Table 3.14-15 displays traffic operations under Cumulative Plus Project conditions with the proposed mitigation measures in place. As shown, all impacted study intersections would operate acceptably with the proposed mitigation measures in place.

Some of these measures are considered infeasible for reasons described below. The improvements at the SR 120/Airport Way interchange are within Caltrans' right-of-way and beyond the control of the City of Manteca to implement. The improvements at the Airport Way/Daniels Street and Airport Way/Yosemite Avenue intersections would likely require additional right-of-way from adjacent properties. For these reasons, these intersection impacts are considered to be **significant and unavoidable.**

Table 3.14-15: Intersection Operations – Cumulative Conditions With Mitigation

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Phase 1)		Cumulative Plus Project w/ Mitigation [3]	
				Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	**101**	**F**	**112**	**F**	14	B
			PM	**87**	**F**	**58**	**E**	12	B
Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	42	D	54	D	14	B
			PM	**105**	**F**	**76**	**E**	12	B
Airport Way/Daniels Street	City of Manteca	Traffic Signal	AM	27	C	31	C	32	C
			PM	**189**	**F**	**219**	**F**	51	D
Airport Way/Wawona Street	City of Manteca	Side-Street Stop	AM	4 **(48)**	A **(E)**	4 **(60)**	A **(F)**	7	A
			PM	9 **(161)**	A **(F)**	11 **(216)**	B **(F)**	7	A
Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	AM	39	D	41	D	30	C
			PM	**75**	**E**	**79**	**E**	37	D

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. **Bold** indicates unacceptable LOS.
3. Refer to previous page for description of proposed mitigations.

Source: Fehr & Peers, 2014

MITIGATION MEASURES

Mitigation Measure 3.14-3: *The project applicant shall pay its fair share toward the following improvements at the SR 120/Airport Way interchange:*

- *Relocate the westbound ramp-terminal intersection approximately 180 feet south of its current location, which will increase the spacing to the Airport Way/Daniels Street intersection.*
- *Construct loop on-ramps.*
- *Widen overcrossing to include two northbound and three southbound lanes.*
- *Widen SR 120 eastbound and westbound off-ramps to include two left-turn lanes and two* right-*turn lanes approaching Airport Way.*

Mitigation Measure 3.14-4: *The project applicant shall pay its fair share cost of adding the following improvements to the Airport Way/Daniels Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted:*

- *Reconfigure the southbound approach to add a third through lane.*
- *Restripe the eastbound Daniels Street approach to include one left-turn, one shared left/through lane, and two right-turn lanes with right-turn overlap phasing.*

Mitigation Measure 3.14-5: *The project applicant shall pay its fair share cost of installing a traffic signal at the Airport Way/Wawona Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted.*

Mitigation Measure 3.14-6: *The project applicant shall pay its fair share cost of adding the following improvements to the Airport Way/Yosemite Avenue intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted:*

- *Widen the eastbound and westbound Yosemite Avenue approaches to include dual left-turn lanes.*

Impact 3.14-7: Under cumulative conditions, the proposed project (Phase 1) would result in a significant impact to freeway facilities (Significant and Unavoidable).

The addition of project (Phase 1) traffic would maintain acceptable (i.e. LOS D or better) operations on study freeway facilities. However, project traffic would exacerbate vehicle queuing on the Airport Way WB off-ramp that spills back onto the SR 120 mainline. This occurs as a result of insufficient capacity at the interchange ramp terminal intersections. This is a potentially significant impact. Mitigation Measure 3.14-3 calls for the applicant to contribute fair share funding toward the reconstruction of the SR 120/Airport Way interchange. The capacity

improvements would reduce queuing on the westbound off-ramp. However, this improvement would require approval from Caltrans. It would also require the remaining funding (beyond the project's fair share contribution) to be identified. Although implementation of this mitigation measure would reduce the significance of the impact, the impact would remain **significant and unavoidable** because there is no assurance that Manteca can implement these improvements.

MITIGATION MEASURES
Implement Mitigation Measure 3.14-3.

Impact 3.14-8: Under cumulative conditions, the proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities (Less than Significant).

The project (Phase 1) would provide sidewalks along the extension of Daniels Street. The project would not disrupt or interfere with existing bicycle/pedestrian facilities. However, the *City of Manteca Bicycle Master Plan* (2003) indicates that a Class II bicycle lane is planned along Daniels Street from Airport Way to McKinley Avenue. Since the project description does not describe any on-street planned bicycle facilities, the project could create an inconsistency with policies related to bicycle systems. The City's Bikeway Master Plan also describes other bicycle facilities that would traverse the project site. However, none of these facilities would pass through or adjacent to the Phase 1 project boundary. Therefore, this impact is considered a potentially significant impact. This measure would provide consistency with the *City of Manteca Bicycle Master Plan* (2003). Consequently, this impact would be reduced to a **less than significant** level.

MITIGATION MEASURES
Implement Mitigation Measure 3.14-2.

Impact 3.14-9: Under cumulative conditions, the proposed project (Phase 1) would not adversely affect transit services or facilities (Less than Significant).

The project (Phase 1) could potentially increase transit ridership on Manteca Transit bus routes 1, 2, and 3, which includes a stop on Daniels Street near the project site. The project would not disrupt or interfere with existing or planned public transit services or facilities. It would not create an inconsistency with policies concerning transit systems set forth in a General Plan or in the *City of Manteca Short Range Transit Plan* (2009). Therefore, this impact is considered **less than significant.**

MITIGATION MEASURES
No mitigation required.

Impact 3.14-10: Under cumulative conditions, the proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings (Less than Significant).

Yosemite Avenue and McKinley Avenue each feature at-grade crossings of a UP railroad track. The project (Phase 1) would add about 200 and 100 vehicles per day, respectively, to these two at-grade crossings. Each crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, and warning bells. The project would not cause an increase in delay during train crossings that would correspond to LOS D or worse conditions. Furthermore, the project would not add traffic to an at-grade crossing with a known safety problem. Therefore, this impact is considered less than significant.

MITIGATION MEASURES

No mitigation required.

Impact 3.14-11: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities (Significant and Unavoidable).

Project buildout would generate more external vehicle trips than the Phase 1 project. Accordingly, cumulative project impacts may be greater and require greater levels of mitigation than what is required for Phase 1. Due to the uncertainty of the specific land use types, attendance levels, on-site activities, and other factors, a detailed analysis of project buildout conditions is not possible at this time. Nevertheless, based on the preliminary traffic assessment presented earlier in this chapter, project buildout impacts are considered a potentially significant impact. Due to the likelihood that identified additional improvements may require additional right-of-way and/or approvals from other agencies, this impact is considered **significant and unavoidable.**

MITIGATION MEASURES

Mitigation Measure 3.14-7: *Supplemental phases of the proposed project shall be subject to additional traffic studies to analyze potentially significant transportation system impacts and identify mitigation measures that lessen their significance.*

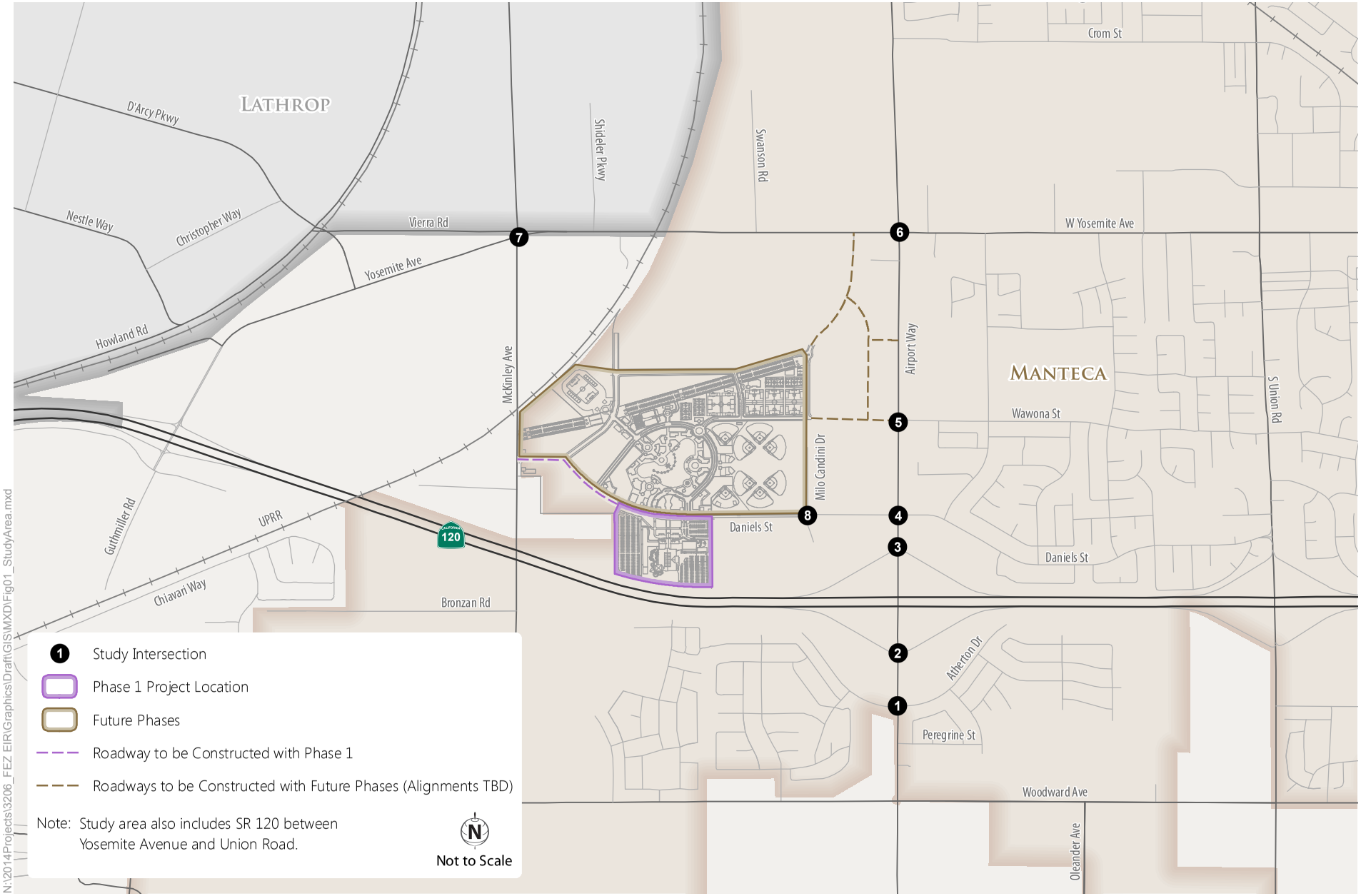

Figure 3.14-1

Study Area

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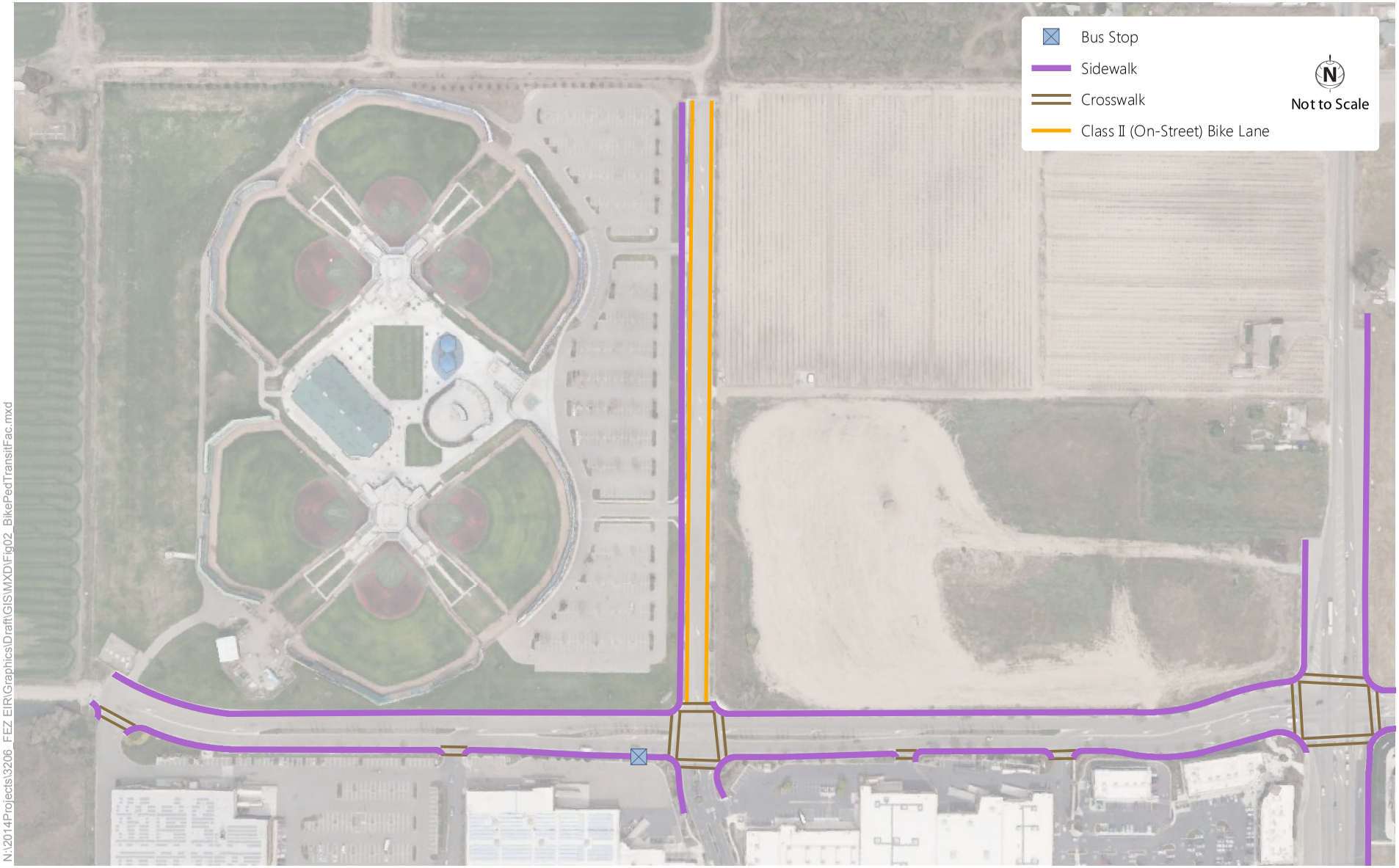

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Figure 3.14-2

Existing Bicycle, Pedestrian, and Transit Facilities

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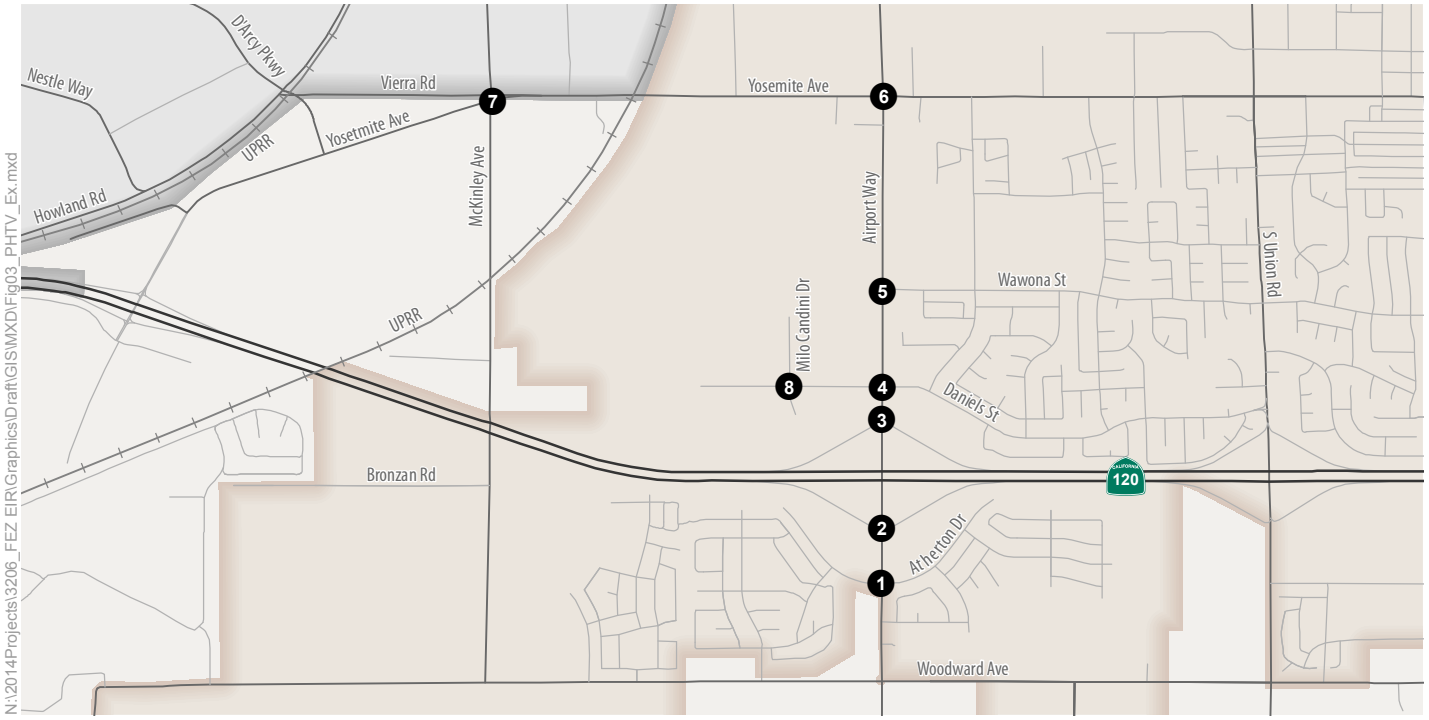

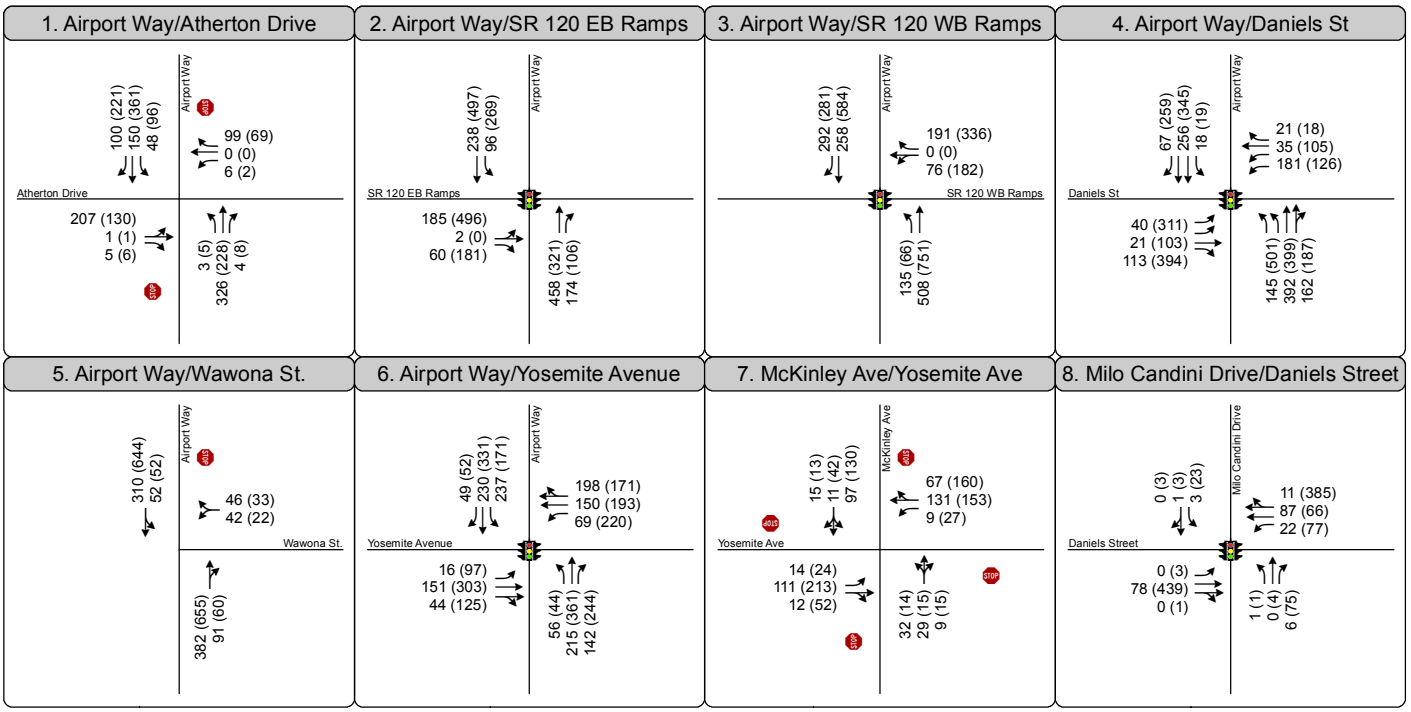

Figure 3.14-3

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

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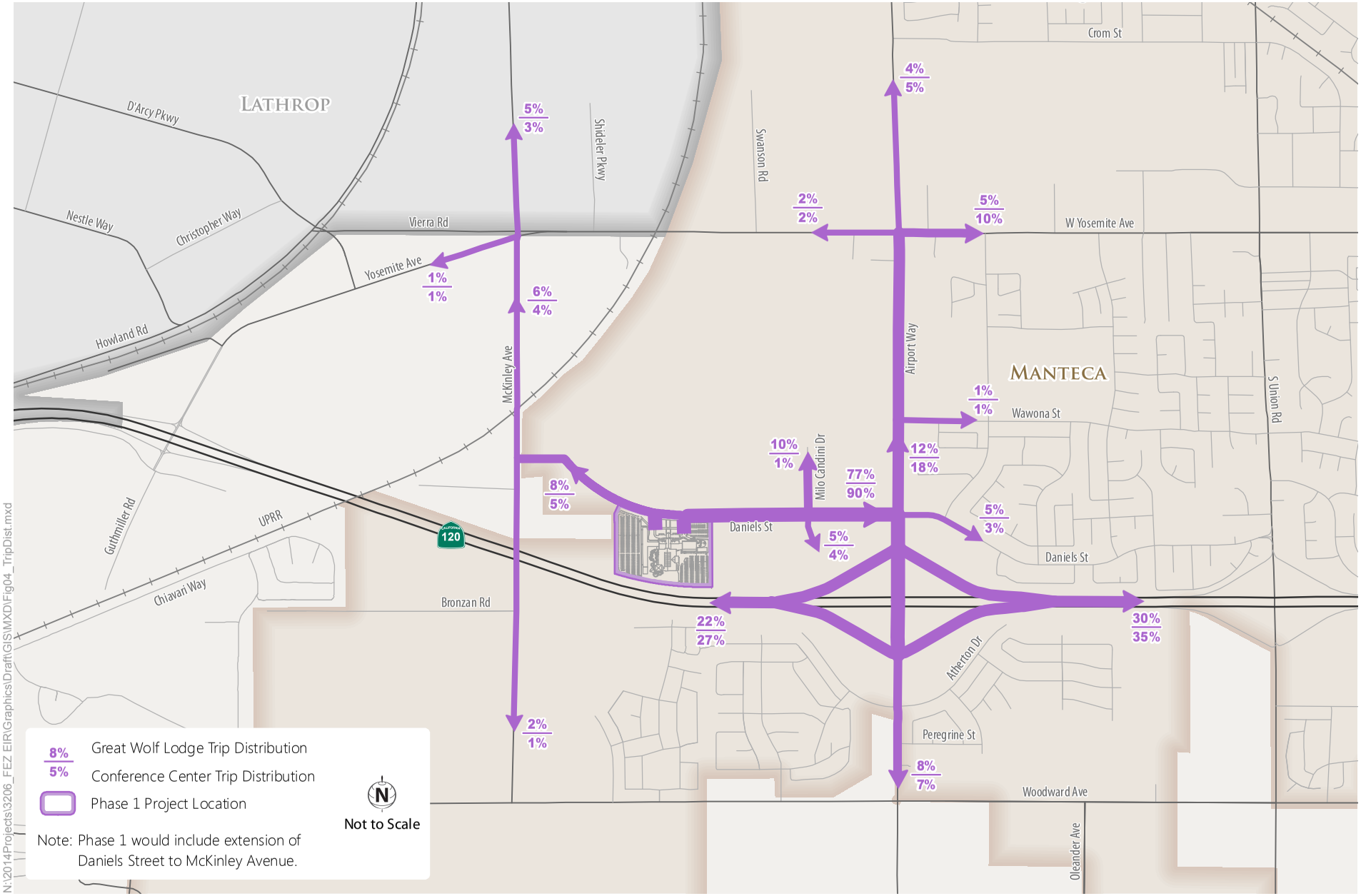

Figure 3.14-4

Phase 1 Project Trip Distribution Under Existing Conditions

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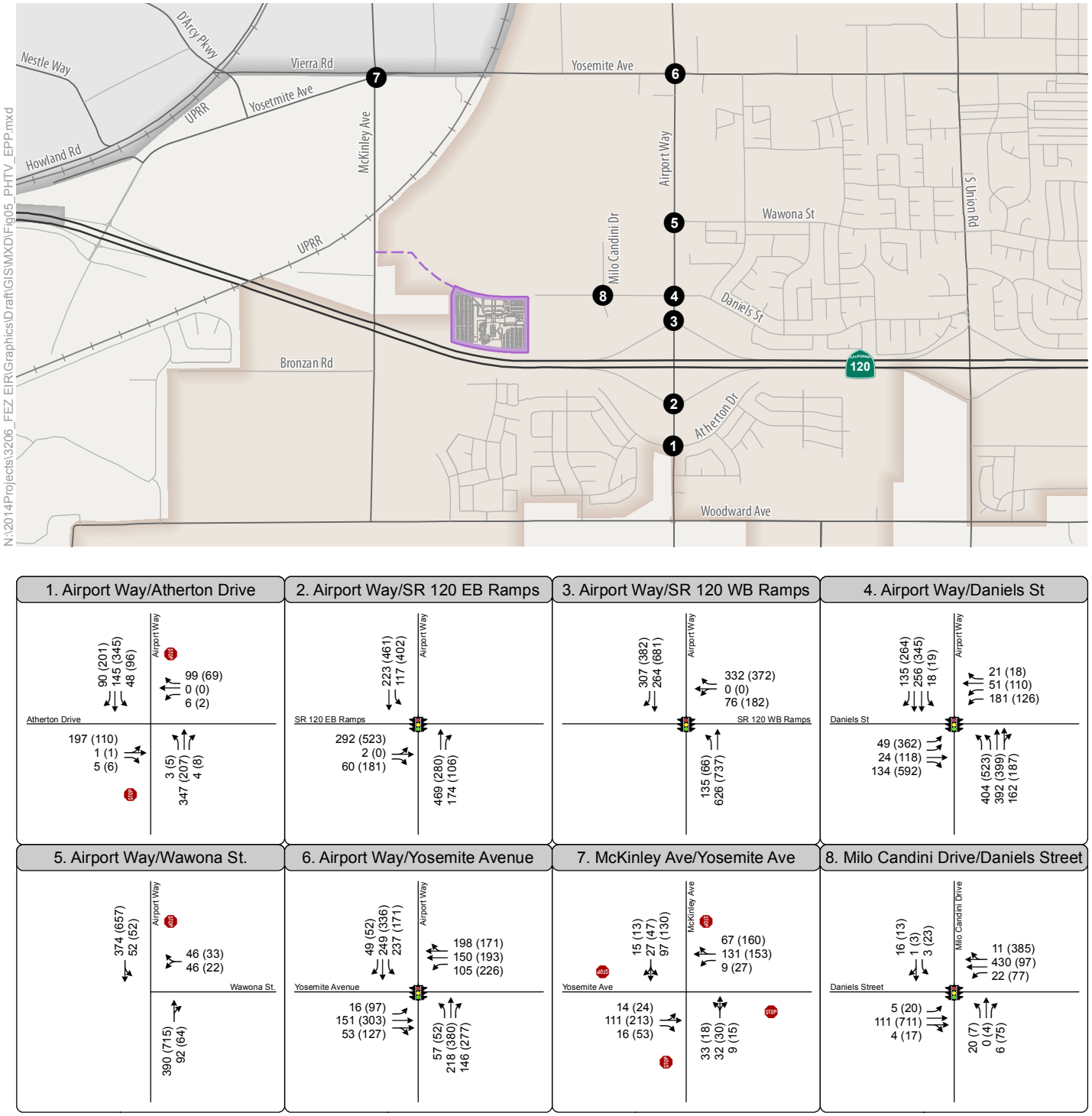

Future Roadway to be Constructed with Phase 1

Phase 1 Project Location

1 Study Intersection

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Note: Traffic Counts Collected in February 2014

N Not to Scale

Figure 3.14-5

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

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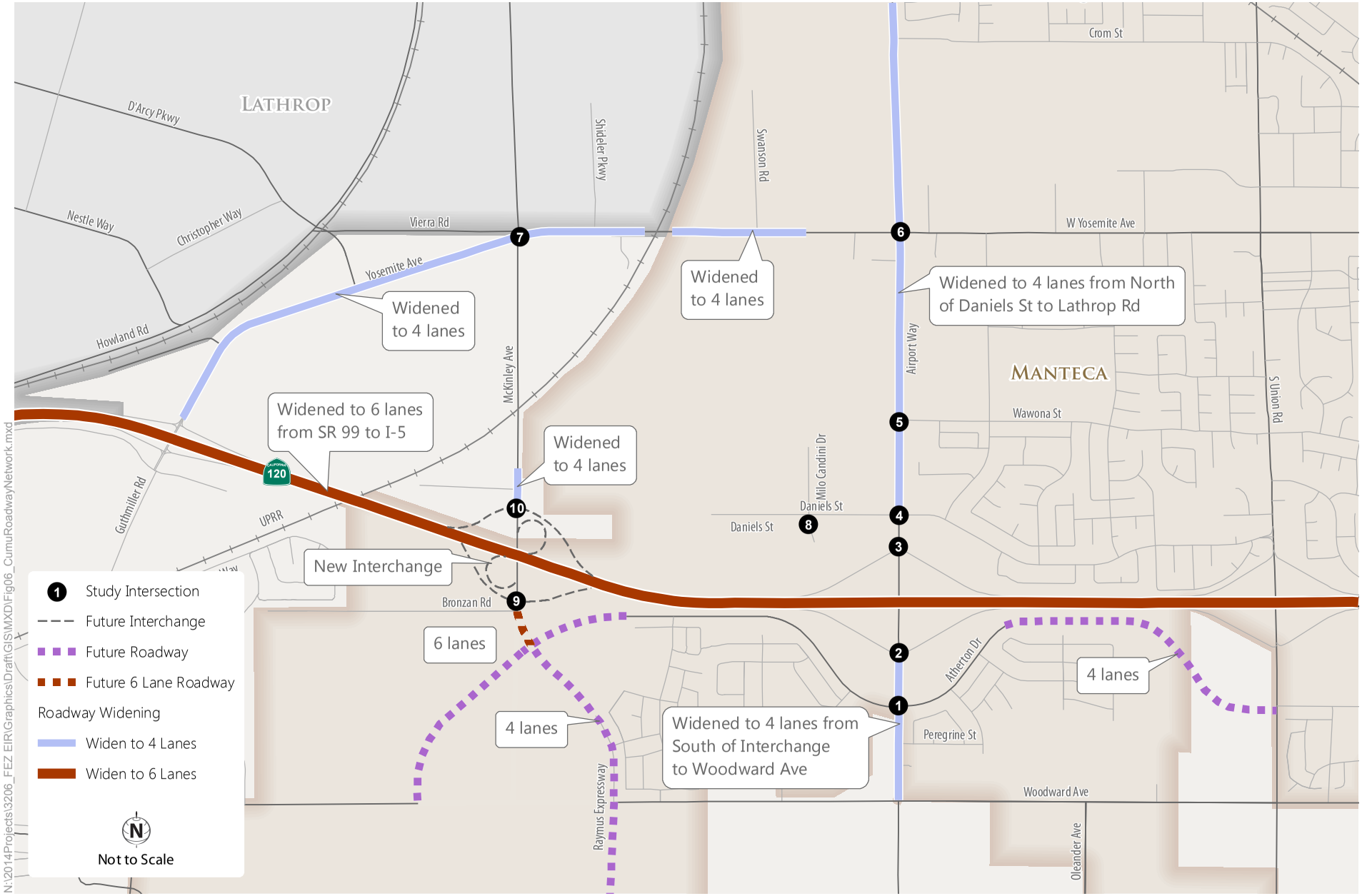

Figure 3.14-6

Cumulative Roadway Network

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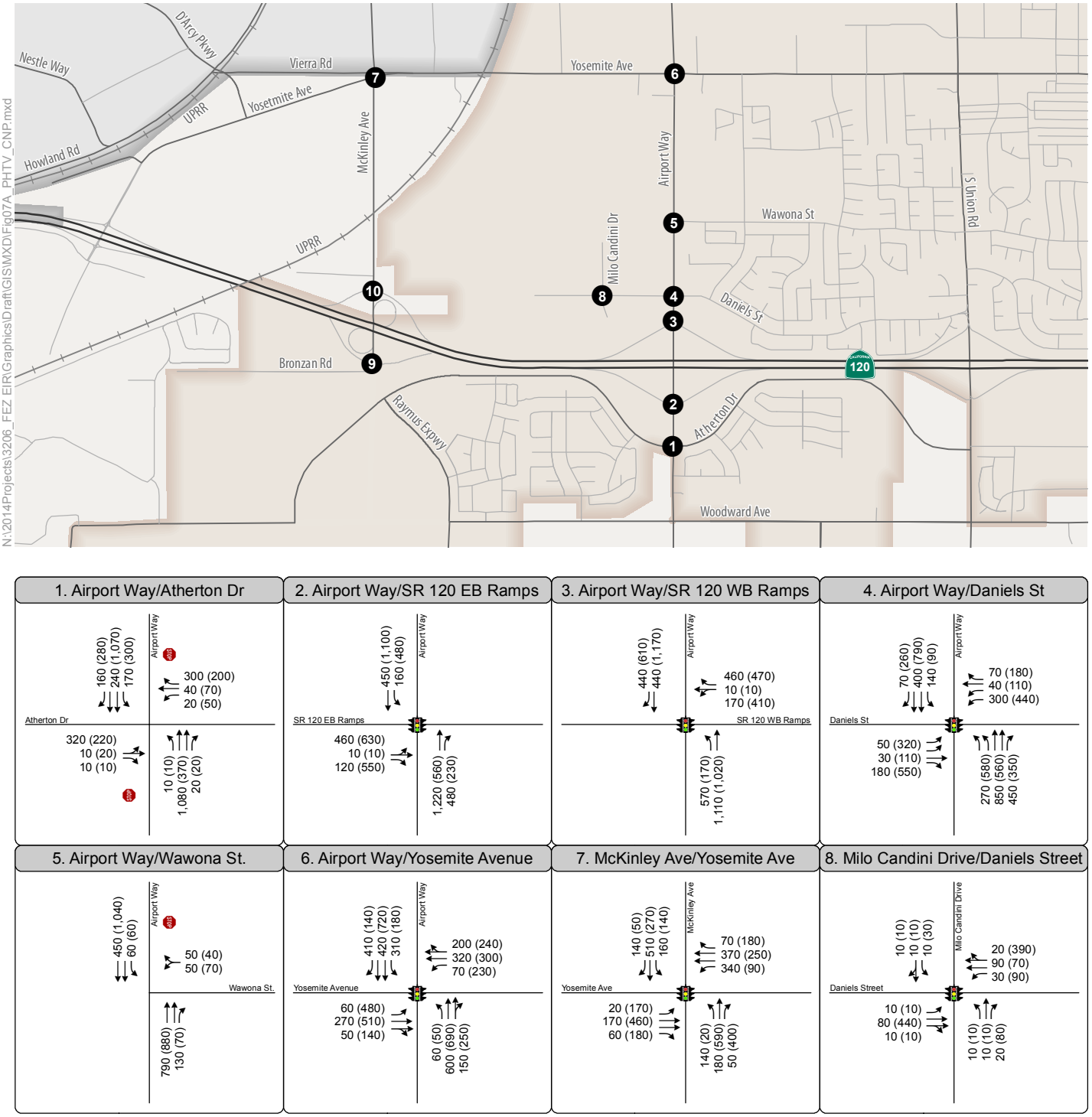

Figure 3.14-7

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

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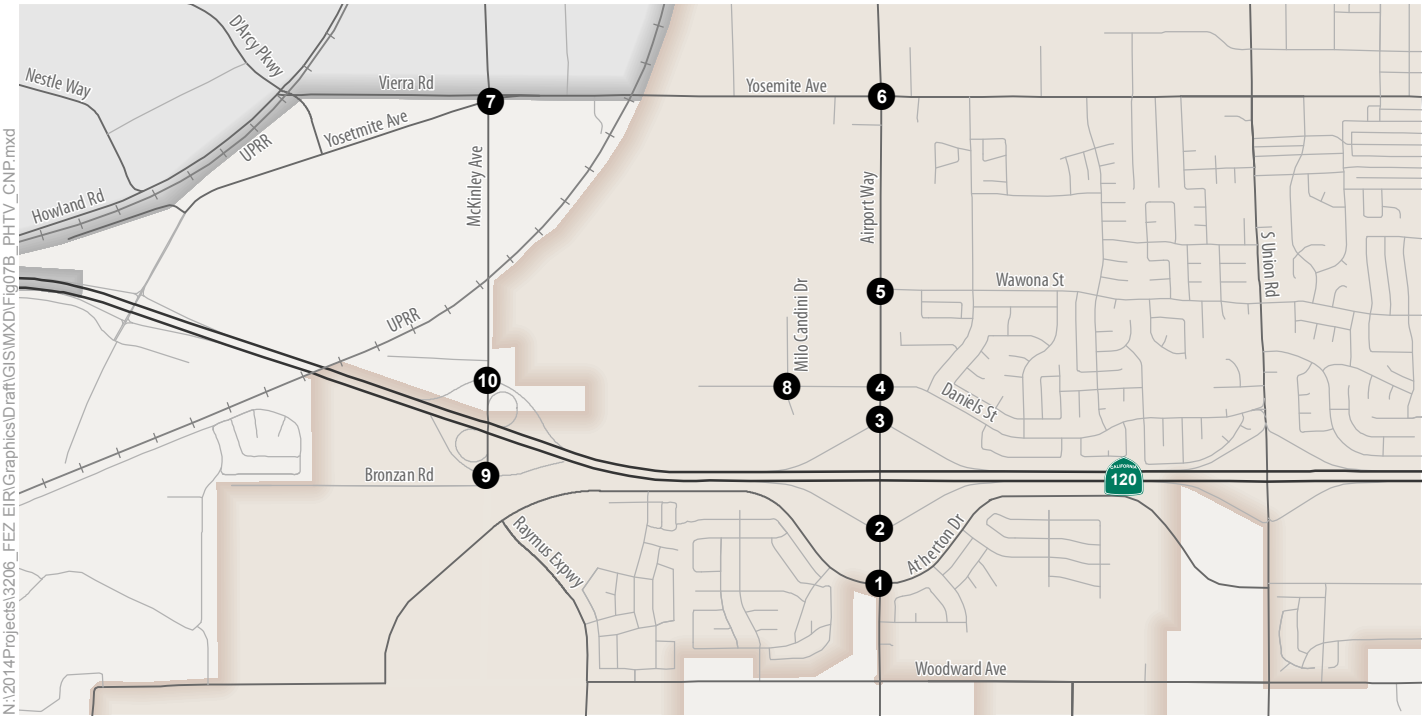

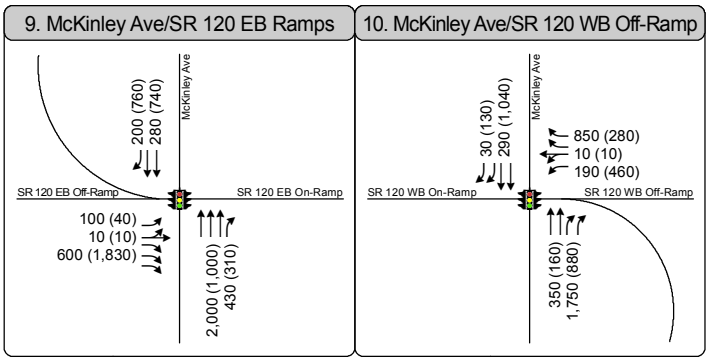

1 Study Intersection

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

N Not to Scale

Figure 3.14-7(Cont.)

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

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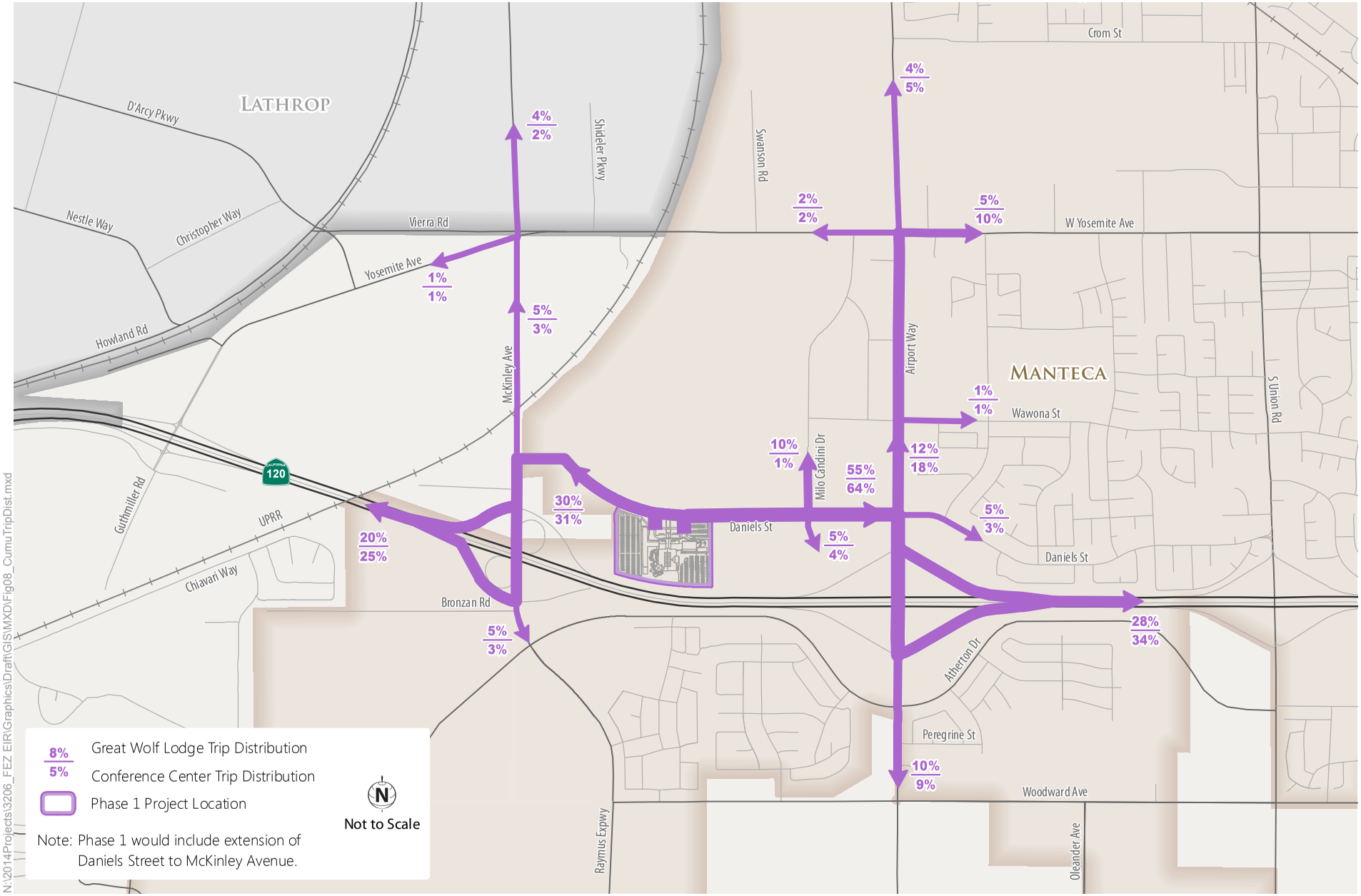

Figure 3.14-8

Phase 1 Project Trip Distribution Under Cumulative Conditions

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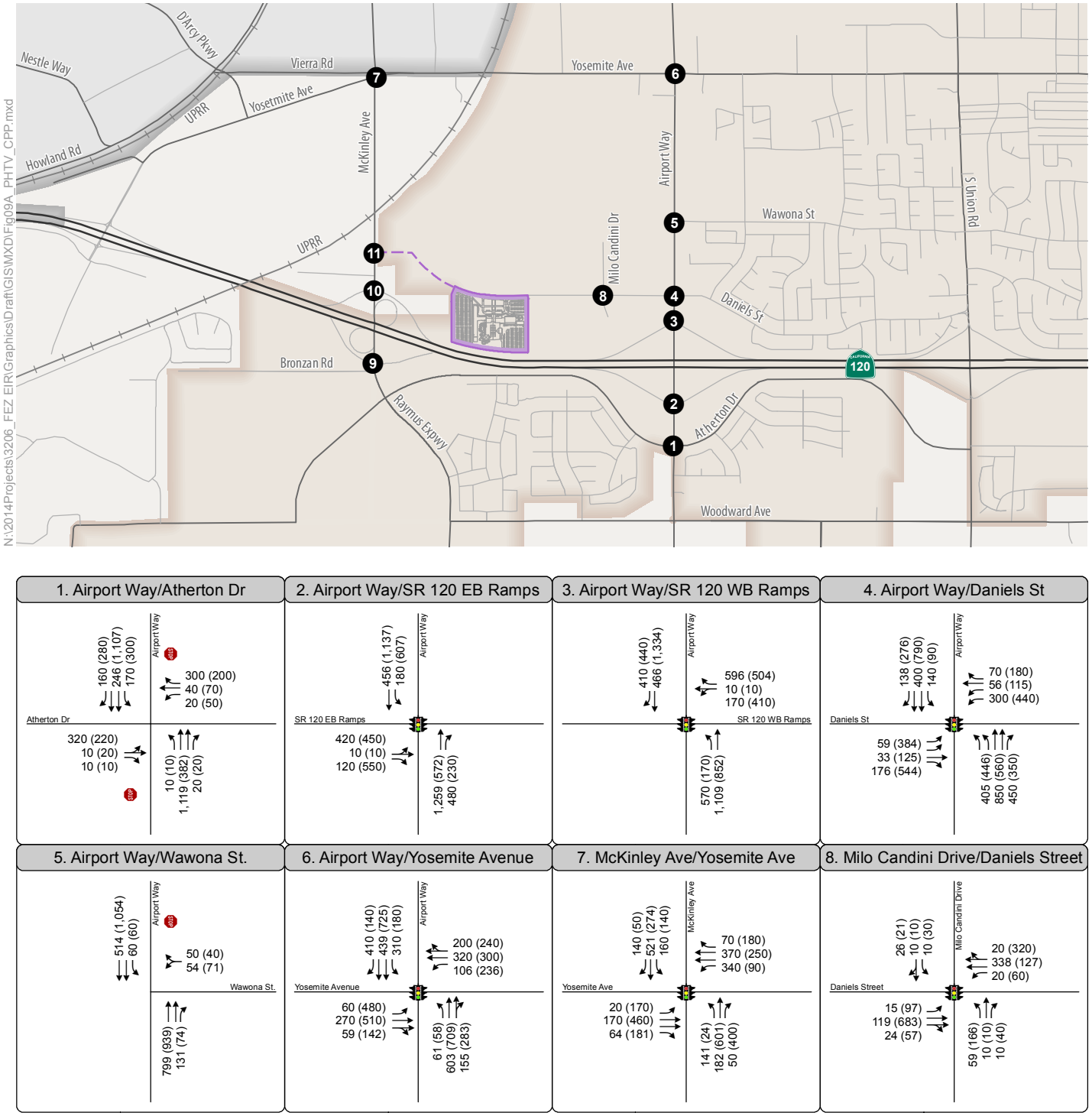

Figure 3.14-9

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

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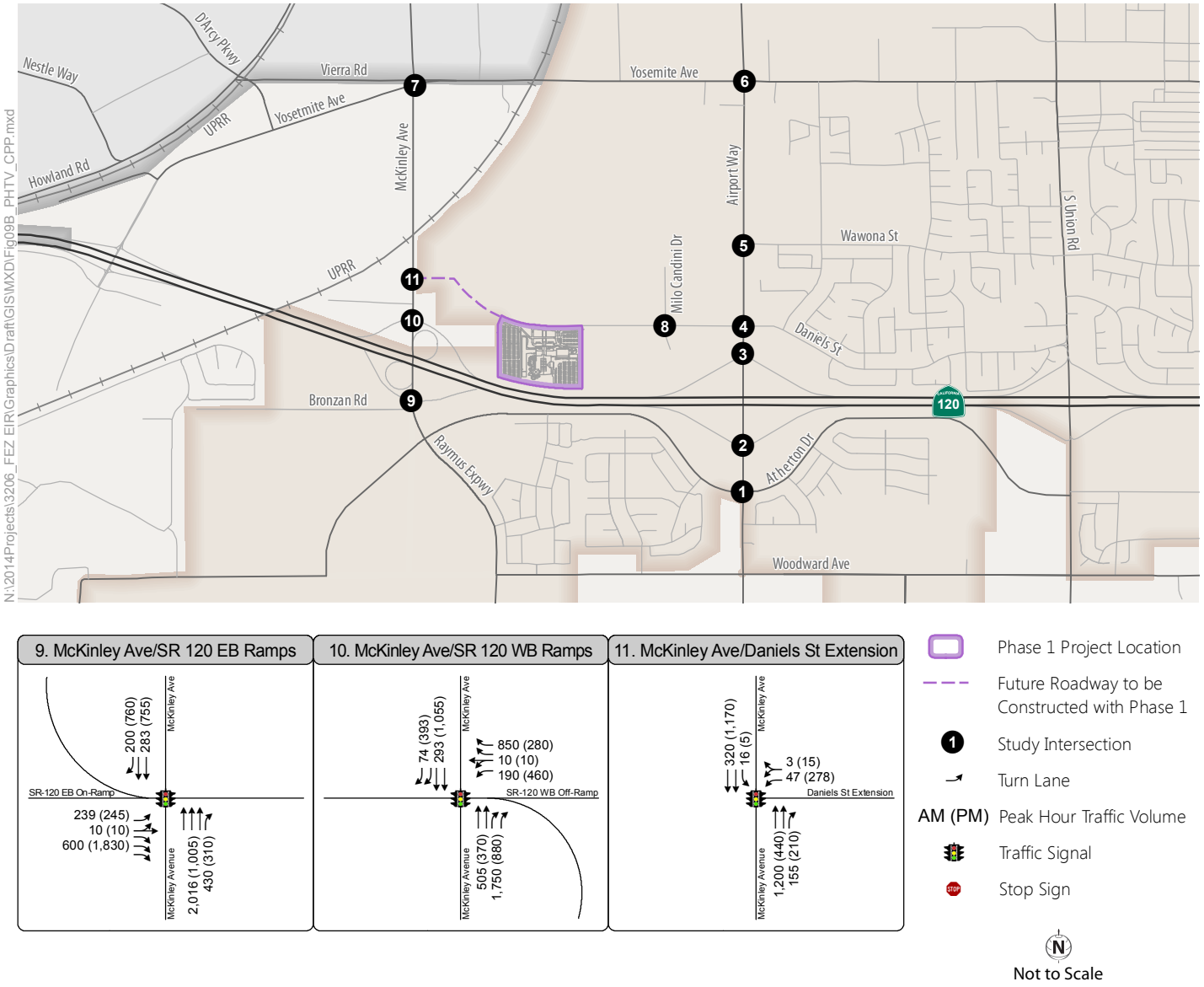

Figure 3.14-9(Cont.)

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

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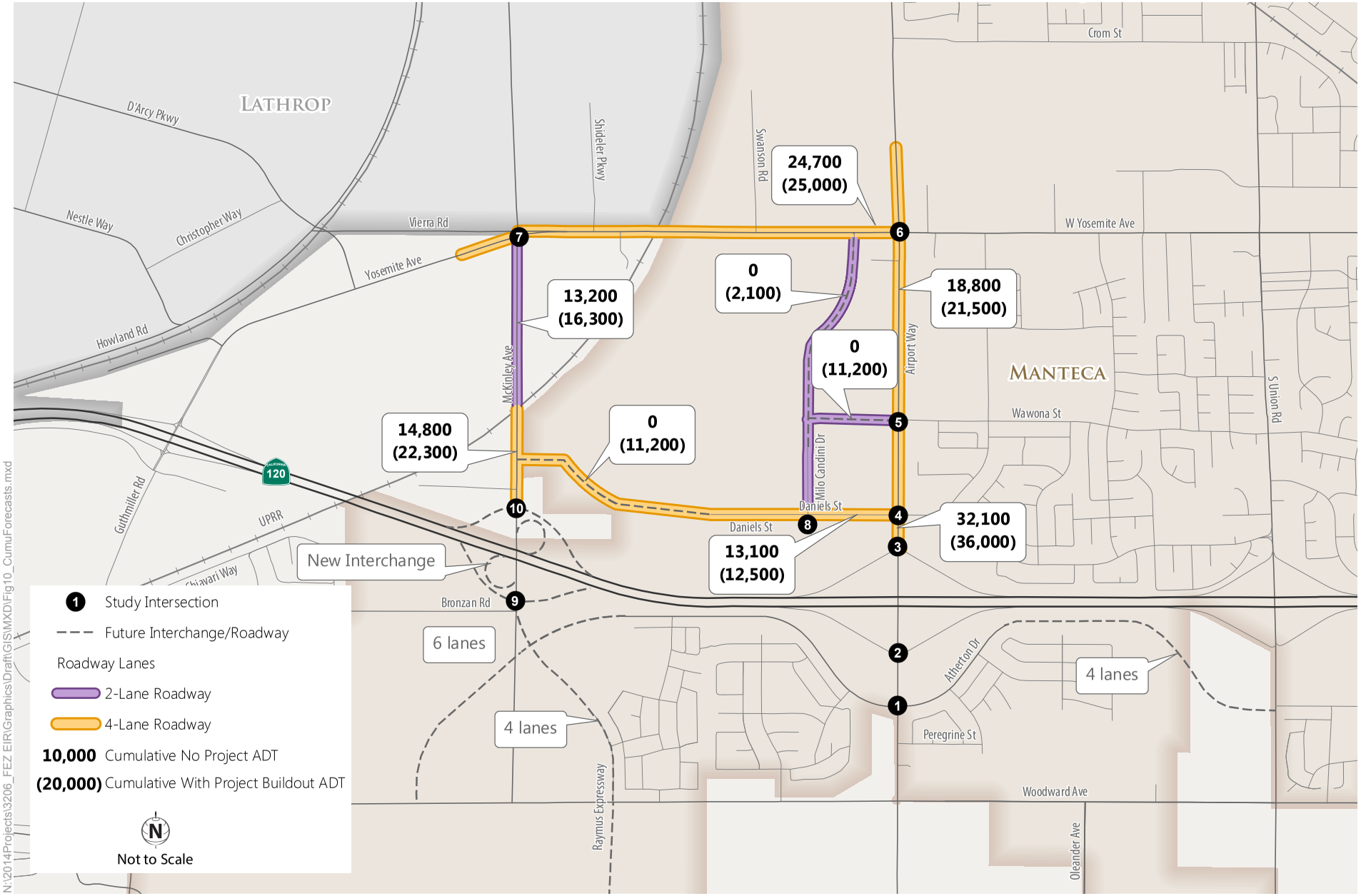

Figure 3.14-10

Cumulative Average Daily Traffic Forecasts

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from project implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies: *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*, *Manteca Municipal Services Review* (Manteca 2008), the *San Joaquin Groundwater Basin Groundwater Management Plan*, *South County Surface Water Supply Project EIR* (SSJID 1999), *Employment Density Study Summary Report* (SCAG 2001), *Urban Water Management Plan* (2005), *Water Master Plan* (2005), *Storm Drain Master Plan* (2013) *Wastewater Collection System Master Plan* (2012), *Wastewater Quality Control Facility Master Plan Update* (2006), *Draft Sewer Rate Study* (2008), *Family Entertainment Zone Utility Master Plan* (2014), and *Family Entertainment Zone Water Assessment* (2014). Comments were received during the public review period for the Notice of Preparation from the Central Valley Regional Water Quality Control Board.

3.15.1 WASTEWATER SERVICES

EXISTING SETTING

Wastewater service is provided by the City of Manteca via their network of collection infrastructure and the Wastewater Quality Control Facility (WQCF), which is located north of the project site at 2450 West Yosemite Avenue. The WQCF provides services to the City of Manteca, City of Lathrop, and Raymus Village in San Joaquin County. As of 2010 the WQCF treated approximately 6.5 million gallons per day (mgd) of wastewater with a maximum capacity of 9.87 mgd.

Wastewater Conveyance

The existing wastewater collection system is owned and operated by the City of Manteca Public Works Department. The use of gravity sewers for the collection system is the preferred method of conveyance. Although initially more expensive due to larger size and depth of installation, gravity sewers tend to have lower operation and maintenance costs and a reduced risk of failure. The collection system in the City is comprised of gravity flow pipes sized between 6 and 36 inches. In places where topography is relatively flat or adverse for the use of gravity sewers, force mains ranging in size from 6 to 18 inches, and 11 wastewater pump stations are utilized.

GRAVITY SEWERS

The following standards are used in the design of gravity sewers. The minimum depth of cover is between 8 feet and 30 feet. Manholes are assumed every 400 feet for pipe diameters ranging from 8 inches to 18 inches, every 500 feet for pipe diameters ranging from 21 to 30 inch, and every 600 feet for pipe diameters larger than 30-inch. Manholes are also assumed at every junction or change in pipe diameter. Additionally, gravity sewer lines will be sized to flow 70-80 percent full, and pipe velocities will range from 2-6 feet per second (ft/sec).

FORCE MAINS

The following standards are used in the design of force mains. A minimum cover of 3 feet is required. Velocities will range from 2-6 ft/sec. Plug valves will be installed every 1,000 ft and at major crossings. Tracer wire will be provided. Force mains will be constructed of PVC, AWWA C900/C905. And a redundant 18-inch force main will be constructed between Woodbridge and Chadwick pump stations.

SERVICE STATIONS AT PROJECT SITE

The project vicinity is currently served by gravity mains on the west, and by force mains on the north, east, and south. The mains range in size from 6 inches to 80 inches. Additionally, the area is served by one lift station located in the southeast corner of the project site.

Wastewater Treatment

Wastewater from the City is currently treated at the WQCF. The City owns and operates the WQCF. The City's *Wastewater Quality Control Facility Master Plan Update* (2006), *Manteca Municipal Services Review* (2008), *Wastewater Collection System Master Plan Update* (2012), and *Industrial Sewer System Service Charge Analysis* (2013-2015) are the primary documents that outline the City's long term strategy for meeting future discharge and capacity requirements for a planning horizon that extends to build-out.

WQCF

The City conveys its wastewater to the WQCF for treatment and disposal. The City owns and operates the facility. The Waste Discharge Requirements (WDRs) Order No R5-2009-0095 NPDES NO. CA0081558 allows the WQCF to expand capacity up to 17.5 mgd.

WASTEWATER QUALITY

According to the *Wastewater Quality Control Facility Master Plan Update* (2006), the WQCF is a 6.95 million gallons per day (mgd) rated combined biofilter-activated sludge plant. Secondary effluent is land applied during the spring and summer (flood irrigation for agricultural production) and discharged to the San Joaquin River during the winter (October-March). The *Wastewater Quality Control Facility Master Plan Update* (2006) specifies that effluent from the WQCF typically do not exceed the quantities presented in Table 3.15-1 (Typical Effluent Quality Prior to Phase III Expansion Project).

TABLE 3.15-1: TYPICAL EFFLUENT QUALITY PRIOR TO PHASE III EXPANSION PROJECT

CONSTITUENT	*UNITS*	*30 DAY AVERAGE*
BOD5	mg/L	16
SS	mg/L	0.1
TSS	mg/L	19
Total Coliform Organisms	MPN/100 mL	23"
Oil and Grease	mg/L	2.1
Chlorine Residual	mg/L	--
Ammonia	mg/L	0.20

SOURCE: WASTEWATER QUALITY CONTROL FACILITY MASTER PLAN UPDATE 2006, PG 2-2

The Manteca WQCF operates under Board Order Number R5-2004-0028 (NPDES Permit No. CA0081558). On 19 March 2004, the Regional Board adopted Waste Discharge Requirements (WDR) Order No. R5-2004-0028, NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca, City of Lathrop, and Dutra Farms at the Wastewater Quality Control Facility (WQCF) in San Joaquin County.

TABLE 3.15-2: COMPARISON OF PROBABLE FUTURE WATER QUALITY LIMITATIONS VERSUS EFFLUENT QUALITY FOLLOWING PHASE III EXPANSION PROJECT

CONSTITUENT	*UNITS*	*COMPLIANCE CRITERIA*	*PROBABLE FUTURE LIMIT*	*PROJECTED EFFLUENT MEDIAN CONCENTRATION*
BOD	mg/L	Monthly Average	10 or lower	<10
Total Suspended Solids	mg/L	Monthly Average	10 or lower	<10
Total Coliform	MPN/100 mL	Weekly Average	2.2.	<2.2
Turbidity	NTU	1 Hour Average	2	<2
Settleable Solids	mg/L	Monthly Average	0.1	0.1
Chlorine Residual	mg/L	4-day Average	0.01	0.01
Oil and Grease	mg/L	Monthly Average	10	2.1
Aluminum	mg/L	Monthly Average	71	150
Electrical Conductivity	µmhos/cm	Monthly Average	1000	825
Ammonia [a]	mg/L	Monthly Average	2.1	2.1
Ammonia [b]	mg/L	Monthly Average	2.8	2.1
Arsenic	µg/L	Monthly Average	10	8
Copper	µg/L	Monthly Average	7.9	7
Cyanide	µg/L	Monthly Average	3.7	7
Iron	µg/L	Monthly Average	300	420
Manganese	µg/L	Monthly Average	50	33
MBAS	µg/L	Monthly Average	500	560
Nitrate (as N)	mg/L	Monthly Average	10	5
Nitrite (as N)	mg/L	Monthly Average	1	1
Bis (2-ethylhexyl) phthalate	ug/L	Monthly Average	22	3.48
Bromodichloromethane	ug/L	Monthly Average	5	ND [b]
Dibromochloromethane	ug/L	Monthly Average	1.4	ND [b]
2, 4, 6-Trichlorophenol	ug/L	Monthly Average	34	3.28
[a] June - September [b] October - May				

SOURCE: WASTEWATER QUALITY CONTROL FACILITY MASTER PLAN UPDATE 2006, PG 2-17

Future Demand

The City's *Wastewater Quality Control Facility Master Plan Update* projected wastewater generation factors for various land uses. Based on these calculations it was determined that the City will have flows totaling 19.5 mgd as of the General Plan horizon of 2023 with a buildout capacity of 23.0 mgd.

According to the 2012 *Wastewater Quality Control Facility Master Plan Update*, residential WGFs for future development have been reduced to reflect upcoming water conservation legislation for residential development based on a generation factors study. The study also focuses on reduction of industrial and general commercial WGFs to reflect historical water use data from local businesses.

The overall collection sewer strategy will consist of a combination trunk sewer gravity collection system with pump or lift stations located along the alignment to convey wastewater to an influent pump station located at the City Wastewater Quality Control Facility (WQCF). The North Manteca Collection Strategy (NMCS) and South Manteca Collection Strategy (SMCS) will collect flow from areas where future growth is expected. The Central Manteca Collection Strategy (CMCS) will connect the existing collection system to the NMCS.

The continued use of existing pump stations, and addition of pump and lift stations, allows for a reduction in the depth of the trunk sewers proposed in previous master plans. Additionally, an increase in the ratio of liquid depth to pipe diameter (d/D) design criteria for pipe capacity from 40-60 percent full in previous master plans to 70-80 percent full at peak flow resulted in the downsizing of several links within the proposed trunk sewer strategy.

Planned Infrastructure Upgrades

To account for the additional wastewater flows in the project area after the construction of the proposed project several additions to the existing wastewater infrastructure have been proposed. According to the FEZ Utility Master Plan, five additional force mains, and an additional five gravity mains have been proposed.

REGULATORY SETTING - WASTEWATER

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage

plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

The City's current NPDES Permit, which regulates the wastewater effluent quantity and quality upon discharge, was issued by the Central Valley Regional Water Quality Control Board and is Order R5-2006-0094 and Order 5-01-251.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (SWRCB) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to nine Regional Water Quality Control Boards (RWQCB). The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the City would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

City of Manteca General Plan

Community Design Element Goals

Goal PF-8. Maintain an adequate level of service in the City's sewage collection and disposal system to meet the needs of existing and projected development.

Community Design Element Policies

PF-P-18. Ensure wastewater collection and treatment for all development in the City and the safe disposal of wastes.

PF-P-19. The City will maintain capacity to process combined residential, commercial, and industrial flow.

PF-P-20. The City shall develop new sewage treatment and trunk line capacity as necessary to serve new development.

PF-P-21. City sewer services will not be extended to unincorporated areas, except in extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.

PF-P-22. Development of individual septic systems may be allowed only where the City makes a finding that it cannot feasibly provide public sewer service, and such systems shall only be used until such time as City sewer service becomes available. Such systems shall meet the minimum standards of the San Joaquin County Health Department.

PF-P-23. The City shall establish and maintain a growth management plan to ensure the development of a balanced mix of residential, commercial, industrial, and public land uses.

PF-P-24. Ensure that all new development provides for and funds a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

PF-P-25. The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

PF-I-8. The City shall update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PF-I-9. The City will require all sewage generators within its service area to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

PF-I-10. The City will encourage and permit an industrial pretreatment program for business parks and other industrial uses in accordance with state and federal requirements.

PF-I-11. The City will investigate methods of improving the quality of the effluent from the City plant and will investigate options for reuse of treated wastewater. The recycled wastewater will be used for irrigation of public recreation lands, restoration of wetland areas, and irrigation of landscaped areas.

PF-I-12. The City will promote reduced wastewater system demand through efficient water use by:

- requiring water conserving design and equipment in new construction,
- encouraging retrofitting with water conserving devices,
- designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and
- maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.

Resource Conservation Element Goals

Goal RC-2. Maximize the beneficial uses of water by recycling water for irrigation and other non-potable uses.

Resource Conservation Element Policies

RC-P-1. The City shall continue to implement water conservation standards for all commercial and industrial development, and for all existing and new residential development.

RC-P-2. The City shall explore potential uses of treated wastewater when such opportunities become available.

RC-P-3. The City shall protect the quantity of Manteca's groundwater.

RC-P-4. The City shall require water conservation in both City operations and private development to minimize the need for the development of new water sources.

RC-P-5. Development of private water wells within the city limits shall be allowed only where the City makes a finding that municipal water service is not readily and feasibly available, and such private well systems shall only be allowed to be used until such time as City water service becomes available.

RC-I-1. Continue to implement standards for water conserving landscape practices, including the use of drought tolerant plants, for both public and private projects.

RC-I-2. Continue efforts to increase public participation in water conservation.

RC-I-3. Require large commercial and industrial water users to submit a use and conservation plan as part of the project entitlement review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

RC-I-4. Cooperate with other agencies and jurisdictions to expand water conservation programs, and to develop methods of water reuse.

RC-I-5. Actively pursue the use of treated wastewater in irrigation and industrial applications, including development of appropriate infrastructure.

City of Manteca Municipal Code

The City of Manteca Municipal Code, Title 13 (Public Services) chapter 13.12 (Sewer Connection Charges), chapter 13.14 (Sewer Capacity Charges), and chapter 13.16 (Sewer Service Charges) contain regulations associated with sewer management.

Title 13 (Public Services), chapter 13.38 (Public Facilities Implementation Program Fees), Section 13.38.050 (Establishment of a Sewer Fee) requires developers of property to pay a sewer facility development fee.

Utility Master Plans

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Urban Water Management Plan* (2005), *Water Master Plan* (2005), *Storm Drain Master Plan* (2013) *Wastewater Collection System Master Plan* (2012), *Wastewater Quality Control Facility Master Plan Update* (2006), *Draft Sewer Rate Study* (2008).

THRESHOLDS OF SIGNIFICANCE - WASTEWATER

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

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2. Require or result in the construction of new wastewater treatment and/or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3. Result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: The proposed project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (less than significant)

WASTE DISCHARGE REQUIREMENTS (WDRS) BOARD ORDER NUMBER R5-2004-0028 (NPDES PERMIT NO. CA0081558).

The City of Manteca owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Manteca and the City of Lathrop. On October 8, 2009, the RWQCB adopted Waste Discharge Requirements Order No. R5-2009-0095 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility (WQCF) and allowing expansion of the plant up to 17.5 mgd.

The City of Manteca Wastewater Quality Control Facility (WQCF) is a Publicly-Owned Domestic Wastewater Treatment Works. The Facility is divided into two parallel treatment systems, the north and south treatment systems. Primary treatment, which is identical in both systems, consists of mechanical screening, aerated grit removal, and primary sedimentation. At the north plant, the primary effluent undergoes additional treatment through two biotowers with high-rate plastic media. The secondary treatment systems for both treatment systems are the same, which consists of conventional activated sludge, including nitrification-denitrification, followed by secondary sedimentation.

Grit and screenings are hauled offsite to a landfill for disposal. Sludge removed from primary and secondary sedimentation is thickened by dissolved air floatation, and then pumped to anaerobic digesters. After digestion, the treated sludge is dewatered by centrifuge, and then removed offsite for disposal in a privately-owned solid waste landfill.

Undisinfected secondary effluent is mixed with food processing waste and applied to agricultural fields that grow fodder and feed crops for dairy feed. Dischargers are responsible for maintaining the pipeline from the Facility to the agricultural fields.

Excess secondary effluent undergoes tertiary treatment through coagulation and flocculation, cloth media filtration, and ultraviolet light pathogen deactivation (UV Disinfection). Disinfected tertiary level treated effluent is discharged to the San Joaquin River. The San Joaquin River is a water of the United States, within the Sacramento-San Joaquin Delta. The Discharger also provides disinfected tertiary-level treated effluent for reuse for construction purposes (e.g. dust control).

The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 includes: Discharge Prohibitions, Effluent Limitations and Discharge Specifications, Receiving Water Limitations, Provisions, Compliance Determination, and Monitoring Requirements. This Order was approved on October 8, 2009.

The City of Manteca's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2009-0095 NPDES NO. CA0081558. The wastewater treatment system options covered under this Order include: City of Manteca Wastewater Quality Control Facility (WQCF) including the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. The development of the proposed project under this permitted option would not exceed the wastewater discharge requirements in this Order. The proposed project is anticipated to have a ***less than significant*** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

Impact 3.15-2: The proposed project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (less than significant with mitigation)

The City's *Wastewater Quality Control Facility Master Plan Update* projected wastewater generation factors for various land uses. Based on these calculations it was determined that the City will have flows totaling 19.5 mgd as of the General Plan horizon of 2023 with a buildout capacity of 23.0 mgd. The study includes a reduction of industrial and general commercial wastewater generation factors to reflect historical water use data from local businesses.

The overall collection sewer strategy for the City of Manteca, including the proposed project, consist of a combination trunk sewer gravity collection system with pump or lift stations located along the collection system to convey wastewater to an influent pump station located at the City Wastewater Quality Control Facility (WQCF). The North Manteca Collection Strategy (NMCS) and

South Manteca Collection Strategy (SMCS) both collect flows from areas where future growth is expected. The Central Manteca Collection Strategy (CMCS) connects the existing collection system to the NMCS.

The continued use of existing pump stations, and addition of pump and lift stations, allows for a reduction in the depth of the trunk sewers proposed in previous master plans. Additionally, an increase in the ratio of liquid depth to pipe diameter (d/D) design criteria for pipe capacity from 40-60 percent full in previous master plans to 70-80 percent full at peak flow resulted in the downsizing of several links within the proposed trunk sewer strategy.

The hotel rooms (and water park) are estimated to generate approximately 45 gallons of wastewater per day. For the proposed project, the 500 room hotel would generate about 22,500 gallons of wastewater per day. If the hotel is expanded in later phases by 200 rooms there would be an estimated 9,000 gallons of wastewater per day of additional wastewater generated by the hotel. The total wastewater generation at the 700 room hotel would be 31,500 gallons per day.

The commercial space and conference center are estimated to generate 1,120 gallons per acre per day. For the proposed project, the 37,500 square feet of commercial space and 20,000 square foot conference center would generate 12,197 gallons of wastewater per day. If the conference center was expanded in later phases by 20,000 square feet there would be an estimated 4,242 gallons pounds per day of additional wastewater generated by the conference center. The total wastewater generation at the commercial and conference center would be 16,439 gallons per day.

The ball fields are estimated to generate 3 gallons of wastewater per day per seat. There is not currently a refined site plan illustrating the number of seats for the ball fields; therefore, a conservative estimate of 300 seats per ball field will be made in this EIR. There are an estimated 5-10 ball fields. Under the maximum of 10 ball fields, there would be 3,000 seats. The total wastewater generated by the ball fields would be 9,000 gallons per day. (*Note: this is a very conservative estimate, and is likely an overestimate).*

The total wastewater generated by the proposed project is estimated to be 56,939 gallons per day. The proposed project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WQCF. Occupancy of the proposed project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the WQCF with a subsequent allocation of capacity to the proposed project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.15-1 would reduce this potential impact to a ***less than significant*** level.

MITIGATION MEASURE

Mitigation Measure 3.15-1: *Prior to occupancy of any building that would require wastewater treatment services; the project proponent shall secure adequate wastewater treatment capacity.*

Impact 3.15-3: The proposed project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less-than-significant)

The wastewater collection and conveyance system that will serve the proposed project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 6 to 18 inches, and pump stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for the proposed project will require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The location of the wastewater collection and conveyance infrastructure (onsite and offsite) is depicted in the *Family Entertainment Zone Utilities Master Plan - Sewer Utilities* (Figure 3.15-1). The installation of the wastewater collection and conveyance system infrastructure to serve the proposed project would have a ***less than significant*** impact relative to this topic.

The wastewater treatment plant would not require upgrades or improvements in order to serve the proposed project. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

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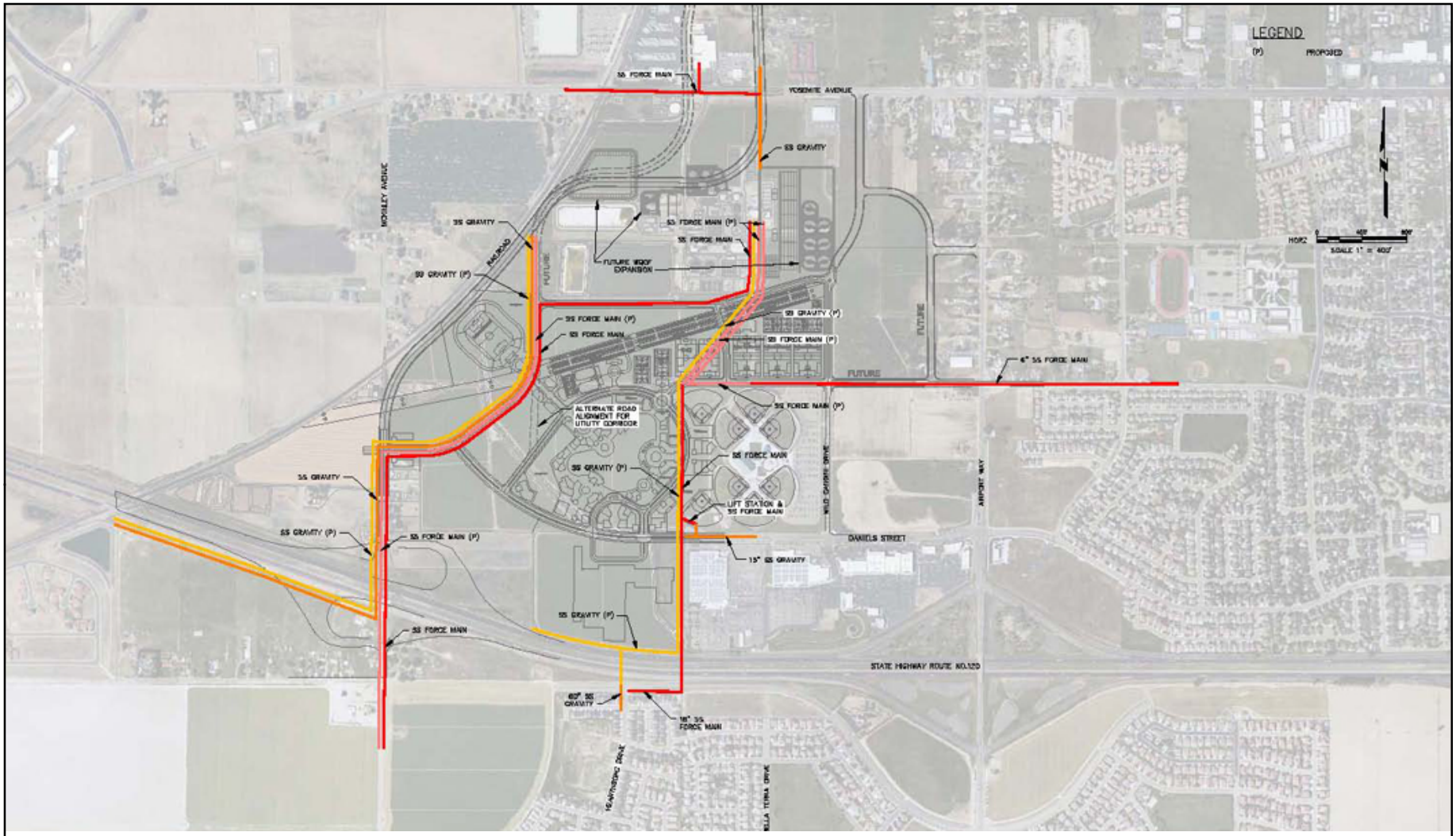

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.15-1 Sewer Utilities Master Plan

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3.15.2 WATER SUPPLIES

EXISTING SETTING

The project site is located within the Manteca city limits. The City of Manteca will be the water purveyor for the proposed project. The City's water system service area includes all areas within the city limits. The proposed project, if approved by the City, is capable of being served by the City from the City's existing and future portfolio of water supplies. The water supply for the proposed project will have the same water supply reliability and water quality as the water supply available to each of the City's other existing and future water customers.

Water Service Area

As described in the City's 2005 UWMP, the City is located in the flat plain at the northern end of California's San Joaquin Valley in south San Joaquin County. The City is located approximately 10 miles south of Stockton and 15 miles north of Modesto. Rich agricultural lands border Manteca on the north, east and south while areas to the west are used primarily for industry. The Southern Pacific Railroad cuts the City diagonally from southeast to northwest. State Route 120 crosses the southern portion of the City and provides a connection between Interstate 5, located about four miles to the west of the City, and State Route 99 along the eastern boundary of the City. The City's location creates a good setting for San Francisco Bay area commuter housing as well as new commercial and industrial locations.

Presently, the City limits encompass an area of about 17 square miles (10,890 acres). Approximately 67 percent (7,281 acres) of the area within the City limits have been developed. The City provides water service to about 16,000 residential and 700 institutional, commercial, and industrial customers. The City, along with much of the San Joaquin Valley, anticipates substantial future growth given the City's proximity to the San Francisco Bay area.

The water supply for the City consists of treated surface water delivered through the South County Water Supply Program (SCWSP) and groundwater extracted within the City. The water utility system is a self-supporting City enterprise. The water utility is responsible for operation, maintenance, and repair of the City's water distribution system, as well as water quality monitoring, meter installation, and meter reading. For reference, background information is presented below for the City service area, including projected population and climate.

Historical and Future Water Demand

The following information is contained in the *Water Supply Assessment for Family Entertainment Zone* (West Yost Associates. 2014). The City's most recently adopted Urban Water Management Plan (UWMP) (the City's 2005 UWMP) was adopted by the City Council on December 19, 2005. The City's 2005 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's Sphere of Influence through 2030. The water demand projections in the City's 2005 UWMP included existing City water demands, future water demands for developments within the existing City limit, and future water demands for future service areas outside the existing City limit.

Total water use throughout the City service area is projected in the City's 2005 UWMP to increase from 18,310 AFY in 2010 to 35,735 AFY in 2030, an increase of 17,425 AFY. The water demand projection included in the City's 2005 UWMP did not include the impacts of the City's water conservation plan, nor did it include compliance with the Water Conservation Act of 2009, known as SBx7-7, since that law was promulgated after adoption of the City's 2005 UWMP.

The City's 2005 UWMP showed a slight water supply deficit by the year 2030. The proposed project's potable water demand is not specifically named in the City's 2005 UWMP; however, the City's water conservation plan, which will likely be expanded to address compliance with SBx7-7, will substantially reduce the City's overall projected potable water demand so that sufficient water supply exists, or will exist, to the proposed project.

The projected water demand for Phase I of the Project is based on the water demands of ten similar facilities operated by Great Wolf Lodge Resort Properties. Existing facilities (including the hotel, waterpark, and conference center) use an average of approximately 459 gallons per day per occupied room. Annual occupancy for the ten facilities ranges from 40 percent to 80 percent, depending on location. Phase I of the Project may also include additional athletic fields, but those athletic fields would either be constructed with artificial turf, or be irrigated with recycled water.

The total projected annual potable water demand for Phase I of the Project could be as much as 226.7 AFY, depending on annual occupancy rates. This value includes a 10.3 percent factor for unaccounted for water to match the value in the 2005 UWMP. The Project intends to use low water use fixtures, re-circulate water through the water park, and incorporate other water efficient features. The Project also intends to use recycled water for outdoor irrigation.

The City's most recent projected water demand through 2030 is shown in Table 3.15-3. This water demand projection included a projected demand reduction of approximately 13 percent by 2015 and a 20 percent demand reduction from 2020 onward, compared to the City's 2005 UWMP. However, these water demand projections were prepared prior to the promulgation of the Water Conservation Act of 2009 and overestimate the rate of future growth. Although the City is anticipating growth in response to several new developments, growth through the planning period is expected to be much less than indicated in Table 3.15-3.

TABLE 3.15-3: PROJECTED WATER SUPPLY AND DEMAND COMPARISON

	2015	2020	2025	2030
Supply Totals	22,286	27,279	32,334	34,590
Demand Totals	21,641	25,579	30,234	35,735
Difference	645	1,700	2,100	(1,145)

Note: Measured in AFY
Source: Trails of Manteca (2010), Table 9

The demand projection information used in the South San Joaquin Irrigation District's (SSJID) 2010 UWMP indicated a substantially lower projected population and water demand than documented in the City's 2005 UWMP. This revised water demand projection is discussed below.

The City is currently in the process of preparing an update to the 2005 UWMP. As part of that update, the City will evaluate its per capita water demand as required by SBx7-7, the Water Conservation Act of 2009, and the anticipated lower future growth rate.

As documented in the SSJID 2010 UWMP, the City of Manteca provided an estimate of 171 gallons per capita per day (gpcd) for the City's future water demand. Although the City has not yet adopted a formal SBx7-7 per capita water use target, this estimated per capita water demand target and the water demand projection based on the revised population projections and the estimated per capita water demand target provided to SSJID in 2011 are more illustrative of the slower growth projections that reflect the current economic conditions and the City's growth ordinance.

The projected population and the total projected water production based on the City's estimated per capita water demand are shown in Table 3.15-4. As shown in Table 3.15-4, the revised projected water demands are substantially less than those projected in the City's 2005 UWMP.

TABLE 3.15-4: PROJECTED AVERAGE DAILY WATER DEMAND (2015-2035)

YEAR	*PROJECTED POPULATION*	*WATER DEMAND* [A]
2015	77,284	14,815
2020	87,471	16,767
2025	97,410	18,673
2030	107,766	20,658
2035	117,010	22,430
[A] Based on SSJID 2010 UWMP (171 gpcd)		

SOURCE: WATER SUPPLY ASSESSMENT WEST YOST ASSOCIATES 2013, PG 5-3

Because the estimated values used by SSJID (2011) are the most recent, and reflect the impacts of SBx7-7, and the lower projected growth rate, the projected water demands shown in Table 3.15-4 will be used throughout this section.

Several steps, including demand reduction, are being taken to help ensure an adequate water supply for the City. The City's 2005 UWMP provides a discussion of how the City is evaluating and implementing the 14 Demand Management Measures (DMM) required by the Urban Water Management Planning Act. These DMMs include programs such as water surveys for single-family and multi-family residences, residential plumbing retrofits, and school education. In addition, the City's proposed water conservation ordinance included in its 2005 UWMP describes four stages of action to be undertaken to achieve a water use reduction of up to 50 percent.

Water Supplies

The City's 2005 UWMP describes the City's available water supplies. The City's water supplies include local groundwater and treated surface water from the SSJID South County Water Supply Project (SCWSP).

SURFACE WATER

The principal component of future water supply for the City is deliveries from the SCWSP. The SCWSP is a joint effort of SSJID and the cities of Escalon, Manteca, Lathrop, and Tracy to supply treated potable water to the participating cities. The City has entered into a Water Supply Development Agreement with SSJID for its share of the SCWSP. SCWSP water allotments are presented in Table 3.13-5. The Phase I and Phase II SCWSP water allotments for the City are 11,500 ac-ft/yr and 18,500 ac-ft/yr, respectively.

TABLE 3.15-5: SOUTH COUNTY WATER SUPPLY PROGRAM WATER ALLOTMENTS FOR PARTICIPATING CITIES

PARTICIPATING CITIES	*ALLOTMENT, AFY*	
	PHASE I	*PHASE II*
Escalon	2,015	2,799
Lathrop	6,787	10,671
Manteca	11,500	18,500
Tracy	11,120	11,120
Total	*31,522*	*43,090*

SOURCE: WYA 2013, PG 6-4

According to the Water Supply Development Agreement, Phase I allotments apply "up to year 2010" and Phase II allotments apply "up to year 2025." The water supply projections discussed below take this allotment into account; however, according to the SSJID 2010 UWMP, Phase II of the SCWSP will not be required to serve demands prior to the year 2030. Therefore, only Phase I of the SCWSP is assumed for this section.

The SCWSP includes a water treatment plant (WTP) located near Woodward Reservoir and 36.5 miles of pipeline ranging in diameter from 20-inches to 54-inches to transport treated water to various turnouts for each of the four cities. The WTP has an initial capacity of 36 million gallons per day (mgd) and a planned ultimate capacity of 60 mgd.

GROUNDWATER

The local groundwater basin and City groundwater use are described in the City's 2005 UWMP. A brief description of the groundwater basin and a discussion of historical and projected groundwater pumping are provided below.

Basin Boundaries, Soils, and Storage Capacity

The City's wells are located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2006), the ESJGB is in a critical condition of overdraft. Groundwater levels have

declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined.

The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Manteca area penetrate through the Victor formation into the Laguna formation.

Past and Projected Future Groundwater Pumping

Groundwater pumping in Manteca increased from 2,277 AFY in 1960 to a maximum of 14,933 AFY in 2004 prior to the SCWSP delivering treated surface water to the City.

According to the City's 2005 UWMP, the sustainable yield of the groundwater basin was estimated in a 1985 study to be approximately 1 acre-foot per acre per year. Although groundwater pumping in some years has exceeded that rate, as part of the SCWSP, the City intends to limit groundwater pumping to that rate or less. At this time, the area of the City's PUSA is 13,790 acres. Therefore, the City intends to limit groundwater pumping to a long-term average of no greater than 13,790 afy. Groundwater pumping is not projected to reach 13,790 ac-ft/yr prior to 2035.

Dry Year Water Supply Availability and Reliability

SURFACE WATER RELIABILITY

SSJID has existing agreements to provide surface water to agricultural interests, federal and state agencies, and cities in the south San Joaquin area. Some of these agreements are long-term.

GROUNDWATER RELIABILITY

Projected total available water supplies during hydrologic normal years, single-year dry periods, and multiple-year dry periods are summarized in Table 3.15-6. As presented in Table 3.15-6, the surface water supply may decrease under single-year and multiple-year dry period conditions. This shortfall would be made up through increased groundwater pumping and city-wide conservation measures. Groundwater extractions will be maintained within the safe yield of the groundwater basin. As documented in the City's 2005 UWMP, the maximum groundwater pumping is based on the estimated safe aquifer yield of 1 afy/acre, and a Primary Urban Service Area (PUSA) area of 13,790 acres. Therefore, the City is targeting a groundwater pumping regime that will not exceed 13,790 afy on a long-term average. As indicated in Table 3.15-6, groundwater pumping is not expected to exceed 13,790 afy under any hydrologic condition through the planning period.

TABLE 3.15-6: SUMMARY OF PROJECTED WATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF MANTECA

YEAR	AVAILABLE WATER SUPPLY								
	NORMAL YEAR, AFY			SINGLE-DRY YEAR DROUGHT, AFY			MULTI-DRY YEAR DROUGHT, AFY		
	GROUND WATER	SURFACE WATER[A]	TOTAL	GROUND WATER	SURFACE WATER[A]	TOTAL	GROUND WATER	SURFACE WATER[A]	TOTAL
2015	13,790	9,155	22,945	13,790	9,054	22,844	13,790	7,837	21,627
2020	13,790	9,637	23,427	13,790	9,444	23,234	13,790	8,172	21,962
2025	13,790	11,391	25,181	13,790	11,391	25,181	13,790	9,990	23,780
2030	13,790	11,500	25,290	13,790	11,500	25,290	13,790	10,523	24,313
2035	13,790	11,500	25,290	13,790	11,500	25,290	13,790	10,523	24,313

NOTE : (A)SCWSP DELIVERIES TO CITY OF MANTECA.

SOURCE: WYA 2014, PG. 6-8

SURFACE WATER ENTITLEMENTS

Both the SSJID and the Oakdale Irrigation District (OID) were formed in 1909 following the acquisition of the old Tulloch Ditch Company water rights. SSJID receives a major portion of its water supply from the Stanislaus River, pursuant to a number of pre-1914 water rights, beginning with 1853 diversion rights. Based on these pre-1914 water rights, SSJID and OID are entitled to a combined 1,816.6 cubic feet per second (cfs) of direct surface water diversions from the Stanislaus River annually.

These pre-1914 water rights are equally shared with OID and are adjudicated (SSJID, 1999). A 1988 agreement between SSJID, OID, and the United States Bureau of Reclamation (USBR) recognized and protected the OID and SSJID senior water rights that would be affected by the New Melones Reservoir. The agreement entitles SSJID and OID to 600,000 ac-ft/yr in years when inflow to New Melones Reservoir is equal to or exceeds 600,000 ac-ft. In years when inflow to New Melones Reservoir is less than 600,000 ac-ft, the entitlement is reduced based on a predetermined formula. During periods of normal flow, SSJID's entitlement is 300,000 ac-ft/yr.

RELIABILITY OF SCWSP DELIVERIES

Surface water for agricultural irrigation dominates SSJID deliveries. A summary of projected SCWSP deliveries to the City as documented in the SSJID 2010 UWMP is presented in Table 3.15-7.

TABLE 3.15-7: PROJECTED ANNUAL SCWSP DELIVERIES FOR NORMAL HYDROLOGIC YEAR[(A)]

YEAR	SCWSP DELIVERIES, AFY
2015	9,155
2020	9,637
2025	11,391
2030[(B)]	11,500
2035[(B)]	11,500

Note: (A) From SSJID 2010 UWMP, and assumes SCWSP Phase II would not be required during planning period. (B) The SSJID 2010 UWMP notes that up to an additional 1,963 afy could become available to the City if new agreements are signed.

SOURCE WYA 2014, PG. 6-6

According to the 2010 SSJID UWMP, possible reductions in surface water supply for the City from the SCWSP could be required in Single Dry and Multiple Dry Years. The projected surface water deliveries to the City are presented in Table 3.15-8.

TABLE 3.15-8: SCWSP SURFACE WATER DELIVERIES TO THE CITY OF MANTECA DURING HYDROLOGIC SINGLE- AND MULTIPLE-DRY YEARS [A]

DELIVERY TYPE	SCWSP DELIVERIES TO MANTECA BY YEAR, AC-FT/YR				
	2015	2020	2025	2030	2035
NORMAL YEAR	9,155	9,637	11,391	11,500	11,500
SINGLE-YEAR DRY PERIOD [B]	9,054	9,444	11,391	11,500	11,500
MULTIPLE-YEAR DRY PERIOD [C]	7,837	8,172	9,990	10,523	10,523

NOTE: (A) BASED ON PERCENT OF URBAN DEMAND MET DATA REPORTED IN SSJID 2010 UWMP TABLES 6.3, 6.4, AND 6.5. (B) SSJID 2010 UWMP TABLE 6.4 INDICATES 98.9 PERCENT DELIVERY IN 2015, 98.0 PERCENT IN 2020, AND 100 PERCENT IN 2025 AND 2030. ASSUMED 100 PERCENT IN 2035. (C) SSJID 2010 UWMP TABLE 6.5 INDICATES 85.6 PERCENT DELIVERY IN 2015, 84.8 PERCENT IN 2020, 87.7 PERCENT IN 2025, AND 91.5 PERCENT IN 2030. ASSUMED 91.5 PERCENT IN 2035.
SOURCE: WYA 2014, PG. 6-7

Under single-year and multiple-year dry period scenarios, deliveries to the City by SSJID could be reduced. The City could compensate for this reduction in deliveries through increased groundwater pumping, implementation of water conservation measures, and the expanded use of recycled water.

It is important to note that in this current drought, SSJID is delivering 100 percent of the City's requested surface water allocation.

Planned Infrastructure Updates

To account for additional demand of potable and recycled water several additions to the existing infrastructure have been proposed. According to the FEZ Utility Master Plan, these additions include three water lines and two recycled water lines.

REGULATORY SETTING – WATER SUPPLIES

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1947 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and in implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

Senate Bill (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment (WSA) required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a WSA if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. The proposed project includes more than 650,000 square feet of floor area as part of a proposed industrial uses, and therefore, qualifies as a "Project" under Section 10912 (a) of the Water Code. Thus, the City has prepared a Water Supply Assessment (WSA) as required by these criteria under SB 610. The WSA is included in appendix of this EIR.

City of Manteca General Plan

Land Use Element Goals

Goal LU-4. Provide for land uses that expand employment, education, recreation and cultural opportunities for residents and enhance Manteca as the commercial and service center for southern San Joaquin County.

Land Use Element Policies

LU-P-30: The City shall promote, cooperate in, and assist in the maintenance and expansion of Manteca's industrial sector employment development within the City of Manteca and in the south San Joaquin County area that will help reduce the home-to-work commute distance for Manteca residents.

LU-P-31: New employment centers that may include office, business professional, research and development, and light industrial or industrial development and shall be located in areas served by full City services or served by suitable facilities approved by the City. Employment centers should be located along major arterials with easy freeway access and with access from public transit, and accessible to bicyclists and pedestrians.

LU-P-32: The City shall continue to support full development of its existing industrial park.

LU-P-33: The City shall promote the development of "clean" industries that do not create problems or pose health risks associated with water and air pollution or potential leaks or spills. However, the City will designate appropriate locations that accommodate light industrial and heavy industrial uses.

LU-P-34: Redevelopment incentives shall be used judiciously to promote industrial employment development in approved Project Areas and for projects benefiting approved Project Areas.

LU-P-35: The City shall monitor employment development to maintain the balance of residential, commercial, and industrial development.

LU-P-36: The City shall promote and plan for at least one Primary Employment Center to accommodate a variety of employment opportunities compatible with the employment skills of the Manteca resident labor force.

Public Facilities and Services Element Goals

PF-6. Public facilities and services agencies will cooperate on a regional basis.

PF-7. Maintain an adequate level of service in the City's water system to meet the needs of existing and projected development.

PF-8. Maintain an adequate level of service in the City's sewage collection and disposal system to meet the needs of existing and projected development.

PF-9. Maintain 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.

Public Facilities and Services Element Policies

PF-P-1. Facilitate development in the in-fill areas by extending infrastructure.

PF-P-2. Encourage comprehensive development rather than incremental, single project development.

PF-P-3. Make use of the public right-of-way as a tool for facilitating quality design and development.

PF-I-1. The City shall periodically review its fee schedules for water and sewer connections and for city facilities and major equipment and revise them as necessary.

PF-P-4. Secure sufficient sources of water to meet the needs of the existing community and planned residential and commercial growth.

PF-P-5. City will continue to rely principally on groundwater resources for its municipal water in the near term, will participate in the regional improvements to deliver surface water to augment the City's groundwater supply.

PF-P-6. The City shall develop new water sources as necessary to serve new development.

PF-P-7. The City shall develop new water storage facilities and major distribution lines as necessary to serve new development.

PF-P-8. The City will provide water for future development to maintain a balance of jobs and housing.

PF-P-9. City water services shall not be extended to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.

PF-P-10. Development of private water wells within the City limits shall be allowed only where the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.

PF-P-11. The City will develop and implement water conservation measures as necessary elements of the water system.

PF-P-12. The City shall continue to assess a water development fee on all new commercial, industrial, and residential development sufficient to fund system wide capacity improvements. The water development fee schedule shall be periodically reviewed and revised as necessary.

PF-P-13. Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.

PF-P-14. The City shall continuously monitor water flows through the City's water system to identify areas of potential water loss and cases of under billing for water service and shall make improvements in the systems as necessary.

PF-P-15. The City shall monitor water quality regularly and take necessary measures to prevent contamination.

PF-P-16. The City of Manteca shall include a groundwater analysis as a technical analysis of water system capacity in the update of the Public Facilities Implementation Plan (PFIP), and shall prepare an environmental analysis in the PFIP that addresses the quality and availability of groundwater.

PF-P-17. The City of Manteca shall consider incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

PF-P-18. Ensure wastewater collection and treatment for all development in the City and the safe disposal of wastes.

PF-P-19. The City will maintain capacity to process combined residential, commercial, and industrial flow.

PF-P-20. The City shall develop new sewage treatment and trunk line capacity as necessary to serve new development.

PF-P-21. City sewer services will not be extended to unincorporated areas, except in extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.

PF-P-22. Development of individual septic systems may be allowed only where the City makes a finding that it cannot feasibly provide public sewer service, and such systems shall only be used until such time as City sewer service becomes available. Such systems shall meet the minimum standards of the San Joaquin County Health Department.

PF-P-23. The City shall establish and maintain a growth management plan to ensure the development of a balanced mix of residential, commercial, industrial, and public land uses.

PF-P-24. Ensure that all new development provides for and funds a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

PF-P-25. The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

PF-P-26. The City shall continue to complete gaps in the drainage system in areas of existing development.

PF-P-27. The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of storm water runoff resulting from each development.

PF-P-28. Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within neighborhoods. The width and length of the corridors would be determined by the storm water management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on the open space corridor.

Public Facilities and Services Element Implementation Measures

PF-I-2. The City shall update the Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PF-I-3. The City shall require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

PF-I-4. The City shall retain a water conservation ordinance requiring the installation of low-flush toilets, low-flow showerheads, and similar features in all new development.

PF-I-5. The City shall institute a remote monitoring program for the City's water system and replace faulty meters in the system as necessary. The City will continue the practice of identifying and replacing faulty meters at service connections on an ongoing basis.

PF-I-6. The City shall regularly monitor water quality in City wells and take remedial action as necessary.

PF-I-7. The City will encourage the use of recycled water for landscape irrigation where feasible, within the parameters of State and County Health Codes and standards.

PF-I-8. The City shall update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PF-I-9. The City will require all sewage generators within its service area to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

PF-I-10. The City will encourage and permit an industrial pretreatment program for business parks and other industrial uses in accordance with state and federal requirements.

PF-I-11. The City will investigate methods of improving the quality of the effluent from the City plant and will investigate options for reuse of treated wastewater. The recycled wastewater will be used for irrigation of public recreation lands, restoration of wetland areas, and irrigation of landscaped areas.

PF-I-12. The City will promote reduced wastewater system demand through efficient water use by:

- requiring water conserving design and equipment in new construction,
- encouraging retrofitting with water conserving devices,
- designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and
- maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.

PF-I-13. The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

Safety Element Goals

S-5. Participate in a Regional Flood Management Plan.

Safety Element Polies

S-P-7. Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.

S-P-8. Cooperate with other agencies in the pursuit of a regional approach to flood issues.

S-P-9. Combine flood control, recreation, water quality, and open space functions where feasible.

S-P-10. Ensure that any existing structures subject to the 200-year flood provide adequate protection from flood hazards.

S-P-11. Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

S-P-12. New residential development, including mobile homes, shall be constructed so that the lowest floor is at least one foot above the 200-year flood level.

S-P-13. Non-residential development shall be anchored and flood-proofed in accord with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 200-year flood or, alternatively, elevated to at least one foot above the 200-year flood level.

S-P-14. When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.

S-P-15. Ensure the city is in compliance with the Central Valley Flood Protect Plan.

Safety Element Implementation Measures

S-I-4. The City shall continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that local regulations are in full compliance with standards adopted by the Federal Emergency Management Agency (FEMA). The City shall adopt and implement local flood management development standards.

S-I-5. Provide flood warning and forecasting information to City residents.

S-I-6. Discourage large continuous paved areas unless provided with engineered drainage facilities.

S-I-7. Where feasible, require the use of pervious paving materials, such as brick or stepping stones with sand joints.

S-I-8. New development shall be required to maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.

S-I-9. Participate in the development of a collaborative local flood plan for San Joaquin County.

Resource Conservation Element Goals

RC-1. Minimize the consumption of water to reasonable levels consistent with a high level of amenities and quality of life for City residents and visitors.

RC-2. Maximize the beneficial uses of water by recycling water for irrigation and other non-potable uses.

RC-6. Preserve and maintain Manteca's soils to avoid pollution of surface waters, decreased air quality, and loss of soil.

RC-7. To protect water quality in the San Joaquin River and in the area's groundwater basin.

Resource Conservation Element Policies

RC-P-1. The City shall continue to implement water conservation standards for all commercial and industrial development, and for all existing and new residential development.

RC-P-2. The City shall explore potential uses of treated wastewater when such opportunities become available.

RC-P-3. The City shall protect the quantity of Manteca's groundwater.

RC-P-4. The City shall require water conservation in both City operations and private development to minimize the need for the development of new water sources.

RC-P-5. Development of private water wells within the city limits shall be allowed only where the City makes a finding that municipal water service is not readily and feasibly available, and such private well systems shall only be allowed to be used until such time as City water service becomes available.

RC-P-10. Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

RC-P-11. Minimize sedimentation and loss of topsoil from soil erosion.

RC-P-12. Minimize pollution of waterways and other surface water bodies from urban runoff.

RC-P-13. Protect the quality of Manteca's groundwater.

RC-P-14. Encourage participation by the County and surrounding communities in a basin-wide groundwater management study.

RC-P-15. Once sewer service has been extended to incorporated areas, new septic tanks shall not be permitted.

Resource Conservation Element Implementation Measures

RC-I-1. Continue to implement standards for water conserving landscape practices, including the use of drought tolerant plants, for both public and private projects.

RC-I-2. Continue efforts to increase public participation in water conservation.

RC-I-3. Require large commercial and industrial water users to submit a use and conservation plan as part of the project entitlement review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

RC-I-4. Cooperate with other agencies and jurisdictions to expand water conservation programs, and to develop methods of water reuse.

RC-I-5. Actively pursue the use of treated wastewater in irrigation and industrial applications, including development of appropriate infrastructure.

RC-I-16. All new development shall comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soil types.

RC-I-17. All new development shall comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control.

RC-I-18. Require site-specific land management and development practices for proposed development projects, including appropriate mitigation measures for avoiding or reducing erosion.

RC-I-19. The City shall work with the County and surrounding communities to develop an action plan and/or to create an agency to manage and protect local and regional groundwater resources.

RC-I-20. The City shall not approve new industrial or commercial development that has a significant potential for adversely affecting water quality in the San Joaquin River or in the area's groundwater basin.

RC-I-21. The City shall regularly monitor water quality in City wells for evidence of toxics, saltwater intrusion, and other contaminants.

RC-I-22. Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-I-23. Utilize cost-effective urban runoff controls, including Best Management Practices (BMPs), to limit urban pollutants from entering the water courses.

RC-I-24. Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in Manteca.

Utility Master Plans

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Urban Water Management Plan (2005), Water Master Plan (2005), Storm Drain Master Plan (2013) Wastewater Collection System Master Plan (2012), Wastewater Quality Control Facility Master Plan Update (2006), and Draft Sewer Rate Study (2008).

THRESHOLDS OF SIGNIFICANCE- WATER SUPPLY

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
2. Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-4: The proposed project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The provision of public services and the construction of onsite and offsite infrastructure improvements will be required to accommodate the development of the proposed project. The utility plans were developed to provide services and infrastructure that meet City standards, to integrate with existing and planned facilities and connections, and to ensure that the utility needs do not diminish services to existing residents or businesses within the City.

The proposed project would require extension of offsite water infrastructure to the Plan Area for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite potable water infrastructure would not have the potential to induce growth as the proposed project is planned for non-residential uses and such uses were anticipated in the General Plan. The proposed offsite potable water utility infrastructure will be sized consistent with the City approved standards.

The proposed project would require the construction of new onsite water infrastructure for potable water and irrigation water. All onsite water utility improvements will be within existing agricultural lands, the impacts of which are discussed in Section 3.2 Agricultural Resources. Construction of the onsite potable water infrastructure would not have the potential to induce growth as the proposed project is planned for non-residential uses and such uses were anticipated in the General Plan. The proposed offsite potable water utility infrastructure will be sized consistent with the City approved standards.

The proposed project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for potable or irrigation water.

The proposed project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Water utility improvements would not induce substantial growth. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Impact 3.15-5: The proposed project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources (less than significant)

Project Water Demand

The City has adequate water supplies to support existing demand in the City in addition to the proposed project under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Manteca is 22,101 AFY. The city has a total supply of 28,695 AFY, leaving 6,594 AFY available. The proposed project's demand would be 2,958 AFY. Although not quantified in the WSA, it should be noted that the existing water demand on the project site for reclaimed water would either be eliminated or reduced depending on the surface of the ball fields (i.e. natural grass surface would be irrigated with reclaimed water or artificial turf would not be irrigated). Potable water demands on the areas outside of Phase I would be very limited. Based on the information presented above, the proposed project would not result in the need for new or expanded entitlements. The projected water demand for the proposed project is shown in Table 3.15-9.

As indicated, the total projected annual water demand for Phase I could be as high as 226.7 AFY. This value includes ten percent unaccounted for water.

TABLE 3.15-9: PROJECTED WATER DEMAND FOR FAMILY ENTERTAINMENT ZONE (PHASE 1)

LAND USE TYPE	*WATER DUTY FACTOR*	*UNITS*	*ANNUAL WATER DEMAND (40% OCCUPANCY), AFY*	*ANNUAL WATER DEMAND(80% OCCUPANCY), AFY*
Hotel, water parks, and conference/ballroom	458.6	gpd/ occupied room	102.7	205.5
Unaccounted-for Water [(a)]	---	---	10.8	21.2
Total			113.3	226.7
(a) Based on 10.3% of total water production (City of Manteca 2005 UWMP Table 7)				

SOURCE: WYA 2014. PG. 5-1

The hotel (with water park/conference room/ball room) is estimated to demand approximately 458.6 gallons of wastewater per day per room. For the proposed project, the 500 room hotel would generate about 229,300 gallons of water per day at 100% occupancy (256.9 AFY). If the hotel is expanded in later phases by 200 rooms there would be an estimated 91,780 gallons of water per day at 100% occupancy (102.8 AFY) of additional water demand from the hotel. The total water demand at a 700 room hotel with 100% occupancy would be 321,080 gallons of water per day (359.7 AFY). It should be noted that 100% occupancy is not achievable for a hotel facility. Under an 80% occupancy scenario, the 700 room hotel (buildout) would demand 256,816 gallons per day (287.7 AFY), and the 500 room hotel (phase 1) would demand 183,440 gallons per day (205.5 AFY). Under a 40% occupancy scenario, the 700 room hotel (buildout) would demand 128,408 gallons per day (143 AFY), and the 500 room hotel (phase 1) would demand 91,780 gallons per day (102.7 AFY).

The commercial space is estimated to demand 2,200 gallons per acre per day. For the proposed project, the 37,500 square feet of commercial space would demand 15,625 gallons of water per day (17.5 AFY).

The ball fields are not expected to require potable water for irrigation, as they will either be irrigated by recycled water, or will use an artificial turf that will not require irrigation. Further, the potential exists for the irrigation of private open space areas and other landscaping with the use of recycled wastewater. There will, however, still be some water use associated with the ball fields (i.e. public restrooms, drinking water, etc.).

The ball fields are estimated to demand 3 gallons of water per day per seat. There is not currently a refined site plan illustrating the number of seats for the ball fields; therefore, a conservative estimate of 300 seats per ball field will be made in this EIR. There are an estimated 5-10 ball fields. Under the maximum of 10 ball fields, there would be 3,000 seats. The total water demand by the ball fields would be 9,000 gallons per day (10.1 AFY). (*Note: this is a very conservative estimate, and is likely an overestimate).*

The total water demand by the proposed project (buildout) is estimated to be between 153,033 gallons per day (170.6 AFY) and 281,441 gallons per day (315.3 AFY). Only Phase 1 of the proposed project (500 room hotel/water park/conference center) is proposed to be constructed at this time. The Water Supply Assessment completed for the proposed project demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2035 under all hydrologic conditions.

A comparison of the City's projected water supplies and demands is shown in Table 3.15-10 for Normal, Single Dry, and Multiple Dry Years. The supply-demand difference in Table 3.15-10 indicates that, in average precipitation years, the City will have sufficient water to meet its customers' needs through 2035. The City is currently in the process of preparing an update to their Water Supply Master Plan as well as their 2010 UWMP. The mix of projected groundwater and surface water supplies available to meet future demand is expected to change, with a higher fraction of surface water use than is documented in the 2005 UWMP.

TABLE 3.15-10 SUMMARY OF WATER DEMAND VERSUS SUPPLY

YEAR	PROJECTED DEMAND AFY	AVAILABLE WATER SUPPLY			DIFFERENCE		
		NORMAL YEAR AFY	SINGLE-DRY YEAR DROUGHT, AFY	MULTI-DRY YEAR DROUGHT, AFY	NORMAL YEAR, AFY	SINGLE-DRY YEAR AFY	MULTI-DRY YEAR AFY
2015	14,815	22,945	22,844	21,627	8,130	8,029	6,812
2020	16,767	23,427	23,234	21,962	6,660	6,467	5,195
2025	18,673	25,181	25,181	23,780	6,508	6,508	5,107
2030	20,658	25,290	25,290	24,313	4,632	4,632	3,655
2035	22,430	25,290	25,290	24,313	2,860	2,860	1,883

SOURCE: WYA 2014, PG. 7-2

Conclusion

The Water Supply Assessment completed for the proposed project demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2035 under all hydrologic conditions.

As identified above, the proposed project would not result in insufficient water supplies available to serve the project from existing entitlements and resources. Therefore, the proposed project would result in a **less than significant** impact to water supplies.

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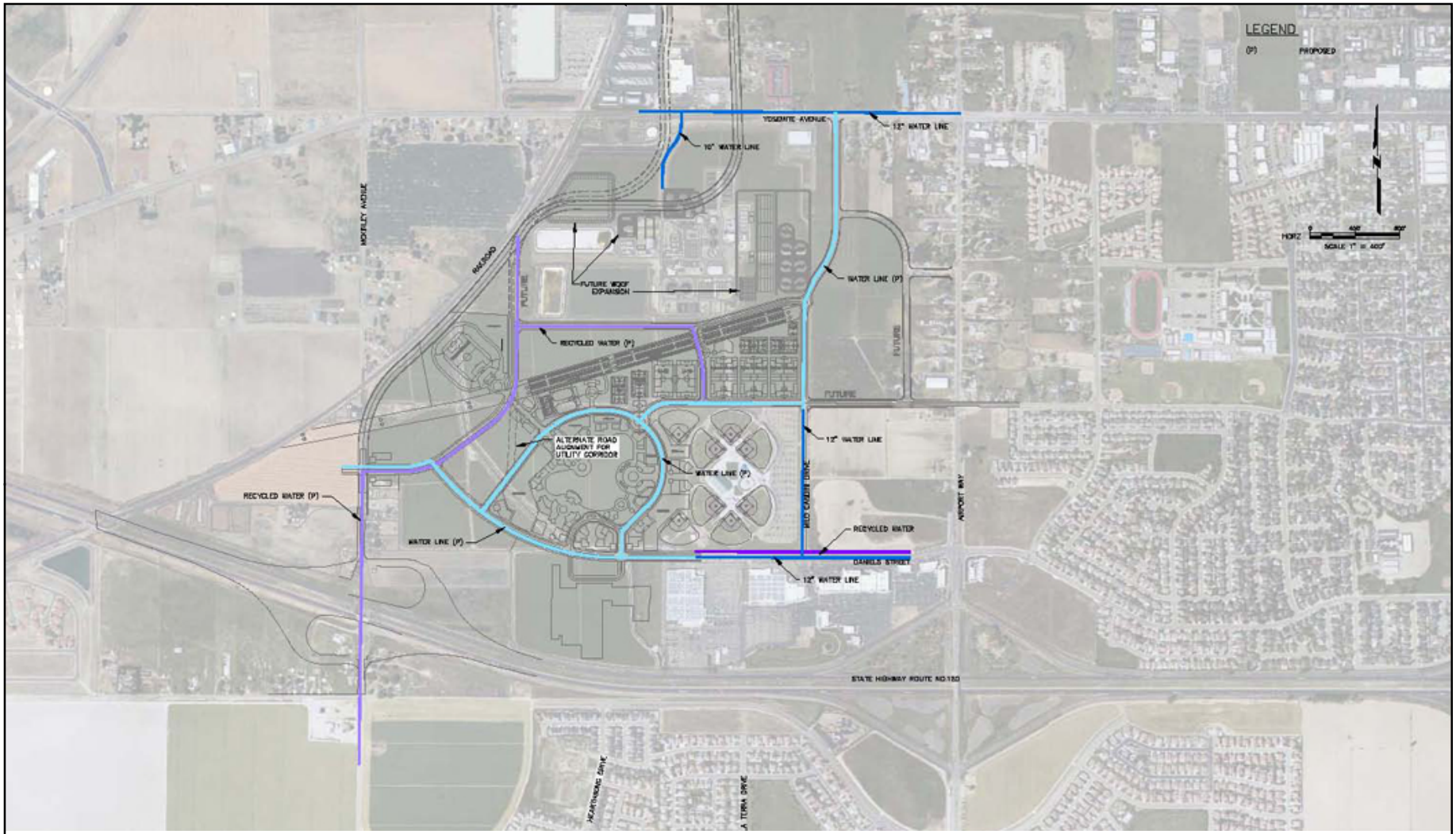

MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.15-2 Water Utilities Master Plan

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3.15.3 STORM WATER

EXISTING SETTING

Existing City Facilities

The following information was provided in the City of Manteca Storm Drain Master Plan (2013). The City of Manteca provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally the City enforces storm drain regulations established by the US EPA and the State of California.

The City maintains a dynamic computer model of its storm drainage system. The model was formulated as an XP-SWMM model originally developed by the US EPA. The current version was advanced by a private sector organization, XP Software, Inc. The model provides analysis over time and offers the ability to maximize the efficiency of detention basin and pump operations along with the ability to monitor and control downstream water levels to minimize flooding problems with a minimum of new capital improvements.

The South San Joaquin Irrigation District (SSJID) owns a complex network of irrigation Laterals and Drains that run throughout the City limits. These facilities deliver irrigation water to various farming operations in the region, and they convey excess irrigation water and field runoff to downstream receiving waters, specifically the San Joaquin River. The City relies on SSJID's facilities to convey its storm water runoff to the San Joaquin River and will continue to do so through buildout of the City's General Plan.

The City and SSJID have a long-standing agreement that authorizes the City to discharge its storm water runoff into SSJID facilities for ultimate disposal to the San Joaquin River. In 1975 the City first entered into a storm drainage agreement with SSJID, and in 2006 the City renewed its drainage agreement with SSJID. Of the many requirements in the 2006 Agreement, the two most significant new requirements are that all storm water discharges into SSJID facilities must be monitored and controlled such that the capacity of SSJID's facilities is not exceeded, and that storm water quality must be controlled such that it complies with all applicable laws.

The City meets the first requirement by requiring all new development to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. In addition, the City uses real-time water level monitoring stations at critical low points in the conveyance system complete with SCADA (Supervisory Control and Data Acquisition) facilities. Regarding the water quality requirement, the City is classified as a Phase II city by the State Water Resources Control Board. As such, the City, and consequently new development, is required to comply with the State Board's storm water NPDES permit for Phase II cities.

Per the City/SSJID Master Drainage Agreement, SSJID prohibits the direct discharge of storm water runoffs into its facilities. Accordingly, the City requires all new developments to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. For surface attenuation facilities,

there are two allowable basin types for non-residential applications: Interim Percolation Basin or Permanent Sole Use Percolation Basin.

INTERIM PERCOLATION BASIN: RESIDENTIAL AND NON-RESIDENTIAL APPLICATIONS

Percolation basins may be used as an interim measure for retention and disposal of storm water runoff in those areas that will not receive storm drainage service from a major storm drain system by the time development occurs. When discharge capability to a major storm drain system becomes available, the basins are to be exchanged for or converted to detention basins with pumped discharge facilities. Interim percolation basins are to be sized to store two, 10- year, 48-hour duration storm runoff volumes over the entire contributing area.

PERMANENT SOLE USE PERCOLATION BASIN: NON-RESIDENTIAL APPLICATIONS

Sole use percolation basins may be allowed as a permanent measure for retention and disposal of storm water runoff for large (minimum 80 acres) non-residential applications as approved by the City. Permanent percolation basins shall be designed to empty the entire runoff volume of a 10-year, 48-hour duration storm within 96 hours. The permanent percolation basin shall be oversized by 50%.

The groundwater separation distance between the bottom of the percolation basin and the seasonally high ground water table shall be 10 feet to reduce the risk of groundwater contamination. The City may allow an exception to this separation requirement for situations where the groundwater level is less than 10 feet but greater than 5 feet provided that the runoff is fully treated upstream of the percolation basin by pretreatment BMPs such as a regional CDS unit or other City-approved equivalent treatment device. For situations where the groundwater separation is less than 5 feet, percolation basins are prohibited.

The percolation basins require a minimum soil infiltration rate of 0.5 inch per hour, not exceeding 3 inch per hour, should not be used as temporary sediment traps during construction, and are not allowed at sites with Hydrologic Soil Type C and D, e.g., clay. As part of the percolation basin approval process, the developer must prepare an operations and maintenance plan for the facility documenting all maintenance and rehabilitation activities and costs for approval by the City. Access to percolation basin must be provided for regular maintenance activities.

Prior to acceptance of the Basin, the property owner must provide an approved fully funded mechanism or entity for funding all maintenance and rehabilitation needs of the basin. The maintenance entity must be permanent and responsible for meeting all storm water quality requirements of the State Water Resources Control Board.

LATERALS FOR STORM WATER CONVEYANCE

As previously described, SSJID owns a complex network of irrigation Laterals and Drains that run throughout the City's limits. The hydraulic connectivity of SSJID's system is as follows: 1) irrigation water is conveyed to farming operations via a vast network of Laterals; 2) the Laterals carry excess irrigation water and field runoff to several Drains; 3) the Drains convey water to a large central

drain called the French Camp Outlet Canal (FCOC); and 4) the FCOC conveys water to the San Joaquin River.

A fundamental goal of previous storm drain master plans was to minimize the use of SSJID's Laterals for conveyance of storm water runoff to SSJID's Drains. Accordingly, previous master plans specified the construction of a separate storm water conveyance network that by-passed the Laterals and transported storm drainage directly to the Drains. Once the City's storm water reached the Drains, the Drains would continue to provide conveyance to the FCOC and to the San Joaquin River. In the 2013 SDMP, however, the City recognizes the opportunity to minimize infrastructure costs for all parties by abandoning the concept of separate conveyance systems and instead expanding the use of SSJID's Laterals. Laterals that are targeted to convey both storm water and irrigation water to Drains are called dual-use facilities.

This concept is viable since SSJID's Laterals are 1) found virtually everywhere in the existing and undeveloped areas of the City, 2) most of these Laterals are already 42-inch diameter pipe, which is a sufficient size for the City's drainage needs, and 3) SSJID already requires new development projects that disturb their Laterals to remove, realign and replace that infrastructure with an equal or larger diameter pipeline. For situations where the existing Lateral is 36-inch diameter, and SSJID does not require a 42-inch or larger pipe to be installed as a replacement, the City will require a minimum 42-inch diameter pipeline to be installed, and the developer will be reimbursed the upsizing cost for the larger diameter pipe via the Public Facilities Implementation Fee (PFIP) program.

Existing Flood Concerns

Several XP-SWMM model scenarios were run to assess the capabilities of the existing facilities to provide adequate level of drainage and flood control protection in the City of Manteca. In general, the 96-hour pumping rate policy and the "no 25 cfs" policy had significant positive impacts on the existing drainage system. Virtually all of the flooding and capacity issues identified in the 2006 SDMP are no longer issues because of these policies. The Project area is served by Drain 7, which has not had flooding issues.

Future Storm Water Drainage Demand and System Improvements

Currently storm water is collected by drain 7 in Zone 34. Storm drain monitoring is conducted for drain 7 at the North East corner of Daniel Street and Junction Drive and at the North East corner of Daniel Drive and Stonum Lane. A City storm drain pump station for the Big League Dreams Park is in a position to serve the project site.

The project site is located in Zone 34 and served by Drain 7. Drain 7 is the main existing dual-use facility in Zone 34. There are no additional dual-use facilities proposed for Drain 7 in Zone 34. The City has assessed the need for infrastructure improvements in the planning area. Specifically, two 36 inch culverts will need to be replaced with a single 10 foot by 8 foot box culvert. Although this upgrade has been assessed it is a Group 2 project and will likely occur some time after 2018.

Planned Infrastructure Updates

To account for an increased need to prevent flooding due to storm water in the planning area several additions to the existing infrastructure have been proposed for the South Drain storm pump station infrastructure. According to the FEZ Utility Master Plan, these additions include four gravity mains, and one force main.

REGULATORY SETTING - STORM WATER

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are

responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the Manteca Planning Area. In the Manteca Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Manteca Planning Area were established by the RWQCB and are listed in its Basin Plan.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A new Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the State Water Resources Control Board on February 5, 2013 became effective July 1, 2013. The Permit has numerous new components and the City is required to implement these components in stages over the five year period of the Permit. The first year requirements must be implemented by July 1, 2014.

Federal Emergency Management Agency (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain

management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Department of Water Resources

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if

"adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025.

The levee system is designed to a 100-year protection standard; however, RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. RD-17 acquired land along the levee system to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

City of Manteca General Plan

Public Facilities Element Goals

Goal PF-9. Maintain 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.

Public Facilities Element Policies

PF-P-26. The City shall continue to complete gaps in the drainage system in areas of existing development.

PF-P-27. The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of storm water runoff resulting from each development.

PF-P-28. Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within neighborhoods. The width and length of the corridors would be determined by the storm water management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on the open space corridor.

Public Facilities Element Implementation Measures

PF-I-13. The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

City of Manteca Municipal Code

TITLE 13 CHAPTER 13.28 STORM WATER MANAGEMENT DISCHARGES

> The purpose of this chapter is to establish minimum storm water management requirements and controls to protect and safeguard the general health, safety and welfare of the public

residing in watersheds within the city of Manteca. This chapter seeks to meet that purpose through the following objectives:

A. Minimize increases in storm water runoff from any development in order to reduce flooding, siltation and stream bank erosion and maintain the integrity of drainage channels;

B. Minimize increases in non-point source pollution caused by storm water runoff from development that would otherwise degrade local water quality;

C. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and

D. Reduce storm water runoff rates and volumes, soil erosion and non-point source pollution wherever possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety. (Ord. 1253 § 1, 2004)

TITLE 13 CHAPTER 13.28 SECTION 13.28.060 DISCHARGES IN VIOLATION OF INDUSTRIAL OR CONSTRUCTION ACTIVITY NPDES STORM WATER DISCHARGE PERMIT.

A. Any person subject to an industrial NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director upon inspection of the facility, during any enforcement proceeding or action or for any other reasonable cause.

B. Any person subject to a construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director prior to or as a condition of a subdivision map, site plan, building permit or development or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause. Prior to issuance of a construction permit a copy of the Notice of Intent (NOI) and the Storm Water Pollution Prevention Plan (SWPPP) shall be submitted to the city. (Ord. 1253 § 1, 2004)

Utility Master Plans

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Urban Water Management Plan (2005), Water Master Plan (2005), Storm Drain Master Plan (2013) Wastewater Collection System Master Plan (2012), Wastewater Quality Control Facility Master Plan Update (2006), and Draft Sewer Rate Study (2008).

THRESHOLDS OF SIGNIFICANCE- STORM WATER

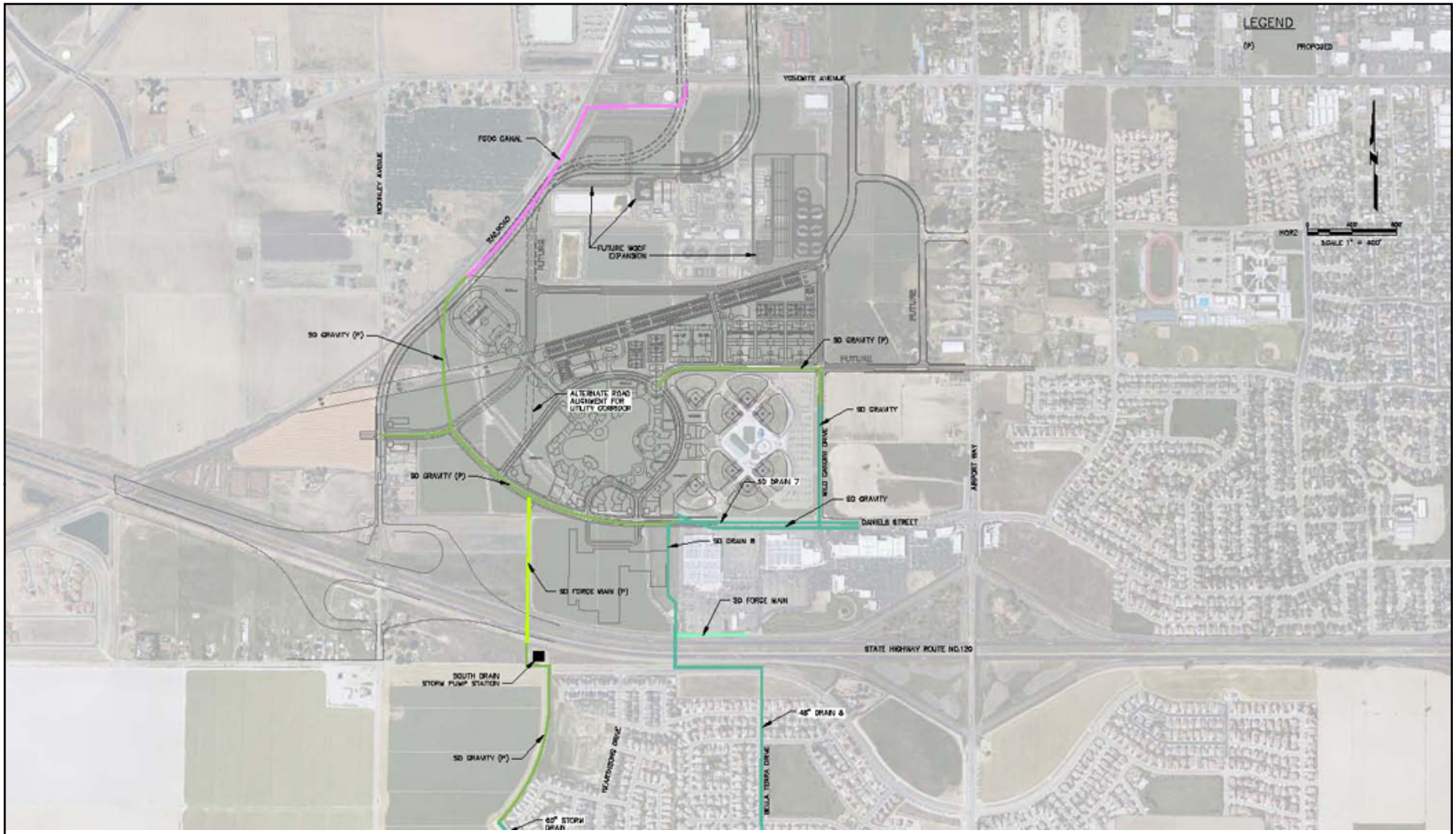
Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

IMPACTS AND MITIGATION MEASURES- STORM WATER

Impact 3.15-6: The proposed project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The proposed project includes storm drainage improvements that are consistent with the City of Manteca Storm Drain Master Plan (2013) in which storm drainage facilities sufficient to deal with potential impacts from development within the FEZ are planned. Final engineering of the storm drainage system will be accomplished through the improvement plan preparation of each phase. Storm drainage infrastructure to serve the proposed project will include undergrounding of the FCOC, an underground piped drainage system, a detention/retention/surge basin, and pumps as needed. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, none of which are anticipated to result in significant environmental effects. Therefore, the proposed project would result in a **less than significant** impact regarding this topic.



MANTECA FAMILY ENTERTAINMENT ZONE PROJECT

Figure 3.15-3 Storm Drain Utilities Master Plan

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3.15.4 SOLID WASTE

EXISTING SETTING

The City of Manteca Solid Waste Division (SWD) provides solid waste hauling service for the City of Manteca and would serve the proposed project. The SWD consists of more than 30 employees, including a SWD Superintendent, yard personnel, office staff, and recycling coordinators. SWD's services include residential and commercial trash pick-up, residential and commercial recycling pick-up, green waste pick-up, and hazardous waste collections.

Commercial size containers ranging from two cubic yards to six cubic yards are available for commercial trash. Larger drop box containers from 10 cubic yards to 40 cubic yards are also available. Driers operate front-loaders on commercial trash pickup routes. SWD also provides commercial recycling in businesses and can arrange pick-up services from once a week to five times per week depending on the needs of the business. Commercial recycling bins are for co-mingled recycling, which allows materials to be mixed in one container and then sorted after the hauler takes the materials to a sorting facility where the materials are separated for recycling. The City of Manteca does not have a sorting facility; however the solid waste transferred to the Forward Landfill is sorted onsite. SWD provides commercial green waste services with green waste bins ranging in size from two cubic yards to four cubic yards. Similar to recycling pick-up service, green waste can be arranged to be picked up once, or up to five times per week.

Solid waste from Manteca is primarily landfilled at the Forward Sanitary Landfill, located northeast of Manteca. Other landfills used include Foothill Sanitary and North County. All three landfills are summarized in Table 3.15-11 below. Table 3.15-12 summarizes the City of Manteca's disposal rate targets, as identified by Cal Recycle.

TABLE 3.15-11 CITY OF MANTECA LANDFILL SUMMARY

LANDFILL	*LOCATION*	*MAXIMUM DAILY THROUGHPUT (TONS/DAY)*	*REMAINING CAPACITY (CUBIC YARDS)*	*ANTICIPATED CLOSURE DATE*
Forward Sanitary	Manteca	8,668	23.7 Million	2020
Foothill Sanitary	Linden	1,500	97.9 Million	2054
North County	Victor	825	15.3 Million	2035

SOURCE: CAL RECYCLE 2010

TABLE 3.15-12 CITY OF MANTECA WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

POPULATION		*EMPLOYMENT*	
Target	Annual	Target	Annual
5.1	5.6	21.1	21.6

SOURCE: CAL RECYCLE 2010

REGULATORY SETTING – SOLID WASTE

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statues of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and

2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

City of Manteca General Plan

Public Facilities and Services Element Goals

PF-12. Maintain efficient, effective and economical solid waste services for the residents, businesses and visitors to Manteca.

Public Facilities and Services Element Policies

PF-P-31. The City will implement and enforce the provisions of its Source Reduction and Recycling Element.

PF-P-32. The City shall support the continued use of the Lovelace Transfer Station on Lovelace Road, between Union Road and Airport Way, for the processing and shipping of solid waste materials.

CITY OF MANTECA MUNICIPAL CODE, CHAPTER 8.12

Chapter 8.12 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 8.12 sets forth solid waste collection, disposal, and diversion requirements for residential, commercial, industrial, and other uses and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

THRESHOLDS OF SIGNIFICANCE- SOLID WASTE

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

1. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-7: The proposed project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste (less than significant)

As previously described, permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2020. The remaining capacity is 23,700,000 cubic yards. Solid waste generated by the proposed project was estimated based on CalRecycle generation rates (discussed below). The addition of the volume of solid waste associated with the proposed project to the landfill would not exceed the landfill's remaining capacity.

The hotel rooms in California generate approximately 2 pounds of solid waste per day. For the proposed project, the 500 room hotel would generate about 1,000 pounds of solid waste per day. If the hotel is expanded in later phases by 200 rooms there would be an estimated 400 pounds per day of additional solid waste generated by the hotel. The total solid waste generation at the 700 room hotel would be 1,400 pounds per day.

The commercial space is estimated to generate 2.5 pounds per day per 1,000 square feet. For the proposed project, the 37,500 square feet of commercial space would generate 93.5 pounds per day.

The conference center is estimated to generate 1 pound per day per 1,000 square feet. For the proposed project, the 20,000 square feet of commercial space would generate 20 pounds per day. If the conference center was expanded in later phases by 20,000 square feet there would be an estimated 20 pounds per day of additional solid waste generated by the conference center. The total solid waste generation at the conference center would be 40 pounds per day.

The water park is estimated to generate 3.12 pounds per day per 100 square feet. For the proposed project, the 75,000 square feet of water park would generate 2,340 pounds per day. If the water park was expanded in later phases by 76,000 square feet there would be an estimated 2,371 pounds per day of additional solid waste generated by the water park. The total solid waste generation at the water park would be 4,711 pounds per day.

The ball fields are estimated to generate 3.12 pounds per day per 1,000 square feet. For the proposed project, the 210,000 square feet of ball fields would generate 655 pounds per day.

The total solid waste generated by the proposed project is estimated to be 6,310 pounds per day, or 3.15 tons per day. The proposed project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling.

As previously described, solid waste generated in the City is disposed at the Forward Landfill. This landfill is projected to close in the year 2020. At that time the City can utilize the Foothill Landfill as a location for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently, the average daily disposal is 620 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards. The addition of the volume of solid waste associated with the proposed project, approximately 3.15 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. This is a **less than significant** impact.

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CEQA requires an EIR to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed Project. Growth Inducement is discussed in Section 3.10, Land Use and Population.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the relevant general plans, municipal services reviews, and/or EIRs from the regional jurisdictions: Manteca, Lathrop, and San Joaquin County.

as a basis for cumulative growth in the area. Table 4.0-1 shows growth projections identified in these General Plan EIRs.

TABLE 4.0-1: GROWTH PROJECTIONS

JURISDICTION	*POPULATION*	*HOUSING UNITS*	*SOURCE*
Lathrop[1]	65,434[1] (year 2038)	21,370[1] (year 2038)	MSR pg 3-4
Manteca	86,370 to 132,721 (year 2025)	31,733 (year 2023)	GP EIR page 13-6 and 2-14
San Joaquin County	821,851 (year 2020)	288,400 (year 2020)	GP 2004 pg 1.B-3 and 1.C-2

NOTE: [1]THE LATHROP GENERAL PLAN EIR ONLY PRESENTS POPULATION AND HOUSING PROJECTIONS THROUGH THE YEAR 2010, THEREFORE, THE LATHROP MSR WAS USED TO IDENTIFY POTENTIAL FUTURE POPULATIONS AND HOUSING UNITS IN THE CITY.

In addition to those cumulative growth projections listed above, this EIR uses a list of past, present, and probable future projects within the City of Manteca to determine cumulative growth in the area. The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that are planned to occur within the City of Manteca, the City of Lathrop, and unincorporated San Joaquin County. In general, these areas have large areas of undeveloped land previously used for agriculture but that have been rezoned for future residential, commercial and industrial uses. There are several large development projects planned in the regional vicinity. For the purposes of this discussion, the projects that may have a cumulative effect on the resources in the Project site will often be referred to as the "related projects." The related projects are described below. The approved and/or pending projects include:

1. Machado Estates – 575 dwelling units located south of Woodward Avenue and west of Airport Way.

2. Terra Ranch – 409 dwelling units located directly west of Machado Estates.

3. Oakwood shores – a partially developed residential project (475 dwelling units at build-out) located south of the Project site on Oakwood Lane that has two access locations on Woodward Avenue west of McKinley Avenue.

4. Manteca Trails – 1,651 dwelling units located south of Woodward Avenue and west of McKinley Avenue.

5. Lathrop Gateway Business Park – situated north of SR 120 between Yosemite Avenue and McKinley Avenue, which could yield a maximum of 5.43 million square feet of non-residential according to that project's EIR.

6. Crossroads Commerce Center and Industrial Park: This project is located on a site south of Louise Avenue between Howland and Harlan Roads in East Lathrop and comprises 450 acres of Industrial and 48 acres of Highway Commercial-designated land. The industrial area includes an existing 750,000-square-foot Del Monte distribution warehouse, a 430,770-square-foot Daimler Chrysler facility, three 250,000-square foot warehouses, a 435,000-square-foot Longs Drugs warehouse, a plastic extrusion plant for Fuel Total Systems, a sausage-making company (Swiss American), a cross dock and warehouse for Home Depot, and a trucking terminal for Swift Trucking. The Freeway Commercial area contains the existing 138,000-square-foot Lathrop Business Park, four fast-food restaurants, a sit-down restaurant, and a 31,886-square-foot hotel.

7. Historic Lathrop Infill and Other Developments East of I-5: The portion of the City east of Interstate (I-5) is anticipated to expand and add density in the future. Currently, this area consists of approximately 2,886 low density and 78 medium density units, commercial and industrial areas, and a few public parks. Future residential growth of this area is expected on undeveloped/underutilized and redeveloped parcels consolidated from large lots where low density residential units would be demolished. All new residential projects are projected to consist of medium density residential units (i.e., small lot sizes). By General Plan buildout, the area will consist of 2,746 low-density and 894 medium-density residential units increasing the total existing residential unit count by 1,112 total units.

8. Central Lathrop Specific Plan: The Central Lathrop Specific Plan proposes development of 1,520 acres located west of Interstate 5. Project completion was anticipated by 2025. The Specific Plan proposes approximately 6,790 low-, medium- and high-density residential units and 11.5 acres of office/commercial land uses. The project also includes two schools and 200 acres of recreational land use and open space.

9. River Islands: The 4,995-acre River Islands development would be located west of the San Joaquin River on Stewart Tract and Paradise Cut. The development proposes a mixture of low-, medium- and high-density residential units. In total, River Islands would consist of 11,000 homes. The development also proposes a 260-acre employment center, a 47-acre town center, 265 acres of parks and two schools. The completion date for this project is 2030.

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only

impact the local surrounding area because noise travel a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses a combination of the list approach and the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area in addition to the pending and proposed projects in the area.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Project site. See Chapter 2, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS

The cumulative setting for aesthetics is the City of Manteca and surrounding areas of Lathrop and San Joaquin County.

Impact 4.1: project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant and Less than Cumulatively Considerable)

There are no designated State Scenic Highways in the vicinity of the Project site. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route 580 from Interstate 5 to State Route 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Manteca and the Project site are not visible from this roadway segment. Additionally, there are no "eligible" highway segments in the vicinity of the Project site that may be included in the State Scenic Highway system. Cumulative development in the city would not impact a Designated Scenic Highway. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required.

Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.1- Aesthetics, implementation of the proposed Project would convert the Project site from its existing agricultural character to a developed commercial and recreational complex with various buildings, landscaping, ball fields/recreational amenities, and parking areas. Project implementation would alter the existing visual character of the Project site; however, the guidelines and standards within the proposed Project would ensure consistent development that is in line with the City's vision for the community's identity.

Under cumulative conditions, buildout of the General Plan for Manteca and the surrounding jurisdictions could result in changes to the visual character and quality of the City of Manteca through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. There are no mitigation measures that could reduce this impact except a ceasing of all future development, which is not a feasible option. As such, this is a **cumulatively considerable contribution** and **a significant and unavoidable** impact.

Impact 4.3: project implementation may result in light and glare impacts (Less than Significant and Less than Cumulatively Considerable)

Implementation of the lighting and design standards in the proposed Project would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the proposed Project and the subsequent design review of future projects within the Project site would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. Future projects within Manteca, Lathrop, and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize

their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required.

AGRICULTURE AND FOREST RESOURCES

The cumulative setting for agriculture and forest resources is all of San Joaquin County. According to the Department of Conservation, the County had 754,229 acres of farmland in 2010, the majority of which is identified as prime farmland. Of the total farmland, prime farmland represents 42 percent (385,337 acres), farmland of statewide importance represents nine percent (83,307 acres), and unique farmland represents eight percent (69,481 acres).

Impact 4.4: Cumulative Impact on Agricultural and Forest Resources (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.2, development of the proposed Project would result in a conversion of 172 acres of Prime Farmland and Farmland of Statewide Importance as shown on the map prepared under the Farmland Mapping and Monitoring Program (FMMP), to nonagricultural uses. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact.

The City's agricultural mitigation fee program requires that future development pay the agricultural mitigation fee, currently $2,511.67 per acre, to mitigate the conversion of agricultural land to urban use. The City will use these funds to purchase conservation easements or deed restrictions on agricultural land to ensure that the land remains in agricultural use in perpetuity.

In addition to the City's agricultural mitigation fee program, the SJMSCP requires development to pay fees on a per-acre basis for impacts to agricultural lands that function as habitat for biological resources. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands is perpetuity.

The purchase of conservation easements and/or deed restrictions through the City agricultural mitigation fee program and the SJMSCP allows the landowners to retain ownership of the land and continue agricultural operations, and preserves such lands in perpetuity.

While the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP mitigation program as required by Mitigation Measure 3.2-1, those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

AIR QUALITY

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

Impact 4.5: Cumulative Impact on the Region's Air Quality (Cumulatively Considerable and Significant and Unavoidable)

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

There are limited mitigation inputs available within the California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14) to quantify emission reductions for commercial and recreational projects. As shown in Table 3.3-8, even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for operations. In addition, it was found that even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for construction.

The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the FEZ) are brought forward for approval under Rule 9510.

The substantial reductions in NOx (and associated ROG) and PM_{10} emissions accomplished by the application of the ISR probably represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the proposed Project would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Project site and the greater San Joaquin County region. Development associated with implementation of the local General Plan(s) would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County, including the Project site. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that is provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and state laws.

Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Significant and* Less than Cumulatively Considerable*)

Under cumulative conditions, buildout of the General Plan(s) within San Joaquin County will result in impacts to biological resources in the cumulative area through new and existing development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible and the SJMSCP has been established to provide a mechanism for compensatory mitigation and standardized avoidance and minimization measures as needed.

As described in Section 3.4 Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Project site. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage.

Section 3.4 Biological Resources also indicates that the project site contains delineated wetlands and other waters, consisting of wetlands, and an irrigation canal/ditch. The development of the land uses and undergrounding of the French Camp Outlet Canal within the project site will require fill and/or discharge into 1.79 acres of wetlands and 3.51 acres of irrigation canal/ditch as measured by the OHWM (4.26 acres as measured by top of bank). The preliminary wetland delineation concluded that the fill activities of the wetlands (1.79 acres) fall under the jurisdiction of several agencies, including the USACE, CDFW, and the Regional Water Quality Control Board. The preliminary wetland delineation concluded that the undergrounding of the French Camp Outlet Canal (3.51 acres of irrigation canal/ditch as measured by the OHWM and 4.26 acres as measured by top of bank) is exempted from the USACE jurisdiction under the Irrigation Ditch Exemption pursuant to Federal Regulations (33 CFR 323.4(a)(3)). The South San Joaquin Irrigation District's network of irrigation ditches/canals, including siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to

their irrigation ditches/canals are not subject to the permit requirements under Section 404 of the Clean Water Act or Section 1600 of the California Fish and Game Code (per. comm. Jeff Shields 6/24/14). Ultimately, the preliminary wetland delineation will be submitted to the regulatory agencies for a jurisdictional determination. If the regulatory agencies concur with the preliminary wetland delineation, then the proposed Project would result in impacts of 1.79 acres of wetlands. However, if the regulatory agencies do not concur with the exemption of the French Camp Outlet Canal, then the proposed project would result in impacts to 1.79 acres of wetlands and 3.51 acres of other waters (4.26 acres – under CDFW calculation). Regardless of the final determination by the regulatory agencies on the jurisdiction and impact acreage, the impact caused by the proposed project is potentially significant. Implementation of Mitigation Measure 3.4-3 and 3.4-4 would reduce this cumulative impact to a **less than significant** level. As such, impacts to biological resources would be a ***less than cumulatively considerable contribution***.

CULTURAL RESOURCES

The geography of cultural resources impact can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural resources includes all of the San Joaquin County. There are extensive cultural sites located in the region.

Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural Resources (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in the City of Manteca, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5 Cultural Resources, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. The existing in-use railroad line lies outside the Project site. There is a segment of a post-1915, pre-1952 irrigation canal within the Project area that has been researched and recorded in other locations in the region in 1993 by JRP (P-39-000103). The recorders of the nearby segments concluded that there was no way to find a specific date of construction for any segment of the ditch system since the SSJID does not maintain records with that information. The ditches were not considered eligible resources under the criteria of the National Register of Historic Places, and similarly would in no way be eligible for the California Register. The ditch system is forever recorded through the plotting of its location on the Lathrop 1952, 1968, 1978 and 1996 USGS topographic maps.

Any unknown cultural resources which are discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e. City of Manteca, City of Lathrop, and San Joaquin County), each of which have policies

and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA.

Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would be a **less than cumulatively considerable contribution**.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For this reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Manteca and vicinity.

Impact 4.8: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.6 Geology and Soils, implementation of the proposed Project has limited potential for expansive soils and lateral spreading, and a higher potential for liquefaction due to its high groundwater table. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the City is not within an area known for its seismic activity, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Manteca has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would be a l**ess than cumulatively considerable contribution**.

GREENHOUSE GASES AND CLIMATE CHANGE

The cumulative setting for greenhouse gas emissions and climate change impacts for this analysis is San Joaquin County, which is the boundary for the California Air Resources Board's regional greenhouse gas emissions reduction targets.

Impact 4.9: Cumulative Impact on Climate Change from Increased project-Related Greenhouse Gas Emissions (Less than Significant and Less than Cumulatively Considerable)

Greenhouse gas emissions from a single project will not cause global climate change; however, greenhouse gas emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing greenhouse gas emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80% below the 1990 levels by the year 2050. To achieve these goals the California Air Resources Board has developed regional greenhouse gas emission reduction targets for the automobile and light truck sectors (the largest single source of greenhouse gas emissions) for 2020 and 2035. The regional greenhouse gas emission reduction targets established for San Joaquin County by the California Air Resources Board require a 5 percent decrease in per capita CO^2 emissions in 2020 and 10 percent decrease in 2035 when compared to 2005 levels.

To demonstrate the ability for the region (San Joaquin County) to attain the regional reduction targets, a Sustainable Communities Strategy is currently being prepared by the San Joaquin Council of Governments, serving as the Metropolitan Planning Organization and Regional Transportation Planning Agency in San Joaquin County. The San Joaquin Council of Governments will calculate the levels of greenhouse gas (GHG) emissions using the regions travel demand model and the California Emissions Factor (EMFAC) model for a variety of growth scenarios in an effort to find an acceptable scenario that would reduce greenhouse gas emissions to the regional targets.

In August 2008, the SJVAPCD adopted its Climate Change Action Plan. The Climate Change Action Plan directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist APCD staff, Valley businesses, land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA guidance, some of the goals of the Climate Change Action Plan are to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project-specific GHG effects, and to assist Valley businesses in complying with State law related to GHG emissions. A product of this direction to provide CEQA guidance is the Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts, presented to the APCD Board in December 2009. A central component of the Final Staff Report is the establishment of Best Performance Standards, which are specifications or project design elements that identify effective, feasible GHG emission reduction measures. Emission reductions achieved through Best Performance Standards implementation would be pre-quantified, thus negating the need for project-specific quantification of GHG emissions. For projects not implementing Best Performance Standards, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact.

With the implementation of Mitigation Measure 3.5-1, the overall annual GHG emissions associated with the proposed Project would be reduced by over 36.9 percent by the year 2020

when compared to the business as usual scenario. This is consistent with applicable standards and thresholds of a 29 percent reduction established by the SJVAPCD. Because the proposed Project would meet the 29 percent minimum reduction threshold, the proposed Project would not hinder the State's ability to reach the GHG reduction target. The percentage reduction is consistent with the GHG reduction percentage sought by the state's Scoping Plan. The proposed Project would be consistent with the reduction target set in the Climate Change Action Plan and consistent with the Scoping Plan. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to climate change and greenhouse gas emissions would be a **less than cumulatively considerable contribution**.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Manteca, Lathrop, and San Joaquin County). As discussed in Section 3.8 Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation of or development of new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers).Hazard-related impacts tend to be site-specific and project-specific. The Project site is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would be a l**ess than cumulatively considerable contribution**.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on San Joaquin County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. With respect to surface waters, the Project site is located adjacent to n irrigation canal that discharges into the Delta at the downstream end of its relatively large watershed. The City of Manteca and much of the surrounding area is located in the Eastern San Joaquin River Groundwater Basin. This groundwater basin covers approximately 1,105 square miles. The Project site is located in the Oakwood Lake - San Joaquin River watershed. Any matter that may affect water quality draining from the Project site will eventually end up in the Delta or within the groundwater basin.

Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would increase the amount of impervious surfaces in the Project site, which could increase peak stormwater runoff rates and volumes on and downstream on the Project site. However, the proposed Project includes an extensive system of on-site stormwater collection, treatment and retention facilities to accommodate the increased stormwater flows that would originate in the Project site.

As with the entire City of Manteca, the proposed stormwater collection system functions by discharging all runoff directly into the SSJID irrigation canals. When the rate of runoff exceeds the pump station capacity, water “backs up” into the surge basins until the runoff rate declines and once again equals the capacity of the canals. The water level in the surge basins then decreases, emptying completely. The proposed project includes a man-made lake, which will function in part as a surge/detention/retention basin, and as a visual amenity of the project.

With the design and construction of flood control improvements, the proposed Project would not increase peak stormwater runoff. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to stormwater runoff would be a l**ess than cumulatively considerable contribution**.

Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, along with several of the related projects within the City of Manteca would discharge stormwater runoff to the SSJID canals, which ultimately flow to the nearby Delta waterways. This would potentially degrade water quality of the system.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Manteca area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface

water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project will be required to comply with Mitigation Measure 3.9.1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Project site which will be designed in accordance with the City of Manteca's National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB.

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Project, several of the projects within the City of Manteca would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related project that would discharge stormwater runoff would be required to comply with National Pollutant Discharge Elimination System (NPDES) discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may be discharged to the Delta system with implementation of the related projects, because of an increase in impervious surfaces, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

Compliance with city and county water quality protection regulations, approval from the RWQCB and Mitigation Measure 3.9-1 would ensure that the proposed Project minimizes impacts to surface water quality. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to water quality would be a l**ess than cumulatively considerable contribution**.

Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Significant and Less than Cumulatively Considerable)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The Project site has soils with a hydrologic rating of "A", which is indicative of soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission. Development of the proposed Project will cover at least 50% of the existing Project site with impervious surfaces and could reduce rainwater infiltration and groundwater recharge

further. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system and eventually flow into the San Joaquin River. The ball fields will remain largely pervious. The exact design of the drainage basin in not known at this time, therefore, it is not known whether the drainage basin will percolate or not (i.e. unlined or lined).

The project site is located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2006), the ESJGB is in a critical condition of overdraft. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County.

Groundwater pumping in Manteca increased from 2,277 AFY in 1960 to a maximum of 14,933 AFY in 2004 prior to the SCWSP delivering treated surface water to the City. According to the City's 2005 UWMP, the sustainable yield of the groundwater basin was estimated in a 1985 study to be approximately 1 acre-foot per acre per year. Although groundwater pumping in some years has exceeded that rate, as part of the SCWSP, the City intends to limit groundwater pumping to that rate or less. At this time, the area of the City's PUSA is 13,790 acres. Therefore, the City intends to limit groundwater pumping to a long-term average of no greater than 13,790 afy. Groundwater pumping is not projected to reach 13,790 ac-ft/yr prior to 2035.

While the Project site's soils have a high infiltration rate based on the high percentage of sands, much of the groundwater recharge in the basin occurs in the sand and gravels along the San Joaquin River from Sierra snowmelt flowing downstream. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into the Delta. While the proposed project would reduce the amount of pervious surfaces within the project site, it will retain at least 50% of the site as a pervious surface.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

Impact 4.14: Cumulative Impacts Related to Flooding (Less than Significant and Less than Cumulatively Considerable)

As shown on Figure 3.9-2, the Project site is not within a 100-year flood zone as delineated by FEMA. Therefore, the proposed Project is not at risk of the 100-year flood. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this

environmental topic. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

LAND USE AND POPULATION

The cumulative setting for land use and population impacts is the City of Manteca.

Impact 4.15: Cumulative Impact on Communities and Local Land Uses (Less than Significant and Less than Cumulatively Considerable)

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. Prior to project authorization, City adoption of the proposed Project would include approval of the Master Plan for the Family Entertainment Zone. The General Plan designated the project site as Public/Quasi-Public, which allows government-owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and churches. The Project would be a government-owned facility that provides recreation and visitor-serving uses. As a government-owned facility, the Project does not conflict with the uses allowed under the Manteca GP. Therefore, the Project is substantially consistent with the Manteca GP land use requirements and would have a **less than significant** cumulative impact relative to the Manteca GP.

The proposed Project has been designed to be consistent with applicable aspects of the City's General Plan, and as described in this EIR, the proposed Project would not be incompatible with any of the surrounding land uses with the incorporation of mitigation and design measures. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to communities and land uses would be a l**ess than cumulatively considerable contribution**.

Impact 4.16: Cumulative Impacts on Population and Housing (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.10, the proposed project would not add housing, nor are there are any existing homes or other types of residential structures in the Project site. Therefore, the proposed Project would directly increase the population and would not displace any persons or existing housing. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would be a l**ess than cumulatively considerable contribution**.

MINERAL RESOURCES

The cumulative setting for mineral resources is San Joaquin County. The primary mineral resources in San Joaquin County are sand, gravel, and natural gas, with limited mining of peat, gold, and silver. In 2012, the California Geological Survey assessed the Stockton-Lodi Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. The Stockton-Lodi P-C Region contains about 969 million tons PCC-grade aggregate resources and 67 million tons PCC-grade sand resources.

Impact 4.17: Cumulative Impacts Resulting in the Loss of a Known Mineral Resource (Less than Significant and Less than Cumulatively Considerable)

The Project site is not mapped as having a known mineral resource of value to the region. The Project site is not designated as a locally important mineral resource recovery site in the City's General Plan. Implementation of the proposed Project would not result in the loss of mineral resources. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to mineral resources would be a l**ess than cumulatively considerable contribution**.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.18: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Less than Significant and Less than Cumulatively Considerable)

Construction Noise: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would be a l**ess than cumulatively considerable contribution**.

Traffic Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed Project and other projects within the area. Table 4.0-2 shows cumulative traffic noise levels The related noise level increases under development of the proposed project are predicted to range between 0.1 to 0.6 dB. Some noise sensitive receptors located along the project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels with implementation of the proposed project. The project's contribution to existing traffic noise increases is predicted to be 0.6 dB, or less. This is less than the City's substantial increase criteria of 5-10 dB for project level impacts. Therefore, the increase of 0.6 dB L_{dn} is considered less than significant relative to the City's substantial increase threshold. As such, impacts related to traffic noise would be a l**ess than cumulatively considerable contribution**.

TABLE 4.0-2: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO 2030 + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		2030	2030 + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Airport Way	North of Yosemite	67.0	67.0	0.0	47	102	219
Airport Way	Yosemite to Wawona	66.1	66.3	0.2	42	91	196
Airport Way	Wawona to Daniels	66.5	66.6	0.2	45	96	208
Airport Way	Daniels to Atherton	66.3	66.1	-0.2	55	119	257

Airport Way	South of Atherton	68.6	68.7	0.1	62	133	286
McKinley Ave	North of Yosemite	60.7	60.7	0.0	48	104	224
McKinley Ave	South of Yosemite	70.2	70.2	0.1	52	111	240
Yosemite Ave	West of McKinley	63.1	63.1	0.0	35	74	160
Yosemite Ave	McKinley to Airport	65.2	65.2	0.0	36	77	166
Yosemite Ave	East of Airport	66.7	66.8	0.1	46	99	214
Wawona St	East of Airport	59.5	59.6	0.1	10	22	47
Daniels Street	East of Airport	69.3	69.3	0.1	54	117	251
Atherton Drive	West of Airport	54.4	54.4	0.0	7	15	32
Atherton Drive	East of Airport	54.8	54.8	0.0	7	16	34

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2014.

Railroad Noise:

The UPRR line was measured to generate an exterior noise level of 74 dBA L_{dn} at a distance of 50 feet. Based upon this measurement, railroad noise levels at the project site were predicted. Railroad noise level are not predicted to exceed the City of Manteca 70 dB L_{dn} exterior noise level standard at proposed outdoor recreation areas, as shown in Table 4.0-3.

TABLE 4.0-3: CUMULATIVE + PROJECT TRANSPORTATION NOISE LEVELS AT PROPOSED USES

ROADWAY	*RECEPTOR DESCRIPTION*	*APPROXIMATE SETBACK, FEET[1]*	*ADT*	*PREDICTED TRAFFIC NOISE LEVELS, DB LDN*			
				NO WALL	*6' WALL*	*7' WALL*	*8' WALL*
SR 120	Hotel Pool Area [2]	500	130,200	60 dB	--	--	--
SR 120	PA-6	750	130,200	68 dB	--	--	--
N/A	PA-10/11	150	Rail	67 dB	--	--	--

[1] *SETBACK DISTANCES ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS TO THE CENTER OF THE OUTDOOR RECREATION AREA.*

[2] *INCLUDES A PARTIAL VIEW CORRECTION TO ACCOUNT FOR SHIELDING FROM PROPOSED BUILDING FACADES.*

-- MEETS THE CITY OF MANTECA EXTERIOR NOISE STANDARD WITHOUT MITIGATION.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS, AND J.C. BRENNAN & ASSOCIATES, INC. 2014.

The railroad noise levels would comply with the City's 70 dB L_{dn} exterior noise level standard for playground and neighborhood park uses. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to railroad noise would be a l**ess than cumulatively considerable contribution**.

PUBLIC SERVICES

Cumulative setting would include all areas covered in the service areas of the City of Manteca Fire, Parks and Recreation, the Manteca Unified School District, and any other relevant public services.

Impact 4.19: Cumulative Impact on Other Public Services
(Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would contribute toward an increased demand for public services and facilities within the City of Manteca. It has been determined that the impacts to the Manteca Police, Fire, and Parks and Recreation Departments would be less-than-significant. Additionally, it has been determined that the impacts to the Manteca Unified School District would be less-than-significant. The proposed Project would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would assist in maintaining existing fire, police, schools, and park services. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to other public services would be a l**ess than cumulatively considerable contribution**.

TRANSPORTATION AND CIRCULATION

A Cumulative Conditions analysis was performed to identify potential impacts of Phase 1 of the project under Year 2030 conditions. Roadway assumptions and associated traffic forecasts along with the intersection and freeway segment operations analysis results are presented in this section.

Intersection Operations: The study intersections, including the two future SR 120/McKinley interchange ramp-terminal intersections, were analyzed under Cumulative No Project and Cumulative Plus Phase 1 conditions. As shown in Table 4.0-4, many of the study intersections are projected to operate at unacceptable service levels regardless of whether the project is developed. This is due to expected traffic growth and a lack of any planned improvements at these locations.

Table 4.0-4: Intersection Operations – Cumulative Conditions

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Phase 1)	
				Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
1. Airport Way/Atherton Drive	City of Manteca	Side-Street Stop	AM	**83 (2570)**	**F (F)**	**109 (378)**	**F (F)**
			PM	**49 (1193)**	**E (F)**	**46 (1178)**	**E (F)**
2. Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	**101**	**F**	**112**	**F**
			PM	**87**	**F**	**58**	**E**
3. Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	42	D	54	D
			PM	**105**	**F**	**76**	**E**
4. Airport Way/Daniels Street	City of Manteca	Traffic Signal	AM	27	C	31	C
			PM	**189**	**F**	**219**	**F**
5. Airport Way/Wawona Street	City of Manteca	Side-Street Stop	AM	4 **(48)**	A **(E)**	4 **(60)**	A **(F)**
			PM	9 **(161)**	A **(F)**	11 **(216)**	B **(F)**
6. Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	AM	39	D	41	D
			PM	**75**	**E**	**79**	**E**
7. McKinley Avenue/Yosemite Avenue	City of Lathrop	Traffic Signal	AM	36	D	37	D
			PM	46	D	47	D
8. Daniels Street/Milo Candini	City of Manteca	Traffic Signal	AM	23	C	23	C

Drive			PM	14	B	20	B
9. McKinley Ave/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	15	B	24	C
			PM	17	B	20	B
10. McKinley Ave/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	14	B	18	B
			PM	12	B	17	B
11. McKinley Ave/Daniels St Extension	City of Manteca	Traffic Signal	AM	Intersection does not exist under this scenario		11	B
			PM			21	C

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. **Bold** indicates unacceptable LOS.

Source: Fehr & Peers, 2014

The two unsignalized study intersections were re-evaluated under cumulative conditions to determine if they would satisfy the Peak Hour warrant for consideration of a traffic signal. Both intersections would satisfy the warrant during one or both peak hours under Cumulative No Project and Plus Project (Phase 1) conditions.

Freeway Analysis: Cumulative No Project and Cumulative Plus Project (Phase 1) freeway operations were evaluated for the AM and PM peak hours. The results are shown in Table 4.0-5. This table shows only those freeway facilities that would be used by project trips. As shown, all ramp merge/diverge movements would operate at LOS D or better. These results assume the planned widening of SR 120 to six lanes. They also include the planned two-lane off-ramp (and deceleration lane) on eastbound SR 120 at McKinley Avenue.

Table 4.0-5: Freeway Operations – Cumulative Conditions

		Cumulative No Project Conditions				Cumulative Plus Project (Phase 1) Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Type	Density	LOS	Density	LOS	Density	LOS	Density	LOS
1. SR 120 EB off-ramp at McKinley Ave	Diverge	14	B	27	C	15	B	28	C
2. SR 120 WB on-ramp at McKinley Ave	Merge	33	D	26	C	33	D	27	C
3. SR 120 EB on-ramp at Airport Way	Merge	25	C	31	D	25	C	32	D
4. SR 120 WB off-ramp at Airport Way	Diverge	30	D	33	D	31	D	33	D
5. SR 120 EB off-ramp at Union Road	Diverge	16	D	21	C	16	B	31	C
6. SR 120 WB slip on-ramp at Union Road	Merge	25	C	27	C	27	C	27	C

Notes:
1. Evaluated using the HCS2010 software, which applies the methods from the *Highway Capacity Manual* (Transportation Research Board, 2010).
2. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2014

Project Buildout Travel Characteristics: Future phases of the Manteca Family Entertainment Zone may include a variety of new sports, recreation, entertainment, and shopping facilities within the project site. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow for their implementation. The

following conceptual land uses have been prepared for the various numbered, Planning Areas (PA) within the project site:

- PA-1 (northeast corner of Project Site): Potential land uses could include three international soccer fields, two U-12 soccer fields, and one U-8 soccer field. Alternatively, the international soccer fields could be divided into two U-12 youth soccer fields, yielding a total of eight U-12 play fields, and one U-8 size field.
- PA-1a & PA-1b (directly west of the existing Big League Dreams complex): Two new baseball fields.
- PA-2 (northcentral portion of Project Site): Two U-12 and two U-13 sized youth soccer fields.
- PA-3, PA-4, and PA-5 (north of the Daniels Street extension and west of the existing Big League Dreams Complex): 512,000 square feet of food and beverage, restaurant, and general retail space.
- PA-6 and PA-6a (southwest portion of Project Site): serves as expansion for the family entertainment offerings, and potential location of the Yosemite/South Sierra Nevada Visitors Center, relocated Manteca Convention and Visitors Bureau, and bus terminal / temporary bus parking for tours connecting to Yosemite and the Sierras.
- PA-7 (west portion of Project Site, north of Daniels Street): intended to be developed as an Adventure Zone with active and passive recreational facilities.
- PA-8 (central portion of Project Site): incorporates an Indoor All-Season Sports & Exhibition Center.
- PA-9 and PA-10 (west portion of Project Site, north of Daniels Street and east of McKinley Avenue): is slated for future FEZ expansion.
- PA-11 (northwest portion of Project Site): is intended to be developed as a sport field with spectator seating.
- PA-12 (northcentral portion of Project Site): is envisioned to serve as an outdoor sports zone.
- PA-13, PA-14, and PA-15 (northern portion of Project Site): comprises the PG&E right-of-way, which will be used for shared parking for the FEZ property.

In addition, future expansion of the hotel facility is being contemplated. It could include a future expansion of 200 additional hotel rooms, an additional 20,000 square feet for conference facilities, and a 76,000 square foot addition to the indoor water park. These additional facilities are not currently planned, and the proposed project does not include site plan review or other entitlements that would allow implementation. Development of such facilities would require additional environmental review if applications for such development are submitted to the City for consideration.

To support buildout of the FEZ, the following roadway improvements would be completed.

- Extend Daniels Street as a four-lane roadway from its current terminus to McKinley Avenue.
- Extend Wawona Street westerly as a two-lane roadway from Airport Way to Milo Candini Drive.
- Extend Milo Candini Drive northeasterly from the FEZ property to Yosemite Avenue.

A detailed technical analysis of project buildout was not conducted due to the speculative nature of the land use proposals. At this time, the specific amount of retail versus restaurant is not known. The degree to which retail and restaurant uses will be configured to complement the sporting activities is not known. The types of sporting activities (i.e., soccer practices versus matches, and spectator sizes for the international fields) are not known. The size and types of land uses on PA-6 through PA-12 are not known. Therefore, any analysis that attempts to analyze (and mitigate for) project-specific or cumulative transportation impacts with project buildout would be speculative. Instead, a programmatic assessment of travel conditions under cumulative conditions was conducted. This evaluation consisted of estimating the average daily traffic (ADT) volume on roadways bordering and within the project site assuming no development and with project buildout.

Figure 3.14-10 displays the Cumulative No Project ADT forecasts using the same forecasting procedure described earlier in this section. The 'no project' forecasts assume no additional development west of Airport Way, north of SR 120, east of McKinley Avenue, and south of Yosemite Avenue.

The following four-step process was then used to estimate the Cumulative Plus Project ADT forecasts. The "project buildout" forecasts are also shown on Figure 3.14-10.

- Step 1: Add proposed roadway improvements to travel demand model.
- Step 2: Develop four new traffic analysis zones (TAZs) to represent project buildout. Inputs to each TAZ are as follows:
    - TAZ 1 (PA-1 and PA-2): Input retail employees such that zone generates 910 daily trips, which is ITE's estimate of the trip generation of 13 soccer fields.
    - TAZ 2 (FEZ commercial uses): Enter two retail employees per thousand square feet.
    - TAZ 3 (Hotel Facility): Use multi-family residential, office, and retail employees to match expected trip generation (model doesn't have a hotel land use category).
    - TAZ 4 (PA-6 through PA-12): Enter two retail employees per thousand square feet (based on the square footage yields in the NOP).
- Step 3: Review reasonableness of model forecasts in terms of trip generation, internalization, and external directionality of trips.
- Step 4: Develop ADT forecasts using the procedure described earlier in this section.

According to Figure 3.14-10, project buildout (along with planned roadway improvements) would cause increases in traffic on segments of Airport Way and McKinley Avenue. The following key conclusions are drawn from this figure:

- The SR 120/McKinley Avenue interchange has been 'sized' to accommodate buildout of the Manteca and Lathrop General Plans (including development of the FEZ property). Accordingly, project buildout would not adversely affect its design or operations.
- Project buildout would cause the ADT on Airport Way between Daniels Street and SR 120 to increase from 32,100 to 36,000, a 12 percent increase. This could potentially cause impacts to the SR 120/Airport Way interchange, which is not currently planned to be upgraded.
- According to Figure 3.14-10, project buildout would result in Daniels Street between Airport Way and McKinley Avenue carrying no more than 12,500 ADT, which is well within the capacity of a four-lane road. It is noted that the Wawona Street extension to Milo Candini Drive would carry 11,200 ADT. This volume is due, partially, to the assumption that a significant amount of parking would be provided along the power line corridor, which is directly accessible via this road. The Airport Way/Wawona Street intersection would require signalization and additional lanes to accommodate this traffic.
- The Milo Candini Drive extension to Yosemite Avenue is projected to accommodate a modest volume of traffic (2,100 ADT). Accordingly, it may be included in one of the later phases of FEZ development.

Impact 4.20: Under cumulative conditions, the proposed project (Phase 1) would cause significant impacts at intersections (Cumulatively Considerable and Significant and Unavoidable).

The project (Phase 1) would cause the following intersections to worsen to a significant degree according to the results in Table 3.14-13 and the established significance criteria:

- Airport Way/SR 120 EB Ramps (LOS F operations worsened during the AM peak hour)
- Airport Way/Daniels Street (LOS F operations worsened during the PM peak hour)
- Airport Way/Wawona Street (LOS E or F operations worsened during the AM and PM peak hours)
- Airport Way/Yosemite Avenue (LOS E operations worsened during the PM peak hour)

Phase 1 project impacts to these study intersections are considered potentially significant.

Table 4.0-6 displays traffic operations under Cumulative Plus Project conditions with the proposed mitigation measures in place. As shown, all impacted study intersections would operate acceptably with the proposed mitigation measures in place.

Some of these measures are considered infeasible for reasons described below. The improvements at the SR 120/Airport Way interchange are within Caltrans' right-of-way and beyond the control of the City of Manteca to implement. The improvements at the Airport Way/Daniels Street and Airport Way/Yosemite Avenue intersections would likely require additional right-of-way from adjacent properties. For these reasons, these intersection impacts are considered to be **significant and unavoidable** and a **cumulatively considerable contribution**.

Table 4.0-6: Intersection Operations – Cumulative Conditions With Mitigation

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Phase 1)		Cumulative Plus Project w/ Mitigation [3]	
				Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS	Delay[1] (sec/veh)	LOS
Airport Way/SR 120 EB Ramps	Caltrans	Traffic Signal	AM	**101**	**F**	**112**	**F**	14	B
			PM	**87**	**F**	**58**	**E**	12	B
Airport Way/SR 120 WB Ramps	Caltrans	Traffic Signal	AM	42	D	54	D	14	B
			PM	**105**	**F**	**76**	**E**	12	B
Airport Way/Daniels Street	City of Manteca	Traffic Signal	AM	27	C	31	C	32	C
			PM	**189**	**F**	**219**	**F**	51	D
Airport Way/Wawona Street	City of Manteca	Side-Street Stop	AM	4 **(48)**	A **(E)**	4 **(60)**	A **(F)**	7	A
			PM	9 **(161)**	A **(F)**	11 **(216)**	B **(F)**	7	A
Airport Way/Yosemite Avenue	City of Manteca	Traffic Signal	AM	39	D	41	D	30	C
			PM	**75**	**E**	**79**	**E**	37	D

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. **Bold** indicates unacceptable LOS.
3. Refer to previous page for description of proposed mitigations.

Source: Fehr & Peers, 2014

MITIGATION MEASURES

The following mitigation measures are reprinted from Section 3.14.

Mitigation Measure 3.14-3: *The project applicant shall pay its fair share toward the following improvements at the SR 120/Airport Way interchange:*

- *Relocate the westbound ramp-terminal intersection approximately 180 feet south of its current location, which will increase the spacing to the Airport Way/Daniels Street intersection.*
- *Construct loop on-ramps.*
- *Widen overcrossing to include two northbound and three southbound lanes.*
- *Widen SR 120 eastbound and westbound off-ramps to include two left-turn lanes and two right-turn lanes approaching Airport Way.*

Mitigation Measure 3.14-4: *The project applicant shall pay its fair share cost of adding the following improvements to the Airport Way/Daniels Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted:*

- *Reconfigure the southbound approach to add a third through lane.*
- *Restripe the eastbound Daniels Street approach to include one left-turn, one shared left/through lane, and two right-turn lanes with right-turn overlap phasing.*

Mitigation Measure 3.14-5: *The project applicant shall pay its fair share cost of installing a traffic signal at the Airport Way/Wawona Street intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted.*

Mitigation Measure 3.14-6: *The project applicant shall pay its fair share cost of adding the following improvements to the Airport Way/Yosemite Avenue intersection. Alternatively, the City could decide to include this improvement in its draft PFIP, with the City being responsible to construct the improvement when warranted:*

- *Widen the eastbound and westbound Yosemite Avenue approaches to include dual left-turn lanes.*

Impact 4.21: Under cumulative conditions, the proposed project (Phase 1) would result in a significant impact to freeway facilities (Cumulatively Considerable and Significant and Unavoidable).

The addition of project (Phase 1) traffic would maintain acceptable (i.e. LOS D or better) operations on study freeway facilities. However, project traffic would exacerbate vehicle queuing on the Airport Way WB off-ramp that spills back onto the SR 120 mainline. This occurs as a result of insufficient capacity at the interchange ramp terminal intersections. This is a potentially significant impact.

Mitigation Measure 3.14-3 calls for the applicant to contribute fair share funding toward the reconstruction of the SR 120/Airport Way interchange. The capacity improvements would reduce queuing on the westbound off-ramp. However, this improvement would require approval from Caltrans. It would also require the remaining funding (beyond the project's fair share contribution) to be identified. Although implementation of this mitigation measure would reduce the significance of the impact, the impact would remain **significant and unavoidable** and a **cumulatively considerable contribution**. because there is no assurance that Manteca can implement these improvements.

MITIGATION MEASURES

Implement Mitigation Measure 3.14-3.

Impact 4.22: Under cumulative conditions, the proposed project (Phase 1) would adversely affect pedestrian and bicycle facilities (Less than Significant and Less than Cumulatively Considerable).

The project (Phase 1) would provide sidewalks along the extension of Daniels Street. The project would not disrupt or interfere with existing bicycle/pedestrian facilities. However, the *City of Manteca Bicycle Master Plan* (2003) indicates that a Class II bicycle lane is planned along Daniels

Street from Airport Way to McKinley Avenue. Since the project description does not describe any on-street planned bicycle facilities, the project could create an inconsistency with policies related to bicycle systems. The City's Bikeway Master Plan also describes other bicycle facilities that would traverse the project site. However, none of these facilities would pass through or adjacent to the Phase 1 project boundary. Therefore, this impact is considered a potentially significant impact. Mitigation Measure 3.14-2 would provide consistency with the *City of Manteca Bicycle Master Plan* (2003). Consequently, this impact would be reduced to a **less than significant** and **less than cumulatively considerable** level.

MITIGATION MEASURES

Implement Mitigation Measure 3.14-2.

Impact 4.23: Under cumulative conditions, the proposed project (Phase 1) would not adversely affect transit services or facilities (Less than Significant and Less than Cumulatively Considerable).

The project (Phase 1) could potentially increase transit ridership on Manteca Transit bus routes 1, 2, and 3, which includes a stop on Daniels Street near the project site. The project would not disrupt or interfere with existing or planned public transit services or facilities. It would not create an inconsistency with policies concerning transit systems set forth in a General Plan or in the *City of Manteca Short Range Transit Plan* (2009). Therefore, this impact is considered **less than significant** and **less than cumulatively considerable** level.

Impact 4.24: Under cumulative conditions, the proposed project (Phase 1) could cause potentially significant impacts to at-grade rail crossings (Less than Significant and Less than Cumulatively Considerable).

Yosemite Avenue and McKinley Avenue each feature at-grade crossings of a UP railroad track. The project (Phase 1) would add about 200 and 100 vehicles per day, respectively, to these two at-grade crossings. Each crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, and warning bells. The project would not cause an increase in delay during train crossings that would correspond to LOS D or worse conditions. Furthermore, the project would not add traffic to an at-grade crossing with a known safety problem. Therefore, this impact is considered **less than significant** and **less than cumulatively considerable** level.

Impact 4.25: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities (Cumulatively Considerable and Significant and Unavoidable).

Project buildout would generate more external vehicle trips than the Phase 1 project. Accordingly, cumulative project impacts may be greater and require greater levels of mitigation than what is required for Phase 1. Due to the uncertainty of the specific land use types, attendance levels, on-site activities, and other factors, a detailed analysis of project buildout conditions is not possible at this time. Nevertheless, based on the preliminary traffic assessment presented earlier in this chapter, project buildout impacts are considered a potentially significant impact. Due to the

likelihood that identified additional improvements may require additional right-of-way and/or approvals from other agencies, this impact is considered **significant and unavoidable** and a **cumulatively considerable contribution**.

MITIGATION MEASURES

Mitigation Measure 3.14-7: *Supplemental phases of the proposed project shall be subject to additional traffic studies to analyze potentially significant transportation system impacts and identify mitigation measures that lessen their significance.*

UTILITIES

The cumulative setting would include all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services. Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

Impact 4.26: Cumulative Impact on Wastewater Utilities (Less than Significant and Less than Cumulatively Considerable)

The City of Manteca owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Manteca and the City of Lathrop. On October 8, 2009, the RWQCB adopted Waste Discharge Requirements Order No. R5-2009-0095 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility (WQCF) and allowing expansion of the plant up to 17.5 mgd.

The City of Manteca's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2009-0095 NPDES NO. CA0081558. The wastewater treatment system options covered under this Order include: City of Manteca Wastewater Quality Control Facility (WQCF) including the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. The development of the proposed project would not exceed the wastewater discharge requirements in this Order. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

The wastewater collection and conveyance system that will serve the proposed project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 6 to 18 inches, and pump stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for the proposed project will require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The location of the wastewater collection and conveyance infrastructure (onsite and offsite) is depicted in the *Family Entertainment Zone Utilities Master Plan - Sewer Utilities* (Figure 3.15-1). All onsite water utility improvements will be within existing

agricultural lands, the impacts of which are discussed in Section 3.2 Agricultural Resources. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

The hotel rooms (and water park) are estimated to generate approximately 45 gallons of wastewater per day. For the proposed project, the 500 room hotel would generate about 22,500 gallons of wastewater per day. If the hotel is expanded in later phases by 200 rooms there would be an estimated 9,000 gallons of wastewater per day of additional wastewater generated by the hotel. The total wastewater generation at the 700 room hotel would be 31,500 gallons per day.

The commercial space and conference center are estimated to generate 1,120 gallons per acre per day. For the proposed project, the 37,500 square feet of commercial space and 20,000 square foot conference center would generate 12,197 gallons of wastewater per day. If the conference center was expanded in later phases by 20,000 square feet there would be an estimated 4,242 gallons pounds per day of additional wastewater generated by the conference center. The total wastewater generation at the commercial and conference center would be 16,439 gallons per day.

The ball fields are estimated to generate 3 gallons of wastewater per day per seat. There is not currently a refined site plan illustrating the number of seats for the ball fields; therefore, a conservative estimate of 300 seats per ball field will be made in this EIR. There are an estimated 5-10 ball fields. Under the maximum of 10 ball fields, there would be 3,000 seats. The total wastewater generated by the ball fields would be 9,000 gallons per day. (*Note: this is a very conservative estimate, and is likely an overestimate).*

The total wastewater generated by the proposed project is estimated to be 56,939 gallons per day. The proposed project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WQCF. Occupancy of the proposed project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments.

While the project by itself does not exceed the existing capacity of the wastewater treatment plant, the proposed Project in combination with future projects under buildout conditions would likely result in a deficit of capacity warranting improvements to increase treatment capacity. The City will have flows totaling 19.5 mgd as of the General Plan horizon of 2023 with a buildout capacity of 23.0 mgd. Each project that receives wastewater collection and treatment services is required to pay a connection fee, which serves as a project share of service expansion. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

Impact 4.27: Cumulative Impact on Water Utilities (Less than Significant and Less than Cumulatively Considerable)

The proposed project would require extension of offsite water infrastructure to the Plan Area for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to

existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite potable water infrastructure would not have the potential to induce growth as the proposed project is planned for non-residential uses and such uses were anticipated in the General Plan. The proposed offsite potable water utility infrastructure will be sized consistent with the City approved standards.

The proposed project would require the construction of new onsite water infrastructure for potable water and irrigation water. All onsite water utility improvements will be within existing agricultural lands, the impacts of which are discussed in Section 3.2 Agricultural Resources. Construction of the onsite potable water infrastructure would not have the potential to induce growth as the proposed project is planned for non-residential uses and such uses were anticipated in the General Plan. The proposed offsite potable water utility infrastructure will be sized consistent with the City approved standards.

The proposed project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service.

The City has adequate water supplies to support existing demand in the City in addition to the proposed project under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Manteca is 22,101 AFY. The city has a total supply of 28,695 AFY, leaving 6,594 AFY available. The proposed project's demand would be 2,958 AFY. Although not quantified in the WSA, it should be noted that the existing water demand on the project site for reclaimed water would either be eliminated or reduced depending on the surface of the ball fields (i.e. natural grass surface would be irrigated with reclaimed water or artificial turf would not be irrigated). The proposed project would not result in the need for new or expanded entitlements.

The total water demand by the proposed project (buildout) is estimated to be between 153,033 gallons per day (170.6 AFY) and 281,441 gallons per day (315.3 AFY). Only Phase 1 of the proposed project (500 room hotel/water park/conference center) is proposed to be constructed at this time. The Water Supply Assessment completed for the proposed project demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2035 under all hydrologic conditions. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

Impact 4.28: Cumulative Impact on Stormwater Facilities (Less than Significant and Less than Cumulatively Considerable)

The proposed project includes storm drainage improvements that are consistent with the City of Manteca Storm Drain Master Plan (2013) in which storm drainage facilities sufficient to deal with potential impacts from development within the FEZ and surrounding area are planned. Final engineering of the storm drainage system will be accomplished through the improvement plan preparation of each phase. Storm drainage infrastructure to serve the proposed project will include undergrounding of the FCOC, an underground piped drainage system, a

detention/retention/surge basin, and pumps as needed. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, none of which are anticipated to result in significant environmental effects. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn't flooding. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

Impact 4.29: Cumulative Impact on Solid Waste Facilities
(Less than Significant and Less than Cumulatively Considerable)

Solid waste generated in the City is disposed at the Forward Landfill. This landfill is projected to close in the year 2020. At that time the City can utilize the Foothill Landfill as a location for solid waste disposal. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2020. The remaining capacity is 23,700,000 cubic yards.

The total solid waste generated by the proposed project is estimated to be 6,310 pounds per day, or 3.15 tons per day. The proposed project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. The addition of the volume of solid waste associated with the proposed project, approximately 3.15 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to solid waste facilities would be a l**ess than cumulatively considerable contribution**.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of approximately 189 acres of land currently used for agricultural uses for the development of lodging, commercial, and recreational facilities. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of lodging, commercial, and recreational facilities to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial project construction, project operation and site maintenance and the transport of people and goods to and from the Project site.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed project are discussed in Chapters 3.1 through 3.14 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character (Significant and Unavoidable)
- Impact 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. (Significant and Unavoidable)

- Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation
- Impact 3.3-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation
- Impact 3.3-5: The proposed project has the potential for exposure to odors
- Impact 3.14-2: The proposed project (Phase 1) would result in a significant impact to freeway facilities
- Impact 3.14-7: Under cumulative conditions, the proposed project (Phase 1) would result in a significant impact to freeway facilities
- Impact 3.14-11: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region
- Impact 4.4: Cumulative Impact on Agricultural and Forest Resources
- Impact 4.5: Cumulative Impact on the Region's Air Quality
- Impact 4.20: Under cumulative conditions, the proposed project (Phase 1) would cause significant impacts at intersections
- Impact 4.21: Under cumulative conditions, the proposed project (Phase 1) would result in a significant impact to freeway facilities
- Impact 4.25: Under cumulative conditions, proposed project buildout could cause significant impacts at intersections and freeway facilities

5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

As described in Chapter 2, the City of Manteca's objectives are as follows:

- To expand and improve public and community access to the City's existing and thriving investments in regional sports facilities to provide additional community-based facilities to extend the City's position as the primary destination for family-based community recreation, active recreation sports and passive recreation and amenities in Central California.

- To enhance and build upon the regional tourism and visitor serving attractions providing supporting destination facilities such as hotels, indoor waterpark and convention/meeting/exhibition facilities that will facilitate and support the frequency and duration of utilization of the recreation and sports facilities through the FEZ.

- To enhance Manteca's reputation as "The Family City".

- To position Manteca to serve what is projected to be a trend toward a younger population in the region by providing an excellent youth sports and entertainment destination with critical mass to ensure its success.

- To provide facilities that support what has been identified as a growing trend toward family vacations being centered on regional youth, adult and master's tournaments, as well as league sporting events, that require multiple day stays and can be tied to a variety of visitor interests including special events, education seminars, private events such as conferences, weddings, other social and cultural expositions, all of which are available to the public and the visitors/users of the FEZ.

- Specifically, to capitalize on the success of the Big League Dreams' sports facilities (currently booked weekends, two years in advance), by creating additional critical mass in regional sports and active facilities.

- To provide additional food & beverage facility choices to serve visitors to Manteca and users of the various facilities developed within the boundaries of the FEZ.

- To add to the proven regional draw enjoyed by Woodward Soccer Fields, which further helps to define Manteca as a regional tournament sports destination.
- To accentuate the site's strategic location along SR 120, which serves as the primary vehicular corridor from the Bay Area to Yosemite National Park and the Southern Sierra Nevada Mountain Areas.
- To raise the City's visibility in the region, particularly for all residents and citizens driving through the region.
- To create a Yosemite/Southern Sierra Nevada Visitors Information Center for travelers to utilize on their trip to the national park and nearby national forests.
- To create a business center facility that is available to all groups and can utilize and augment utilization of the various active and passive recreation and sports facilities as well as all ancillary concessions and operations such as support retail and dining facilities.
- To expand upon the thriving regional draw of Bass Pro Shops, which lies just across SR 120 to the southeast.
- To provide a walkable, safe, friendly, leisure and recreation environment for the citizens of Manteca and the region.
- To provide quality indoor and outdoor community gathering spaces for socializing, dining and entertainment.
- To expand and install a series of public improvements in support of the FEZ, including but not limited to, the east-west vehicular connection between McKinley Avenue and Airport Way, and public parking facilities throughout the FEZ, extension of Milo Candini Drive from Daniels Street to Yosemite Avenue, to facilitate improvements to the storm water drainage system shared by the City and the South San Joaquin Irrigation District (SSJID).
- To facilitate the City's economic development and jobs-creation goals and objectives.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Manteca considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the project would be avoided or substantially lessened?

- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic project objectives?

The City's consideration of alternative locations for the project included a review of previous land use planning and environmental documents in Manteca including the General Plan. The City found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic project objectives and avoid or substantially lessen a significant effect. The City determined that alternative locations outside the Sphere of Influence would not be feasible because an expansion of the Sphere of Influence would induce unplanned growth and cause impacts greater than development on the proposed location. For these reasons, the City of Manteca determined that there are no feasible alternative locations.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following four alternatives in addition to the proposed Project.

- **No Build Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current condition.

- **Reduced Project Alternative:** Under this alternative, the Project site would be developed with the same components as described in the Project Description, but the area utilized for the industrial and commercial uses would be reduced.

- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance.

NO BUILD ALTERNATIVE

Under the No Build Alternative development of the Project site would not occur, and the Project site would remain in its current existing condition. It is noted that the No Build Alternative would fail to meet the project objectives identified by the City of Manteca.

REDUCED PROJECT ALTERNATIVE

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings would be reduced resulting in an increase of undeveloped land. The total acreage dedicated to proposed project would be reduced by approximately 1/3, which would result in smaller building footprints. The total acreage developed would be 126 acres, with 63 acres remaining in its current state. The 63

acres that would remain undeveloped would include the wetland areas and agricultural land. This alternative would eliminate the need to obtain 404 permits for the wetlands, but may or may not require permits for undergrounding the French Camp Outlet Canal depending on the regulatory agencies final decision on jurisdiction.

AGRICULTURE PROTECTION ALTERNATIVE

The reasoning behind this alternative is to present an alternative to protect some of the farmland on the Project site. Development of the proposed Project would result in the permanent conversion of roughly 172 acres acres of Prime Farmland or Farmland of Statewide Importance. Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of ball fields would be reduced resulting in an increase of undeveloped land beyond the Reduced Project Alternative. The total acreage dedicated to proposed project would be reduced by approximately 1/2. The total acreage developed would be 94.5 acres, with 94.5 acres remaining in its current state. The 94.5 acres that would remain undeveloped would include the agricultural land only. This alternative would not eliminate the need to obtain 404 permits for the wetlands.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO BUILD ALTERNATIVE

Aesthetics and Visual Resources

The No Build Alternative would leave the project site in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the project site would not change under this alternative compared to existing conditions.

As described in Section 3.1, although the visual character of the Project site would be significantly altered as a result of project implementation, the guidelines and standards within the proposed Project would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the proposed Project would ensure that impacts to visual resources would be less than significant.

Implementation of the lighting and design standards in the proposed Project would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the proposed Project and the subsequent design review of future projects within the Project site would ensure that excessively reflective building materials are not used, and that the proposed Project would not

result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

The proposed Project would not result in potentially significant new sources of light and glare. The proposed Project would also not result impacts to the existing visual character or quality of the Project site and its surroundings. However, the No Build Alternative would avoid these impacts altogether and would have less of an impact than the proposed Project on aesthetics and visual resources.

Agricultural and Forest Resources

Currently, the majority of the project is used for agricultural purposes. There are no forest resources in the area. The No Build Alternative would result in no development in on the project site. As such, this alternative would have no impact on agricultural land, no potential for conflicts with existing agricultural resources, and no potential for conflict with regulations and plans intended to protect those resources. This would have less impact to agricultural resources than the proposed Project.

Air Quality

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

Even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for operations. The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Under the No Build Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related

to air quality. As such, this impact would be significantly reduced when compared to the proposed Project.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed on the Project site although there are protected wetlands and foraging habitat for various special status species. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, there are mitigation measures that require a permit prior to any disturbance to the protected wetlands. The permit requirements for disturbance to a wetland require no net loss of wetlands, which effectively mitigate the impact to a less than significant level. As such, implementation of the proposed Project will have a less than significant impact on biological resources.

Under the No Build Alternative, the proposed Project would not be constructed, no habitat would be removed, no wetlands disturbed, and no ground disturbing activities would occur. Therefore, potential for impacts to biological resources would be eliminated under the No Build Alternative.

Cultural Resources

As described in Section 3.5, during the field surveys conducted on the Project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

The No Build Alternative would result in no ground disturbing activities related to the proposed Project and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the No Build Alternative would result in less potential for impacts to cultural resources as the entire Project site would continue to be used for agriculture production.

Geology and Soils

The No Build Alternative would result in the Project site remaining in its existing condition. There are currently no structures on the Project site that are subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. The No Build Alternative would not involve

new construction that could be subject to seismic, geologic or soils hazards, thus this alternative would have no potential for impact. As such, this alternative would have less impact relative to the proposed Project.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. With mitigation measures, the overall annual GHG emissions associated with the proposed Project would be reduced by over 36.9 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent reduction. Because the proposed Project would meet the City's 29 percent minimum reduction threshold, the proposed Project would not hinder the State's ability to reach the GHG reduction target. Overall, the proposed Project would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the proposed Project would have an individual and cumulative impact that is less than significant.

Under the No Build Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be significantly reduced when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under the No Build alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. As such, this alternative would have less impact relative to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water

quality impacts to a less than significant level. The proposed Project would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the No Build Alternative, potential water quality impacts from construction and operation of the proposed Project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed Project, under this alternative, the land will be kept in its present state with the majority of the Project site either fallow land or being used for agricultural purposes. The soil on the Project site are composed of sand which has a high rate of groundwater recharge, although the project site is not a major source of groundwater recharge due to the lack of precipitation and the absence of a major water source. The No Build Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the proposed Project. As such, potential impacts related to hydrology and water quality would be reduced under the No Build Alternative when compared to the proposed Project.

Land Use and Population

The No Build Alternative would result in no changes to land use and would have no development. The proposed Project is not expected to induce substantial population increase that has not already been accounted for as a part of the approved General Plan. The proposed Project does not displace persons or remove housing units. The No Build Alternative would have an equal impact when compared to the proposed Project.

Mineral Resources

The project site is not considered a mineral resource recovery site and there is no evidence of past mining activity. The No Build Alternative would have an equal impact when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed project, as well as from vehicular traffic. The specific businesses that would occupy the Project site are not yet determined; therefore, an actual noise impact from industrial uses may or may not exist in the future. Mitigation measures provided in Section 3.12 would reduce the potential impact to a less than significant level.

Under the No Build Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this alternative would have less impact relative to the proposed Project.

Public Services and Recreation

Under the No Build Alternative the Project site would remain undeveloped and there would be no increased demand for public services or recreation. The recreational amenities within the proposed project, however, would not be developed for the community. The No Build Alternative would have a slightly less impact when compared to the proposed project because

demand on public services would be reduced with compared to the proposed Project with the possible exception of recreational facilities.

Traffic and Circulation

The No Build Alternative would not introduce additional vehicle trips onto the study area roadways. It was determined that the proposed Project would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Mitigation was identified to alleviate the impacts; however, certain impacts were deemed to be significant and unavoidable. Under the No Build Alternative, these potential impacts would be avoided, and the No Build Alternative would have less of an overall traffic impact than the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system is capable of handling the increased flows with their existing permit and infrastructure.

Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The City has designed a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However the landfill has adequate capacity to dispose the solid waste.

Under the No Build Alternative the Project site would not increase the demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Build Alternative when compared to the proposed Project.

REDUCED PROJECT ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, although the visual character of the Project site would be significantly altered as a result of project implementation, the guidelines and standards within the proposed Project would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the proposed Project would ensure that impacts to visual resources would be less than significant. Additionally, implementation of the lighting and design standards in the proposed Project would ensure that lighting features do not result in light spillage onto adjacent properties and do not

significantly impact views of the night sky. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

These impacts would be similar with the Reduced Project Alternative as this alternative is located on the same site and has similar uses. This alternative would reduce the building square footage, and reduce the acreage by 1/3. The impacts of light and glare would still occur and could be mitigated to a less than significant level. The impacts to the existing visual quality would be similar as the Project site would be developed with the same uses as under the proposed Project, just on a smaller scale and on slightly less acreage. The Reduced Project Alternative would have a slightly less impact on visual resources when compared to the proposed Project.

Agricultural and Forest Resources

Currently, the majority of the Project site is used for agricultural purposes. There are no forest resources on the Project site. The Reduced Project Alternative would result in development on the Project site, but would only utilize 2/3 of the Project site for urban development. The remaining acreage (approximately 63 acres), most of which is agricultural land, will remain undeveloped. As such, this alternative would reduce the impact to agricultural lands when compared to the proposed project by the acreage that remains undeveloped. The loss of the agricultural land, including prime farmland, would be a significant and unavoidable impact under both alternatives. The Reduced Project Alternative would have less impact on agricultural resources when compared to the proposed Project.

Air Quality

Under buildout conditions in San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

Even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for operations. The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are

$9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Implementation of the proposed Project would cause an increase in traffic, which is the dominant source of air emissions associated with the proposed Project. Under the Reduced Project Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 1/3. This reduction in square footage and recreational amenities would represent an approximately 33.3 percent reduction in the amount of traffic generated from the Project site. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by approximately the same 33.3 percent. Additionally, this alternative would have a reduction in area source emissions proportional to the reduction in square footage.

While uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in square footage and reduced traffic volumes would result in reductions in air emissions. The Reduced Project Alternative would result in less air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed on the Project site although there is protected wetlands and foraging habitat for special status species. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, there are mitigation measures that require a permit prior to any disturbance to the protected wetlands. The permit requirements for disturbance to a wetland require no net loss of wetlands, which effectively mitigate the impact to a less than significant level. As such, implementation of the proposed Project will have a less than significant impact.

The Reduced Project Alternative would result in development on the Project site, but would only utilize 2/3 of the Project site for urban development. The remaining acreage (approximately 63 acres) will remain undeveloped. Under this alternative, there would be approximately 63 more acres of undeveloped land that would provide habitat for a variety of species, including the protected wetlands and the agricultural land that serves as foraging habitat for wildlife. This alternative would eliminate the need to obtain 404 permits for the wetlands, but may or may not require permits for undergrounding the French Camp Outlet Canal depending on the

regulatory agencies final decision on jurisdiction. This additional undeveloped land would provide biological benefits even though the remainder of the Project site would be developed. As such, the Reduced Project Alternative would result in less impact to biological resources when compared to the proposed Project.

Cultural Resources

As described in Section 3.5, during the field surveys conducted on the Project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

The Reduced Project Alternative would result in development on the Project site, but would only utilize 2/3 of the Project site for development. The remaining acreage would remain undeveloped. Under this alternative, there would be less ground disturbing activities related to development and there would a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Reduced Project Alternative would result in less potential for impacts to cultural resources as more of the Project site would be used for agriculture production.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the project. Mostly notably, the proposed project would be subject to liquefaction due to the relatively high groundwater, combined with the sandy soils. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Reduced Project Alternative there would be less developed area resulting in less structures that would be subject to geological conditions. This alternative would result in more of the Project site remaining in its existing condition. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Reduced Project Alternative would result in less potential for impacts when compared to the proposed Project.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. With mitigation measures, the overall annual GHG emissions associated with the proposed Project would be reduced by over 36.9 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent

reduction. Because the proposed Project would meet the City's 29 percent minimum reduction threshold, the proposed Project would not hinder the State's ability to reach the GHG reduction target. Overall, the proposed Project would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the proposed Project would have an individual and cumulative impact that is less than significant.

Under this alternative, the Project site would be developed with the same facilities and amenities as the proposed Project, but the total footprint and square footage would be reduced. While all uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measure as the proposed Project, the decrease in square footage decreases the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is less than the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components that will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under this alternative, all project components would remain the same with the exception of smaller building footprints. This alternative would still use the hazardous materials identified under the proposed Project. This alternative would have the same potential impacts relative to hazardous materials and emergency response plans in the developed area, but there would be less development. As such, this alternative would have less impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The proposed Project would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Reduced Project Alternative, potential construction related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undisturbed by construction of the smaller building footprints. The increased areas of undeveloped land will remain pervious to

precipitation. This alternative will still include a stormwater detention/retention, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be less under the Reduced Project Alternative when compared to the proposed Project.

Land Use and Population

The proposed Project is consistent with the City's General Plan land use requirements and would not result in any significant land use impacts. The proposed Project is not expected to induce population growth that has not already been accounted for as a part of the existing and approved General Plan. The proposed Project does not displace persons or remove housing units.

The Reduced Project Alternative is consistent with the City's General Plan land use requirements and would not result in any significant land use impacts. This alternative is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. As such, this alternative would have a similar impact relative to the proposed Project.

Mineral Resources

The project site is not considered a mineral resource recovery site and there is no evidence of past mining activity. The Reduced Project Alternative would have an equal impact when compared to the proposed Project.

Noise

The proposed Project would increase noise-generating activities associated with the maintenance and operation of the proposed project, as well as vehicular noise. Mitigation measures provided in Section 3.12 would reduce the impact to a less than significant level. The proposed Project would result in less than significant levels of noise or vibrations impacts due to construction and operational noise.

As this alternative is a reduction in the size of the buildings without eliminating the project components, the noise impacts associated with future industrial uses would be reduced proportionate to the vehicular and operational activities. All noise issues would be mitigated as appropriate through noise attenuation and best management practices; however, under this alternative, noise impacts are less when compared to the proposed Project.

Public Services and Recreation

Development in the proposed Project will pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities in order to meet the City's standards. The proposed Project would have a less than significant impact to fire police, school and recreational facilities.

Under the Reduced Project Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and

number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 33.3 percent. This reduction in square footage and recreational amenities would represent an approximately 33.3 percent reduction in the amount of public service needs from the Project site. This reduction would also result in a 33.3 reduction in the anticipated recreational amenities that would be created by the proposed project. The Reduced Project Alternative would result in a greater recreational impact when compared to the proposed Project because of the reduction of recreational amenities for the community.

Traffic and Circulation

As described in Section 3.14, implementation of the proposed Project would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Under the Reduced Project Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 33.3 percent. This reduction in square footage and recreational amenities would represent an approximately 33.3 percent reduction in the amount of traffic generated from the Project site.

Uses in the Reduced Project Alternative would be required to adhere to the same mitigation measures as the proposed Project and the decrease in square footage and reduced traffic volumes would result in reductions traffic congestion. While there would be a decrease in project generated traffic, some cumulative conditions will continue to operate at unacceptable levels of service regardless of the reduction of project traffic. Nevertheless, the Reduced Project Alternative would result in less traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed project would result in impacts the public wastewater, water, storm drainage, and solid waste collection and disposal system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. Project impacts to wastewater, water, stormwater and solid waste facilities are all less than significant.

Under the Reduced Project Alterative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 33.3 percent. This reduction in square footage and recreational amenities would represent an approximately 33.3 percent reduction in the amount of wastewater and solid waste generated from the Project site. This reduction would also reduce water demand by approximately 33.3 percent. There would be approximately 63 more acres of pervious soils, thereby reducing the amount of storm drainage from the project site. While uses in the Reduced Project Alterative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in square footage would reduce the utility demands. The Agricultural Protection Alternative would result in less demand on utility systems when compared to the proposed Project.

Overall, this alternative would have less wastewater treatment demand, less water demand, less solid waste generated, and less storm water runoff when compared to the proposed Project. As such, this alternative would have less impact when compared to the proposed Project.

AGRICULTURE PROTECTION ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, although the visual character of the Project site would be significantly altered as a result of project implementation, the guidelines and standards within the proposed Project would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the proposed Project would ensure that impacts to visual resources would be less than significant. Additionally, implementation of the lighting and design standards in the proposed Project would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

A portion of the Project site would remain under agricultural production, and therefore, would retain the existing visual character. However, portions of the Project site that are currently agricultural land would be converted to urban uses. As such, there would still be an impact to the visual character under this alternative. The impact associated with increased light and glare in the developed area would be mitigated through design guidelines. Under this alternative, the changes to the existing visual quality would be similar to the proposed Project, just on a smaller scale. As such, this alternative would have slightly less impact when compared to the proposed Project.

Agricultural and Forest Resources

Development of the proposed Project would remove approximately 172 acres of Prime Farmland and Farmland of Statewide Importance. This loss results in a significant and unavoidable impact.

The Agriculture Protection Alternative would reduce the amount of converted Prime Farmland and Farmland of Statewide Importance to approximately 94.5 acres. Provisions for payment of compensatory fees would partially offset conversions of farmland on the portion that would be developed; however, no new farmland would be made available, and the productivity of existing farmland would not be improved as a result of these measures. Therefore, full compensation for losses of Important Farmland under the Agriculture Protection Alternative would not be achieved resulting in a significant and unavoidable impact.

While this alternative would still result in a significant and unavoidable impact to agriculture, the land lost to urban uses is much less than under the proposed Project. As such, this alternative would have less impact when compared to the proposed Project.

Air Quality

Under buildout conditions in San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

Even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for operations. The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Implementation of the proposed Project would cause an increase in traffic, which is the dominant source of air emissions associated with the proposed Project. Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 50 percent. This reduction in square footage and recreational amenities would represent an approximately 50 percent reduction in the amount of traffic generated from the Project site. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by approximately the same 50 percent. Additionally, this alternative would have a reduction in area source emissions proportional to the reduction in square footage.

While uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in square footage and reduced traffic volumes would result in reductions in air emissions. The Agricultural Protection Alternative would result in less air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed on the Project site although there is protected wetlands and foraging habitat for special status species. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, there are mitigation measures that require a permit prior to any disturbance to the protected wetlands. The permit requirements for disturbance to a wetland require no net loss of wetlands, which effectively mitigate the impact to a less than significant level. As such, implementation of the proposed Project will have a less than significant impact.

The Agriculture Protection Alternative would result in development on the Project site, but the development would be significantly reduced with 94.5 acres remaining in its current condition. The 94.5 acres that would remain undeveloped would include the agricultural land only. This alternative would not eliminate the need to obtain Section 404 permits for the wetlands. Under this alternative, there would be more acres of agricultural land that would provide open space habitat for a variety of wildlife species, predominately associated with foraging (i.e. protected raptors including Swainson's hawk, migratory birds). This additional agricultural land would provide biological benefits to wildlife in the region even though a portion of the Project site would still be developed. As such, the Agriculture Protection Alternative would result in less impact to biological resources when compared to the proposed Project.

Cultural Resources

As described in Section 3.5, during the field surveys conducted on the Project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

Under this Agricultural Protection Alternative, there would be less ground disturbing activities related to development and there would a reduced the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Agricultural Protection Alternative would result in less potential for impacts to cultural resources as more of the Project site would be used of agriculture production.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the project. Mostly notably, the proposed project would be subject to liquefaction due to the relatively high groundwater, combined with the sandy soils. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Agriculture Protection Alternative there would be less developed area resulting in less structures that would be subject to geological conditions. Agricultural Protection Alternative would result more of the Project site remaining in its existing condition. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Agricultural Protection Alternative would result in less potential for impacts when compared to the proposed Project.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. With mitigation measures, the overall annual GHG emissions associated with the proposed Project would be reduced by over 36.9 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent reduction. Because the proposed Project would meet the City's 29 percent minimum reduction threshold, the proposed Project would not hinder the State's ability to reach the GHG reduction target. Overall, the proposed Project would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the proposed Project would have an individual and cumulative impact that is less than significant.

Under this alternative, the Project site would be developed with the same facilities and amenities as the proposed Project in the developed area, but the total footprint and square footage would be significantly reduced. While uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measure as the proposed Project, the significant decrease in square footage would significantly decrease the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is less than the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components that will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under this alternative, all project components would remain the same with the exception of a portion that would remain under agricultural uses. This alternative would still use the hazardous

materials identified under the proposed Project. This alternative would have the same potential impacts relative to hazardous materials and emergency response plans. The farmland may use herbicides and pesticides that would not be used under the proposed project and the industrial uses would be required to adhere to the same hazardous materials regulations as the proposed Project. While the chance of a hazardous material release may be mitigated to a less than significant level for this alternative, the potential for hazards and hazardous materials impacts is reduced when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The proposed Project would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Agricultural Protection Alternative, potential construction related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undisturbed.

The increased areas of undeveloped land will remain pervious to precipitation and will have have urban pollutants. This alternative will still include a stormwater detention/retention, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be less under the Agricultural Protection Alternative when compared to the proposed Project.

Land Use and Population

The proposed Project is consistent with the City's General Plan land use requirements and would not result in any significant land use impacts. The proposed Project is not expected to induce population growth that has not already been accounted for as a part of the existing and approved General Plan. The proposed Project does not displace persons or remove housing units.

The Agricultural Protection Alternative is consistent with the City's General Plan land use requirements and would not result in any significant land use impacts. This alternative is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. As such, this alternative would have a similar impact relative to the proposed Project.

Mineral Resources

The project site is not considered a mineral resource recovery site and there is no evidence of past mining activity. The Agriculture Protection Alternative would have an equal impact when compared to the proposed Project.

Noise

The proposed Project would increase noise-generating activities associated with the maintenance and operation of the proposed project, as well as vehicular noise. Mitigation measures provided in Section 3.12 would reduce the impact to a less than significant level. The proposed Project would result in less than significant levels of noise or vibrations impacts due to construction and operational noise.

As this alternative result in less development, the noise impacts associated with future uses would be less. The agriculture area would involve the use of farming equipment and haul trucks that would cause a noise impact; however, the noises related to the agricultural activities already exist and therefore this would not introduce a new source of noise to the area. All other noise issues would be similar to the proposed Project. Under this alternative, noise impacts are less than those of the proposed Project.

Public Services and Recreation

Development in the proposed Project will pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities in order to meet the City's standards. The proposed Project would have a less than significant impact to fire police, school and recreational facilities.

Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 50 percent. This reduction in square footage and recreational amenities would represent an approximately 50 percent reduction in the amount of public service needs from the Project site. This reduction would also result in a 50 reduction in the anticipated recreational amenities that would be created by the proposed project. The Agricultural Protection Alternative would result in a greater recreational impact when compared to the proposed Project because of the reduction of recreational amenities for the community.

Traffic and Circulation

As described in Section 3.14, implementation of the proposed Project would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 50

percent. This reduction in square footage and recreational amenities would represent an approximately 50 percent reduction in the amount of traffic generated from the Project site.

Uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project and the decrease in square footage and reduced traffic volumes would result in reductions traffic congestion. While there would be a decrease in project generated traffic, some cumulative conditions will continue to operate at unacceptable levels of service regardless of the reduction of project traffic. Nevertheless, the Agricultural Protection Alternative would result in less traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed project would result in impacts the public wastewater, water, storm drainage, and solid waste collection and disposal system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. Project impacts to wastewater, water, stormwater and solid waste facilities are all less than significant.

Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the size of the buildings and number of recreational amenities would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 50 percent. This reduction in square footage and recreational amenities would represent an approximately 50 percent reduction in the amount of wastewater and solid waste generated from the Project site. This reduction would also reduce water demand by approximately 50 percent. There would be approximately 94.5 more acres of pervious soils, thereby reducing the amount of storm drainage from the project site. While uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in square footage would reduce the utility demands. The Agricultural Protection Alternative would result in less demands on utility systems when compared to the proposed Project.

Overall, this alternative would have less wastewater treatment demand, less water demand, less solid waste generated, and less storm water runoff when compared to the proposed Project. As such, this alternative would have less impact when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

As Table 5.0-1 presents a comparison of the alternative project impacts with those of the proposed Project. As shown in the table, the No Project Alternative is the environmentally

superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project and Agricultural Alternatives both rank higher than the proposed Project. Comparatively, the Agricultural Protection Alternative would result in less impact then the Reduced Project Alternative because it provides the greatest reduction of potential impacts in comparison to the proposed Project. It should be noted that the Agricultural Protection Alternative and Reduced Project Alternative do not meet all of the project objectives.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO BUILD ALTERNATIVE*	*REDUCED PROJECT ALTERNATIVE*	*AGRICULTURE PROTECTION ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Agricultural and Forest Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Biological Resources	Less (Best)	Less (2nd Best)	Less (3rd Best)
Cultural Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Less (3rd Best)	Less (2nd Best)
Greenhouse Gases and Climate Change	Less (Best)	Less (3rd Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Less (3rd Best)	Less (2nd Best)
Hydrology and Water Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Land Use & Population	Equal (--)	Equal (--)	Equal (--)
Mineral Resources	Equal (--)	Equal (--)	Equal (--)
Noise	Less (Best)	Less (3rd Best)	Less (2nd Best)
Public Services and Recreation	Greater (Worst)	Greater (3rd Worst)	Greater (2nd Worst)
Transportation and Circulation	Less (Best)	Less (3rd Best)	Less (2nd Best)
Utilities	Less (Best)	Less (3rd Best)	Less (2nd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

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

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