DRAFT
ENVIRONMENTAL IMPACT REPORT

MADERA TRAVEL CENTER
SCH #20150121

April 2016

Quad Knopf

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ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACM	Asbestos Containing Material
ADT	Average Daily Traffic
AIA	Air Impact Assessment
ALUCP	Airport Land use Compatibility Plan Madera County Airports
APU	Auxiliary Power Units
AST	Above Ground Storage Tank
AQAP	Air Quality Attainment Plan
ASTM	American Society of Testing and Materials
ATCM	Air Toxic Control Measure
BAU	Business as Usual
BFE	Base Flood Elevation
BMPs	Best Management Practices
BPSs	Best Performance Standards
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
Calfire	California Department of Forestry and Fire
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CHL	California Historic Landmark
CHP	California Highway Patrol
CMUTCD	California Manual on Uniform Traffic Control Devices for Streets and Highways
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COG	Council of Governments

CNDDB	California Natural Diversity Data Base
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CRH	California Register of Historic Places
CRHR	California Register of Historic Resources
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Federal Clean Water Act
dBA	A-weighted Decibel
DBCP	Dibromochoropropane
DEF	Diesel Exhaust Fluid
DEIR	Draft Environmental Impact Report
DHS	Department of Public Health
DIF	Development Impact Fee
DMP	Dimethyl phthalate
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
DWQ	Department of Water Quality
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
ELG	Effluent Limitation Guidelines
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ERIP	Emission Reduction Incentive Program
ERSL	Earth System Research Laboratory
ESA	Environmental Site Assessment (Phase I)
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FEIR	Final Environmental Impact Report
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Security Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
FSZ	Farmland Security Zone
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gases
GMP	Groundwater Management Plan
GPD	Gallons per Day
GPS	Global Positioning System
GSA	Groundwater Sustainability Agency
GVWR	Gross Vehicle Weight Rating
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant

HASP	Health and Safety Plans
HCM	Highway Capacity Manual
HFC	Hydroflurocarbons
HRA	Health Risk Assessment
HWCL	Hazardous Waste Control Law
IPCC	Intergovermental Panel on Climate Change
ISR	Indirect Source Review
ITE	Institute of Traffic Engineers
KOPs	Key Observation Points
Ldn	Day/Night Noise Level
LED	Light Emitting Diode
LID	Low Impact Development
Ldn	Day-Night Sound Level
Leq	Equivalent Sound Level
LOS	Level of Service
MAX	Madera Area Express (bus service)
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MCTC	Madera County Transportation Commission
MEI	Maximally Exposed Individual
MGD	Million Gallons per Day
MLD	Most Likely Descendant
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Drain Systems
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
MWELO	Model Water Efficiency Landscape Ordinance\
MWMP	Madera Wastewater Treatment Plant
MtCO2e	Million Tons of CO2 equivalent
NAAQS	National Ambient Air Quality Standards
NAHP	Native American Heritage Commission
NEHPRA	National Earthquate Hazards Reduction Program
NF3	Nitrogen Trifluroride
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
N_2O	Nitrous Oxide
NOAA	National Oceanographic and Atmospheric Administration
NOC	Notice of Completion
NOP	Notice of Preparation
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New Source Review

NWI	National Wetlands Inventory
O3	Ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
OPR	Governor's Office of Planning and Research
PDF	Project Design Features
PFC	Perflurocarbons
PM	Particulate Matter
PM10	Particulate Matter 10 Microns or Smaller
PM2.5	Particulate Matter 2.5 Microns or Smaller
PRC	Public Resources Code
PSR	Project Study Report
RCLA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RMDZ	Recycling Market Development Zone
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RV	Recreational Vehicle
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCH	California State Clearinghouse
SCS	Sustainable Communities Strategy
SF6	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazards Mapping Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	California Surface Mining and Reclamation Act
SME	Society of Manufacturing Engineers
SOP	Standard Operating Procedures
SOx	Oxides of Sulfur
SO_2	Sulfur Dioxide
SPRR	Southern Pacific Railroad
SR	State Route
STC	Sound Transmission Class
SWPPP	Stormwater Pollution Prevention Plan
SWQMP	Storm Water Quality Management Act
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TDS	Total Dissolved Solids

TCM	Transportation Control Measure
TCP	Tricholropropane
TIS	Traffic Impact Study
TMDL	Total Maximum Daily Load
TSM	Tentative Subdivision Map
TWLTL	Two Way Left Turn Lane
UBC	Uniform Building Code
UCPM	University of California Museum of Paleontology
UNFCCC	United NationsFramework Convention on Climate Change
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
VMT	Vehicle Miles Traveled
WDP	Waste Discharge Permit
WQA	Water Quality Certification
WRCC	Western Regional Climate Center
WRI	World Resources Institute
WSA	Water Supply Assessment

EXECUTIVE SUMMARY

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Introduction

Under the California Environmental Quality Act (CEQA), when discretionary projects are undertaken by public agencies, an Environmental Impact Report (EIR) is required if the Lead Agency determines that the project may cause a significant environmental impact. This was concluded by the Notice of Preparation (NOP) prepared and published for this Project on February 19, 2014 (Appendix A). Comments received during the Notice of Preparation circulation period follow the NOP in Appendix A.

The purpose of an EIR is to provide full disclosure of the potentially significant environmental effects of the Project to the public and the decision-makers and explore the means to mitigate (i.e., reduce, avoid, or eliminate) those impacts through special mitigation measures or alternatives to the Project. CEQA intends that preparation of an EIR shall be a public process that provides meaningful opportunities for public input with regard to environmental effects.

Section 15123 of the *CEQA Guidelines* requires that an EIR contain a brief summary of the proposed action and its consequences. This Executive Summary is required to identify the following: 1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; 2) areas of controversy known to the Lead Agency including issues raised by agencies and the public; and 3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

This EIR will be used as a Project-level EIR, and further environmental review may be required for the specific activities resulting from the Project's adoption.

PROJECT LOCATION

The Project is located in the City of Madera, near the northern edge of the city limits, at the Avenue 17/State Route 99 (SR 99) interchange. Madera is located along SR 99, 13 miles southeast of Chowchilla and 15 miles northwest of Fresno. The Project site, encompassing approximately 50 acres, contains one parcel (Assessor's Parcel Number 013-240-003). Of this, about 25 acres are proposed to be developed as part of the Project; the remainder of the parcel will be separated from the Travel Center site through a tentative parcel map. A street right-of-way dedication is also proposed.

PROJECT DESCRIPTION

The City of Madera is the Lead Agency for the preparation of this Project EIR for the Madera Travel Center project and related actions collectively referred to herein as the "Project."

The Project is a Travel Center, to include hotel, restaurant, fueling islands, RV and boat storage, and other services and amenities for automobile and trailer truck travelers. The Project is located in the City of Madera, near the northern edge of the city limits, at the Avenue 17/State Route 99 (SR 99) interchange.

PROJECT COMPONENTS

The overall proposed Project addressed in this EIR is referred to as a Travel Center. Buildings have not yet been designed, and detailed floor plans, elevations, materials, and colors will be determined during the design review process. The proposed Project is comprised of the following preliminary components including:

Travel Stop

An 11,981 square-foot Travel Stop building, including 7,965 square feet within the store portion and a 4,016 square foot, branded food restaurant with drive-through, served by on-site parking for passenger vehicles and trailer trucks. Gasoline and diesel fuel, and propane will be sold on site, with nine covered fuel islands for trucks, and nine separate fuel islands for automobiles, as well as truck scales, oil-water separator, RV dump, and both above ground diesel fuel tanks and underground gasoline tanks, and an underground diesel exhaust fluid tank. All large truck maneuvering will be segregated from car traffic and non-trucker personnel for safety.

Other Components

- **Tire Shop and Truck Area:** proposed in a separate area from the Travel Stop building. There will be no heavy maintenance or engine rebuilding activities conducted on-site.

- **Project Hotel:** free-standing 81-room, four-story hotel. Proposed amenities include an outdoor swimming pool, picnic arbor, free breakfast for guests, fitness center, meeting facilities, and business center for travelers.

- **Restaurant with Drive-through Lane:** freestanding restaurant of approximately 4,400 square feet in the northwest corner of the site with drive-through windows and long queuing driveway.

- **RV and Boat Storage Facility:** six canopy-covered, open-air storage buildings that provide a total of 307 storage spaces. A small office building and a wash area will also be provided, and security fencing will be installed. On-site security consists of monitored camera surveillance along with dedicated keypad entry/exit that controls rolling iron gates.

- **Historical Pedestrian Plaza:** an important corner of the property is the southwest corner of Avenue 17 and Sharon Boulevard. The proposed Project includes a pedestrian plaza at this location that will address a part of the history of Madera, including metal plaques that will describe the logging history of the Madera area.

- **Storm Drainage:** runoff will generally be directed, where feasible, to low-lying landscaped areas used as vegetated swales, or bioretention areas. The landscaped areas will likely store approximately six inches of water prior to overflowing into the storm drain system. A maximum of two temporary basins, totaling approximately four acres in

size, will accommodate site and adjacent street runoff until such time as permanent drainage facilities become available.

- **Water and Wastewater:** water and wastewater lines will be installed in accordance with City requirements. In the event the extension of the water line does not accommodate domestic and fire flow requirements, other measures such as the installation of an on-site tank, booster pump or even a new well in the vicinity would need to be considered.

- **Grading:** total ground disturbance is approximately 33.4 acres, including offsite improvements. Approximately 18.2 acres, or 75 percent, of the site will be devoted to impervious surfaces.

- **Landscaping and Irrigation:** includes water-efficient deciduous and evergreen trees and a variety of tall, medium and low shrubs and ground covers to provide visual interest and pedestrian scale within the site and to screen views from off site. Plants will be ranked "Medium", "Low" and "Very Low" water use per California's Water Use Classification of Landscape Species (WUCOLS), and the overall landscape will meet the requirements of the State's Model Water Efficient Landscape Ordinance (MWELO).

- **Outdoor Lighting:** the Project is proposed to be illuminated during nighttime hours by a combination of pole- and building-mounted fixtures. All proposed fixtures will be energy efficient LED non-glare, directional cut-off fixtures, intended to allow for dark-sky conditions and zero foot-candle light-spillage across the property lines. The building wall sconces provide not only the near-building security lighting, but with their battery packs, they double for the code required emergency egress lighting.

- **Signage:** the Project site will include one 125-foot tall, single high-rise, LED illuminated, multi-tenant sign that will advertise several tenants. The proposed Project also proposes numerous free-standing signs and eight directional signs.

- **Street Improvements, Driveways, and Parking:** The proposed Project includes right-of-way dedication for, and construction of, Sharon Boulevard, beginning at Avenue 17 and extending to a temporary cul-de-sac at the southern end of the Project site. The new Sharon Boulevard will be constructed as an arterial roadway with curb, gutter, and sidewalks. It will include a 16-foot wide median, two southbound lanes, a park strip with sidewalk, and two northbound lanes. Street improvements along the Avenue17 frontage, including installation of signalized intersections on Avenue 17, are also proposed.

  Autos will enter and access the travel stop, hotel and restaurant from Avenue 17 (west entrance), which will be aligned with the future Madera Town Center access driveway across Avenue 17 to the north. A dedicated right-turn pocket will be constructed into the Project site on Avenue 17. A second Avenue 17 entrance/exit (right-in/right-out) is proposed at the east end of the auto fueling area of the Project site. Trucks will enter and exit the site on Sharon Boulevard. Access to the RV/Boat Storage area will be via a one-way entrance off Sharon Boulevard.

A total of 302 parking spaces will be provided, as follows:

- Restaurant: 66 spaces;
- Hotel: 70 spaces;
- RV Storage Facility: 9 spaces; and
- Travel Stop: 56 car spaces and 98 truck spaces.

- **Offsite Improvements:** These improvements will include a 24-inch water main to extend existing water service to the site; a new well; a sewer main in the proposed Sharon Boulevard roadway dedication, and smaller sewer lines to provide service on site; and potentially a temporary retention basin, if determined during the building permit process to be necessary.

Development Phasing

The Project is proposed to be developed in a single phase of construction, although construction of some components could be delayed. Construction is planned to commence in the third quarter of 2016 and is projected to be completed by the first quarter of 2017.

Subdivsion

The Project site will be divided for the various uses as described below:

- Parcel 1 – Approximately 1.9 acres. Includes the Restaurant;
- Parcel 2 – Approximately 2.4 acres. Includes the Hotel;
- Parcel 3 – Approximately 12.9 acres. Includes the Travel Stop and Tire Shop;
- Parcel 4 – Approximately 7.3 acres. Includes the RV and Boat Storage Facility; and
- Parcel 5 – Approximately 18.8 acres. This remainder parcel will not be developed as part of this proposed Project.

In addition, a street right-of-way dedication for Sharon Boulevard measuring 5.1 acres is proposed.

Figures in Chapter Two show the various components for the proposed Project. A complete description of the proposed Project is also discussed in Chapter Two.

BACKGROUND AND CHARACTERISTICS

The proposed Project site was previously used by National Hardware Supply as a holding facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. With the relocation of the heavy equipment business around 2007, only a few miscellaneous remnants of the prior operation remain. That equipment is no longer stored at the site. Near the center of the site are two abandoned, single-story office buildings, each of approximately 200 square feet, one of which is a portable building. The perimeter of the site is secured by a chain-link fence. An asphalt paved driveway extends into the site from Avenue 17 to the north and meanders along the northwest side of the

site to the center where the vacant buildings are located. Other features include a stormwater detention basin in the northwest portion of the site and a large dirt/aggregate parking area that extends from the north end to the south end of the site along the west side, The site also contains large amounts of construction debris, refuse, fill dirt, storage containers, and scrap wood. The Project site terrain is flat and the majority of the ground surface is an earth and gravel mixture, with patches of low grassy areas.

The site is designated for commercial use on the Madera General Plan Land Use Diagram and zoned C-2 (heavy commercial). (Figures 2-4 and 2-5.) The project site is surrounded by Avenue 17, undeveloped land, and an abandoned dairy facility to the north; residential units to the east, undeveloped land to the south; and SR 99, Southern Pacific railroad tracks, and undeveloped land to the west. the City-approved Madera town center project may eventually be developed immediately north of the project site, across avenue 17. Other land uses in the area include light industrial parks and the Madera Municipal Airport west of SR 99.

POTENTIAL AREAS OF CONCERN OR CONTROVERSY AND ISSUES TO BE ADDRESSED

A scoping meeting was held on March 3, 2015 to accept comments on the scope of the Draft EIR. Although City staff and Quad Knopf were on site for a presentation, no one from the public or agencies was present. Based on the Notice of Preparation and three, public agency comments received during the scoping process, the following were identified as potential areas of concern:

- Potential air quality effects, given the Air District's non-attainment status for ozone, and PM 2.5 and PM 10;
- Potential for nuisance odor impacts;
- Potential health impacts from toxic air contaminants;
- Potential health impacts from PM 2.5 as a result of under-fired charbroilers used at restaurants;
- Potential impacts to groundwater supplies based on Project water sources and demand; and
- Potential traffic impacts, particularly at peak hours at SR 99 at Avenue 17 interchange.

UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS

Greenhouse Gas Emissions

Impact #3.7-1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment:

An analysis of the proposed Project compared to the 2020 Project under BAU, or NAT, conditions demonstrates a greater than 29 percent reduction. Although this would be a less-than-

significant impact using this methodology, because the SJVAPCD reduction may no longer be a reliable measure, impacts ***are significant and unavoidable.***

Hydrology and Water Quality

Impact #3.9-2 - Substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The construction phase of the project would not result in a significant increase in water use. However, due to the overdraft condition of the regional groundwater basin, even with the implementation of appropriate mitigation measures the operations phase of the project would result in ***significant and unavoidable impacts*** to groundwater use and recharge.

Public Services and Utilities

Impact #3.12-3 – **Increase in demand for water supply and construction of additional water supply infrastructure.** Implementation of the Project will result in an increased demand for municipal water and require an extension of the existing city water system. Even with mitigation, the potential impact remains ***significant and unavoidable.***

Transportation/Traffic

Impact #3.13-1 – Traffic Increases, Level of Service (LOS) Exceedances. Because no feasible improvements are available to reduce impacts at several intersections to acceptable LOS, and because improvements outlined in mitigation measures cannot be assured, impacts remain ***significant and unavoidable.***

Impact #3.13-2 – **Conflict with an applicable congestion management program.** With respect to operations, even with implementation of the above mitigation measure, due to design constraints at several intersections, impacts from the projected future traffic growth and Project traffic cannot be reduced to acceptable LOS. Additionally, improvements outlined in mitigation measures cannot be assured, impacts remain ***significant and unavoidable***.

Cumulative Impacts

The Project's contribution to the anticipated cumulative condition is cumulatively considerable in the following topic areas:

- Biological Resources;
- Greenhouse Gas Emissions; and
- Transportation and Traffic.

ALTERNATIVES TO THE PROJECT

This EIR includes an evaluation of the alternatives described below. These alternatives are compared with the proposed Project. For each resource topic there is a description of how the potential environmental impact compares to that of the proposed Project. The difference is characterized as either *less* impact, *similar* impact, or *greater* impact. An analysis of the

comparative environmental superiority of the various alternatives is provided, as required by CEQA. The threshold criteria used in Chapter Three (Appendix G of the *CEQA Guidelines*) is also used to judge the significance of, and compare the impact conclusions related to each criteria for the project versus each alternative.

No Project

For this analysis, the No Project Alternative is not preservation of the Project site in its current undeveloped condition. That is considered a highly unlikely outcome, since the site is zoned for commercial use, is located at a major interchange along SR 99, and previous proposals for commercial development have been submitted, including certification of an EIR. The City fully anticipates that, in the event the Madera Travel Center project is not approved or the application is withdrawn, another application would be submitted in the near future proposing commercial development. As such, this alternative is based in the assumption that the No Project alternative would consist of a development application whose components are limited to those uses identified in the Madera Zoning Ordinance as Permitted Uses (no use permit required) in either the C-1 or C-2 zoning districts. Following are some of the allowed uses in the C-1 and C-2 zones: bakery, bank, barber shop, department store, drug store, florist, food store, hardware store, hobby supplies and crafts, pharmacy, service station, restaurant, and automobile parts and supply store.

Reduced Traffic Alternative

Chapter Three of this EIR identified significant and unavoidable impacts to traffic resulting from the proposed Project. Because the traffic signal warrant would not be met, no mitigation measures were identified sufficient to reduce impacts to a less-than-significant level at the Ave 17/SR 99 interchange northbound ramps in 2016. The northbound ramps have an existing LOS of 'D' (AM peak hour) and 'C' (PM peak hour), and with the Project will have an LOS of 'F' in year 2016. This alternative is intended to improve the LOS to 'E' in 2016, which will also improve the LOS through 2036. To achieve a reduction in vehicle trip generation sufficient to improve the LOS to 'E,' (AM Peak Hour) and 'D' (PM Peak Hour) this alternative would reduce the size of the proposed Project to a travel center of one-half the original size (to 5,990 square feet), no hotel and no stand alone restaurant with drive through. The tire shop, truck area, RV and boat storage facility, and other Project features would not be altered.

Reduced Water Demand Alternative

Chapter Three determined that, even with water conservation measures proposed by the applicant and after mitigation included in Section 3.12, the impact on water demand would remain significant and unavoidable. Based on information provided by the applicant, the proposed Project is expected to use a total of 33,800 gpd or 37.9 acre-feet per year of water, including approximately 5,300 gpd for the hotel (approximately 65 gpd per room indoor use).

This alternative is intended to specifically address water impacts by further reducing demands associated with operation of the proposed Project. This alternative is intended to respond to the Governor's April Drought Declaration and statewide water usage limitations per Executive Order B-29-15; be consistent with the Madera Regional Groundwater Management Plan; the

Integrated Regional Water Management Plan; and with rules or regulations adopted by the Madera Groundwater Authority, pursuant to AB 3030, the Sustainable Groundwater Management Act. (Water Code, § 10750(a)). This alternative will reduce the size of the hotel from 81 to 40 rooms and will further reduce water demand associated with the project's landscape irrigation. Reducing the number of hotel rooms would achieve water savings by reducing water used for daily laundry, cleaning, showers, and other uses. Based on the estimates provided above, an average of 65 gallons per room or 2,665 gallons would be saved daily. To reach a goal of a 10 percent water reduction (3,380 gallons per day or 3.8 acre-feet per year) under this alternative, an additional 715 gallons of water per day would need to be reduced through reducing the square footage of landscaped areas that require regular irrigation, using efficient irrigation systems, and using only drought-tolerant plant species (e.g. xeriscape). The water use for landscaping is currently estimated at 13,500 gpd. These actions would reduce peak water usage by 5.3 percent beyond that which can be achieved through the existing Madera Model Water Efficient landscape Ordinance (MWELO) and State of California water reduction mandates. The Project proponent would be able to select one or more water conservation methods associated with building operation or landscaping to meet the target usage reduction.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Section 15123(b)(1) of the *CEQA Guidelines* provides that this summary shall identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect. Information regarding the significant impacts of the proposed project and proposed mitigation measures to address those impacts is summarized in Table ES-1 Summary of Impacts and Mitigation Measures. Chapter Three should be consulted for the full text of impacts and mitigation measures. Impacts that would be less than significant even without proposed mitigation measures are not included in Table ES-1. Where an impact is shown in the column on the far right as "less than significant," this means that the impact would be significant without mitigation, but could be mitigated to less than significant levels with the adoption of recommended mitigation measures. Where an impact is shown in the column on the far right as significant and unavoidable, this means that the impact will remain significant even with the adoption of all proposed mitigation measures.

Immediately following Table ES-1 is Table ES-2, which is identical to Table 4-2 from Chapter 4 (Significance of Environmental Effects under Alternatives Compared to Proposed Project). Table ES-2 identifies each of the Alternatives described earlier and each of the environmental effects identified for the proposed project, and then indicates whether for each Alternative, the impact would be less than significant without mitigation, less than significant with mitigation, or significant and unavoidable, even with the adoption of all proposed mitigation. The table also indicates whether, as compared with the proposed project, the impacts of an Alternative would be of the same severity, lesser severity, or greater severity. Although it is duplicative to include this same table twice within this Draft EIR, the placement here of Table ES-2 is necessary to satisfy the requirements of *CEQA Guidelines* section 15132(b)(1).

Table ES-1
Summary of Impacts and Mitigation Measures

AESTHETICS		
Impact #3.1-3 – Create a new source of substantial light or glare	**Mitigation Measure #3.1-3a:** A lighting plan shall be prepared and submitted to the City of Madera Community Development Department for approval in conjunction, prior to the issuance of building permits. The lighting plan shall adhere to the City of Madera Design & Development Guidelines and design review requirements, as applicable, regarding the appropriate use of building materials, lighting, and signage to prevent light and glare from adversely affecting motorists and adjacent land uses. The City shall ensure that the lighting Project plan incorporates the requirements set forth in mitigation measures 3.l-3b through 3.l-3e below. **Mitigation Measure #3.1-3b:** Decorative uplighting used to illuminate trees, walls, waterfalls, fountains, and other objects shall be ground-mounted and directed upwards, away from the viewer to prevent glare. **Mitigation Measure #3.1-3c:** Night lighting shall be limited to that necessary for security, safety, and identification and also be screened from adjacent residential areas and not be directed beyond the boundaries of the parcel on which the buildings are located. Outdoor security lighting at businesses shall be controlled by timers. **Mitigation Measure #3.1-3d:** All lighting proposed as part of the Project, shall be fully hooded, shielded, directed downward and away from adjoining properties and rights-of-way. Light shields shall be installed and maintained consistent with manufacturer's specifications, and shall reduce the spillage of light on to adjacent properties to less than a one-foot standard, as measured at the adjacent property line.	Less than Significant
AIR QUALITY		
Impact #3.3-4 – Expose sensitive receptors to substantial pollutant concentrations	**Mitigation Measures #3.3-1:** The Project Applicant shall install auxiliary power hookups in the truck parking area that are capable of providing power to a minimum of 12 trucks TRUs or auxiliary cab power. The Project Applicant shall also install signage in the truck parking areas that restrict the use of diesel powered auxiliary power units (APU). **Mitigation Measures #3.3-2:** The Project Applicant shall install an approximately 2'x3' sign near the diesel parking area on the property stating that no truck idling is allowed on the premises.	Less than Significant

	Mitigation Measures #3.3-3: The Project Applicant shall plant a row of trees along the eastern and southern edges of the travel stop. The tree species utilized shall be chosen from several that have been studied by Caltrans and the Sacramento Air District to be effective at removing very fine particulate matter, which may include but is not limited to deodar cedar, Italian stone pine, or Digger/Foothill/Gray pine.	
BIOLOGICAL RESOURCES		
Impact #3.4.1a – Impacts to the western burrowing owl	**Mitigation Measure #3.4-1a: The following measures will be implemented to ensure that impacts to the burrowing owl are less than significant.** Standard measures for the protection of burrowing owls provided in the CDFW's Staff Report on Burrowing Owl Mitigation (2012) shall be implemented except where determined to be unnecessary by the City after consultation with a qualified biologist. Active burrows should be avoided, compensation should be provided for the displacement of burrowing owls, and habitat acquisition and the creation of artificial dens for any burrowing owls removed from construction areas should be provided. These measures are generally outlined as follows: 1. Pre-construction surveys shall be conducted. Pre-construction surveys of construction areas, including a 150-meter buffer, should be conducted no less than 14 days and no more than 30 days prior to ground disturbing activities. If more than 30 days lapse between the time of the preconstruction survey and the start of ground-disturbing activities, another preconstruction survey shall be completed, including but not limited to a final survey conducted within 24 hours prior to ground disturbance. 2. If western burrowing owls are present on the construction site (or within 150 meters of the construction site), exclusion fencing shall be installed between the nest site or active burrow and any earth-moving activity or other disturbance. *The California Burrowing Owl Consortium's Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993) recommends that exclusion areas extend 160 feet around occupied burrows during the non-breeding season (September 1 through January 31) and extend 250 feet around occupied burrows during the breeding season (February 1 through August 31). This 250-foot buffer could be removed once it is determined by a qualified biologist that the young have fledged. Typically, the young fledge by August 31st. This date may be earlier than August 31st, or later, and would have to be determined by a qualified biologist. 3. If western burrowing owls are present in the non-breeding season (September 1 through January 31) and must be passively relocated from the Project site, passive relocation shall not commence until October 1st and must be completed by February 1st. Passive relocation may only be conducted by a qualified biologist or ornithologist and with approval by CDFW. After passive relocation, the area where owls occurred and its	Less than significant

	immediate vicinity will be monitored by a qualified biologist daily for one week and once per week for an additional two weeks to document that owls are not reoccupying the site. 4. If western burrowing owls are documented on the Project site and require relocation, compensation for the loss of foraging and burrowing owl habitat shall be required and follow the CDFW's Staff Report on Burrowing Owl Mitigation (2012) and the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (1993). The size of the mitigation site shall be based upon the number of owls or pairs of owls located on the construction area during pre-construction surveys. Compensatory mitigation lands shall encompass a minimum of 6.5 acres of habitat per burrowing owl pair (or unpaired resident single bird) found on site, and those lands shall contain burrows that have been occupied by owls within the last three years. The mitigation site must be determined to be suitable by a qualified biologist and may be located off site. The mitigation site must consist of grassland habitat that contains small mammals (or other prey) and ground squirrel burrows. Two natural or artificial nest burrows shall be provided on the mitigation site for each burrow in the Project area. The mitigation site must be approved by the California Department of Fish and Wildlife. The area shall be preserved in perpetuity as wildlife habitat through a conservation easement that designates the California Department of Fish and Wildlife, or any other qualified conservation organization, as the Grantee of the easement.	
Impact #3.4.1b - Impacts to Swainson's hawks	**Mitigation Measures #3.4-1b:** Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 mile of the Project site, then those nests or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit during January 1-March 20 to identify potential nest sites, three visits during March 20-April 5, three visits during April 5-April 20, and three visits during June 10-July 30. A lesser number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. If Swainson's hawks are not found to nest within the survey area, then no further action is warranted. If Swainson's hawks are found to nest within the survey area, active Swainson's hawk nests shall be avoided by 0.5 mile during the nesting period, unless this avoidance buffer is reduced through consultation with the CDFW and/or a qualified biologist with expertise in Swainson's	Less than significant

	hawk issues. If a construction area falls within this nesting site, construction must be delayed until the young have fledged (left the nest). The 2,500- foot-radius no-construction zone may be reduced in size but in no case shall be reduced to less than 500 feet except where a qualified biologist concludes that a smaller buffer area is sufficiently protective. A qualified biologist must conduct construction monitoring on a daily basis, inspect the nest on a daily basis, and ensure that construction activities do not disrupt breeding behaviors.	
Impact #3.4.1c – Impacts to nesting raptors	**Mitigation Measure #3.4-1c: The following measures shall be implemented to reduce potential impacts to nesting raptors (other than Swainson's hawk) and other migratory birds:** A pre-construction survey shall be performed on the Project site, and within 500 feet of its perimeter, in areas where there is a potential for nesting raptors and other migratory birds to occur if construction occurs during the breeding season (generally defined from February 1 to August 31). These areas include power poles or trees that are suitable for the establishment of nests. Areas also include non-native annual grassland habitat and agriculturally developed land, which provide potential breeding habitat for ground-nesting birds such as the western meadowlark and northern harrier. The pre-construction survey shall be performed during the period 3 to 14 days prior to construction to identify active nests and mark those nests for avoidance. These surveys can be completed in conjunction with surveys that may be required for other species. If nesting raptors other than Swainson's hawk are identified during the surveys, active raptor nests shall be avoided with a buffer of 500 feet and all other migratory bird nests shall be avoided with a buffer of 250 feet. Avoidance buffers may be reduced through consultation with the CDFW and/or a qualified biologist. No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by early July, but September 1st is considered the end of the nesting period unless otherwise determined by a qualified biologist. Once raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can be terminated.	Less than significant
Impact #3.4.1d – Impacts to the San Joaquin kit fox and American badger	**Mitigation Measure #3.4-1d: The following measures shall be implemented to reduce potential impacts to San Joaquin kit fox and American badger:** Because one American badger den with a species diagnostic sign, a horizontal scratch mark, was found on the Project site and up to 10 potential dens and/ or burrows that could be modified and inhabited by the San Joaquin kit fox and American badger were located throughout Ponding Basins 1 and 2, there is the potential for the San Joaquin kit fox and American badger to occur on the Project site. Therefore the *USFWS Standardized Recommendations for Protection of the San Joaquin*	Less than significant

	Kit Fox Prior to or During Ground Disturbance (USFWS 2011) shall be followed. The measures that are listed below have been excerpted from those guidelines and would protect San Joaquin kit foxes and American badgers from direct mortality and from destruction of active dens and natal or pupping dens. The Lead Agency or Designee shall determine the applicability of the following measures depending on specific construction activities and shall implement such measures when required, as explained below. 1. Pre-construction surveys shall be conducted no fewer than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, or any Project activity likely to impact the San Joaquin kit fox or American badger. If such surveys find active or natal or pupping dens for either San Joaquin kit fox or American badger den, exclusion zones shall be placed in accordance with USFWS Recommendations. If any den is found within the construction area and must be removed, it must be appropriately monitored and excavated by a trained wildlife biologist. Destruction of natal dens and other "known" kit fox dens must not occur until authorized by USFWS. Replacement dens will be required if such dens are removed. Potential dens that are removed do not need to be replaced if they are determined to be inactive after monitoring. 2. Project construction-related vehicles shall observe a daytime speed limit of 20-mph throughout the site in all Project areas, except on County roads and State and federal highways; this is particularly important at night when kit foxes and American badgers are most active. Night-time construction shall be minimized to the extent possible. However if it does occur, then the speed limit shall be reduced to 10-mph. Project construction-related vehicles shall be prohibited from going off-road outside of designated Project areas. 3. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a Project, all excavated, steep-walled holes or trenches more than 2-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the USFWS and the CDFW shall be contacted at the addresses provided below. 4. Kit foxes and American badgers are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit	

	fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped. 5. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or Project site. 6. Use of firearms on the site shall adhere to USFWS protocols. 7. No pets, such as dogs or cats, shall be permitted on the Project site to prevent harassment, mortality of kit foxes, or destruction of dens. 8. Use of rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of a proven lower risk to kit fox. 9. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS. 10. An employee education program shall be conducted. The program shall consist of a brief presentation by persons knowledgeable in San Joaquin kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the Project. The program shall include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.	

	11. Upon completion of the Project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the Project, but after Project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas shall be determined on a site-specific basis in consultation with the USFWS, CDFW, and revegetation experts. 12. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be contacted for guidance. 13. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hofmann, the wildlife biologist, at (530)934-9309. The USFWS shall be contacted at the numbers below. 14. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hofmann at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309. 15. All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below. Any Project-related information required by the USFWS or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division 2800 Cottage Way, Suite W2605 Sacramento, California 95825-1846 (916) 414-6620 or (916) 414-6600	

	Mitigation Measure #3.4-1e: An environmental awareness training program shall be presented to construction personnel prior to the start of construction. The presentation shall include the life history information for all special-status species that could potentially occur on the Project site. The presentation shall discuss the legal protection status of each species, the definition of "take" under existing environmental laws, specific measures that workers would employ to avoid take of wildlife species, and the penalties for violations. An attendance sheet shall be circulated at all training sessions to document worker attendance. All personnel who are unable to attend the initial training program due to scheduling or other factors will review the training program materials and sign the training attendance sheet.	Less than Significant
CULTURAL RESOURCES		
Impact #3.5.1 – Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.4	**Mitigation Measure #3.5-1:** In the event that resources potentially qualifying as historical resources or unique archaeological resources per CEQA Guidelines Section 15064.5 and Public Resources Code section 21083.2 are inadvertently discovered during ground-disturbing activities, all work within 50 feet of the find shall halt until a qualified archaeologist who meets the Secretary of the Interior's professional qualifications standards in prehistoric or historical archaeology, as appropriate, shall evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents either an historical resource or a unique archaeological resource, the archaeologist shall recommend to the City's Community Development Director potential means of addressing impacts to such resources. Such additional measures may include avoidance, testing, and evaluation or data recovery excavation. The Community Development Director shall then determine whether any such recommended measures are feasible in light of project design, economics, logistics, and other factors. If avoidance is infeasible based on these factors, then testing or data recovery shall be the preferred method of dealing with the affected resources. Once the measure(s) chosen by the Community Development Director have been identified and implemented, construction work in the area within 50 feet of the find shall be resumed.	Less than Significant
Impact #3.5-2 - Cause a substantial adverse change in the significance of a unique archaeological resource, as defined in Public Resources Code Section 21083.2(g)	Implement Mitigation Measure #3.5-1.	Less than Significant

Impact #3.5.3 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure #3.5-3:** To mitigate potential adverse effects a monitoring program shall be developed in consultation with a professional paleontologist, which would provide intermittent inspection of excavations at the Project site by a professional paleontologist during site grading and excavation activities. Should the construction crew or paleontologist uncover any bones or teeth, all construction-related activities in the immediate vicinity would be stopped until the paleontologist has assessed the find and, if deemed significant, salvaged it for deposition in a repository such as University of California Museum of Paleontology where it would be properly curated and preserved for scientific study. Any period in which construction is halted shall be kept to the minimum amount of time feasible under the circumstances. To avoid any unnecessary loss of time during construction, the City shall require the paleontologist to assess the significance of the affected resources as soon as is feasible under the circumstances. Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Madera Community Development Department and to the Natural History Museum of Los Angeles County.	Less than significant
Impact #3.5.4 – Disturb human remains, including those interred outside of formal cemeteries	**Mitigation Measure #3.5-4:** If human remains are uncovered during Project construction, the Project proponent shall immediately halt work, contact the Madera County Coroner to evaluate the remains, and follow the procedures and protocols set forth in §15064.5 (e)(1) of the *CEQA Guidelines*. The Madera Community Development Department shall also be notified of the discovery. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the Native American Heritage Commission, in accordance with Health and Safety Code §7050.5, subdivision (c), and Public Resources Code §5097.98 (as amended by AB 2641). The NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The Most Likely Descendant (MLD) shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98. Per Public Resources Code §5097.98, the Project operator shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less than significant

GEOLOGY, SOILS, AND SEISMICITY		
Impact#3.6-2(a)- Result in substantial soil erosion of instability on site	**Mitigation Measure #3.6-2a:** Implement Mitigation Measure #3.6-1.	Less than Significant
Impact #3.6-2(b) - Will result in substantial soil erosion or soil instability related to off-site infrastructure extension	**Mitigation Measure #3.6-2b:** Prior to issuance of grading permits, an erosion control plan shall be submitted and approved by the City of Madera that reduces erosion and water quality degradation. The erosion control plan shall indicate the proper control of erosion, sedimentation, siltation and other pollutants will be implemented to meet NPDES permit requirements and City standards (see Section 3.9 of this EIR). The plan shall address storm drainage during construction and set forth BMPs that shall be carried out during construction to minimize erosion, sedimentation and water quality degradation. BMPs selected shall be in accordance with the California Stormwater Quality Association Stormwater Best Management Practices Handbook, and will include: vegetated swales; bioretention areas; and a flow-based, storm water treatment device. The plan shall require that all drainage facilities shall be constructed to the City of Madera specifications. The plan shall indicate whether grading will occur in the winter months. The plan shall also require that: • Drainage facilities shall be protected as necessary to prevent erosion of onsite soils immediately following grading activities; • Cut slopes and drainage ways within native material shall be protected from direct exposure to water runoff immediately following grading activities; • The design for collected run-off shall dissipate immediately following grading activities; • Cut and fill embankment slopes shall be protected from sheet, rill, and gully erosion; and • Where soil stockpiling or borrow areas are to remain for more than one construction season, proper erosion control measures shall be applied as specified in the improvement plans/grading plans.	Less than Significant

GREENHOUSE GASES		
Impact #3.7.1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	An analysis of the proposed Project compared to the 2020 Project under BAU, or NAT, conditions demonstrates reduction substantially greater than 29 percent. Thus under the methodology recommended by the SJVACD, the impact would be less than significant. Even so, in order to avoid any dispute over the validity of that methodology in the aftermath of *CDB v DFW* decision, the City has decided with the applicant's agreement, to conservatively treat the impact as being potentially significant and unavoidable. **Mitigation Measures:** With the inclusion of the reductions already described, no additional reasonable mitigation measures are available.	Significant and Unavoidable
HAZARDS AND HAZARDOUS MATERIALS		
Impact #3.8-1 – Create a significant hazard to the public or environment though transport, use or disposal of hazardous materials	**Mitigation Measure #3.8-1a**: The Project proponent shall prepare a Hazardous Materials Business Plan and submit it to the Madera County Environmental Health Department (CUPA) for review and approval. The Hazardous Materials Business Plan shall include, at a minimum, floor plans of the facility and business conducted at the site; an inventory of hazardous materials that are handled or stored on site; an emergency response plan; and a safety and emergency response training program for new employees with annual refresher courses. A copy of the approved plan shall be provided to the City of Madera Planning Department prior to the issuance of grading permits. **Mitigation Measure #3.8-1b**: The Project proponent shall obtain the appropriate underground storage tank permit, as required under the State Health and Safety Code, as previously referenced from the Madera County Environmental Health Department for the installation of such tanks as a result of the Project. A copy of the approved underground storage tank permit shall be provided to the City of Madera Planning Department prior to the issuance of grading permits.	Less than Significant
Impact #3.8-2 – Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions	The Project proponent shall have a qualified professional prepare a Phase II Environmental Site Assessment for the Project site that includes soil sampling. Based on the conclusions of the Phase II Environmental Site Assessment, the Project proponent shall prepare a work plan and submit it to the Madera County Environmental Health Department for review and approval. A copy of the approved work plan shall be provided to the City of Madera Planning Department prior to the issuance of grading permits,. As determined by the results of the Phase II Environmental Site Assessment, at a minimum, the work plan shall include, but not be limited to:	Less than Significant

	1. Delineating the vertical and horizontal extent of the any soil contamination; 2. Providing workers with notices and information regarding the presence of any surface and subsurface contamination; 3. Educating workers regarding the appropriate measures for protecting themselves from surface and subsurface contamination through a training program; 4. Preparing a remediation plan for affected soils that outlines proposed remediation methods, including capping, excavation and offsite disposal, stockpiling, and/or onsite treatment in accordance with applicable laws, including California Code of Regulations, Title 22, Section 66261.20-24; 5. Identifying the party responsible for funding and conducting site cleanup; 6. Removing and disposing of air-conditioning unit; three aboveground storage tanks; numerous drums, barrels, and/or containers; stained asphalt pavements; trash, debris, and/or waste materials; materials associated with the dumping and construction/demolition debris areas; and three fill soil piles in accordance with applicable laws; 7. Removing or abandoning onsite septic system in accordance with applicable laws; 8. Taking other actions as required by the conclusions in the Phase II Environmental Site Assessment; and 9. Taking other actions as required by the Madera County Environmental Health Department.	
HYDROLOGY AND WATER QUALITY		
Impact #3.9 – 1 - Violate any water quality standards or waste discharge requirements	**Mitigation Measure #3.9-1a:** Prior to issuance of grading permits, the Project proponent shall submit a Notice of Intent (NOI) and 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 specify and require the implementation of Best Management Practices (BMPs), with the intent of keeping all products of erosion from moving off site and into receiving waters during construction. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended BMPs for the construction phase shall include, but is not limited to, the following:	Less than Significant

	• Stockpiling and disposing of demolition debris, concrete, and soil properly; • Protecting existing storm drain inlets and stabilizing disturbed areas; • Implementing erosion controls; • Properly managing construction materials; and • Managing waste, aggressively controlling litter, and implementing sediment controls. The City of Madera Community Development Department shall confirm that the RWQCB has approved the SWPPP prior to issuance of grading permits. **Mitigation Measure #3.9-1b:** Prior to issuance of grading permits, the Project proponent shall prepare a drainage plan for the Project for approval by the City of Madera City Engineer that identifies post-construction treatment, control, and design measures that minimize surface water runoff, erosion, siltation, and pollution. The drainage plan shall be prepared in accordance with the City's *Storm Water Quality Management Program* and CASQA's *Storm Water Best Management Practices Handbook* as well as the City Engineer's Standard Specifications and Standard Drawings. During final design of the Project, the Project proponent shall implement a suite of post-construction stormwater treatment and control Best Management Practices designed to address the most likely sources of stormwater pollutants resulting from operation and maintenance of the Project. These measures shall take into account the proposed 1.52-acre fenced retention basin, low-lying landscaped areas to be used as vegetated swales, shall be designed to methods described in Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ) and shall include the following Project-proponent proposed water quality best management practices: • Gasoline and diesel fueling areas shall be covered by canopies and shall be surfaced with Portland cement concrete. Diesel fueling areas shall be covered by canopies and shall have catch basins piped to an oil-water separator at each fueling bay to effectively preclude these areas from degrading storm water runoff. Storm water shall be precluded from entering catch basins due to covered canopies and grading design; • Fuel delivery areas shall have catch basins to capture any incidental spillage and shall be piped to an oil-water separator, and discharged to the sanitary sewer system. Catch basins shall not receive storm water runoff due to grading design; • Above ground diesel tanks shall have a containment curb around them; and • Maintenance bays in the tire shop shall be fully covered to preclude degradation of storm water runoff as a result of maintenance operations.	

Impact #3.9-2 – Substantially deplete groundwater supplies or interfere with groundwater recharge	**Mitigation Measures:** Implement Mitigation Measure #3.12-1. (**Mitigation Measure #3.12-1:** As part of the Site Plan Review process, the applicant shall submit a water conservation plan to the City of Madera Planning Department for review and approval which demonstrates the landscaping and buildings will include available water conservation measures for both interior and exterior water usage that, after compliance with all existing federal, state and local regulations, will result in a reduction of an additional 10 percent over anticipated water demand for the Project.)	Significant and Unavoidable
Impact #3.9-3 – Alteration of the existing site or area resulting in erosion or siltation	**Mitigation Measure:** Implement Mitigation Measures #3.9-1a and 1b.	Less than significant
Impact #3.9-4 – Alteration of the existing drainage pattern resulting in flooding	**Mitigation Measure:** Implement Mitigation Measures #3.9-1a and 1b.	Less than significant
Impact #3.9-5 - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems	**Mitigation Measure:** Implement Mitigation Measures #3.9-1a and 1b.	Less than significant
Impact#3.9-6 Otherwise substantially degrade water quality	**Mitigation Measure:** Implement Mitigation Measures #3.9-1a and 1b.	Less than significant
NOISE		
Impact #3.11.1 – Exposure to excessive noise levels or vibration	**Mitigation Measure #3.11-1a:** The following shall be implemented by the Project proponent for the duration of Project construction: a. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site; b. The construction contractor shall locate the pile driver such that the rear of the vibratory pile driver faces toward the noise sensitive receptors when the machine is being utilized;	Less than significant

	c. The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise sensitive receptors nearest the Project site during all Project construction; d. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles; and e. Project construction hours shall comply with the Chapter 11, Noise Control, §3-11.02 of the City Code of Ordinances. **Mitigation Measure #3.11-1b:** Prior to issuance of building permits for the Project's proposed Hotel on Parcel 2, the Project proponent shall prepare a project-specific noise model which demonstrates to the satisfaction of the City of Madera Community Development Department that the Project will either: (1) cause an interior noise level of no greater than 45 dB Ldn, or (2) include windows in sleeping areas of the hotel with an STC rating that reduces interior noise levels to 45 dB Ldn or lower.	
PUBLIC SERVICES		
Impact #3.12.3 – Increased demand for water supply and construction of additional water supply infrastructure	**Mitigation Measure #3.12-3:** As part of the Site Plan Review process, the applicant shall submit a water conservation plan to the City of Madera Planning Department for review and approval which demonstrates the landscaping and buildings will include available water conservation measures for both interior and exterior water usage that, after compliance with all existing federal, state and local regulations, will result in a reduction of an additional 10 percent over anticipated water demand for the Project.	Less than significant
TRANSPORTATION AND TRAFFIC		
Impact #3.13.1 – Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for performance of the circulation system or with an applicable congestion management program	**Mitigation Measure #3.13-1a:** Prior to the occupancy, the Project applicant shall provide evidence to the Madera Community Development Department that the following road improvements have been completed to address Project-related traffic impacts during Existing Plus Project and Near-Term (Year 2016) Plus Project scenarios as follows: Avenue 17 at Sharon Boulevard: Near-Term (Year 2016) Plus Project scenario: Install Traffic Signal **Mitigation Measure #3.13-1b:** Prior to the issuance of building permits, the Project applicant shall provide the proposed Project's pro rata funding toward the affected roadways and intersections as required by the City of Madera, the County of Madera, and Caltrans. The proposed Project's proportionate share responsibility for the cost of the installation of all required road improvements in the year 2036 is calculated as follows:	Significant and Unavoidable

	Equitable Share = (Project Trips)/(Cumulative Year 2036 Plus Project Traffic – Existing Traffic) Pro rata funding shall be paid to the City of Madera Engineering Department for implementation in the City Development Impact Fees Program of the County, as appropriate. A copy of the payment receipts shall be provided to the City of Madera Community Development Department. Table 3.13-15 shows the equitable share responsibility for improvements to City of Madera and Caltrans facilities as described above. The equitable share responsibility shown in Table 3.13-15 is the result of LOS enhancements related to capacity. Avenue 17 at Sharon Boulevard is the only study intersection that is included within the City of Madera's fee program. Traffic signals and other related improvements identified for the Avenue 17 at Project Driveway #1 and Sharon Boulevard at Project Driveway #3 intersections are only necessary to accommodate Project site access to the adjacent roadway network. There is planned future development on the other side of Avenue 17 and Sharon Boulevard that will also be served by the improvements identified at Project Driveway #1 and #3. City of Madera staff has indicated that the traffic signals and other related improvements at Project Driveway #1 and #3 shall be the sole responsibility of the proposed Project and the planned future development on the other side of each street. As a result, Table 3.13-16 has been prepared for the purpose of identifying the proposed Project's fair-share of improvements identified at Project Driveway #1 and #3. (see pages 3.13-41 for the full tables)	
Impact #3.13-2 – Conflict with an applicable congestion management program, including LOS standards	**Mitigation Measure #3.13-2:** Prior to the issuance of grading, the Project applicant shall: Prepare and submit a Construction Traffic Control Plan to City of Madera Community Development Department and the California Department of Transportation offices for District 6, as appropriate for any traffic control in Caltrans right-of-way, for review and approval. The Construction Traffic Control Plan shall be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and shall include, but not be limited to, the following issues: • Timing of deliveries of heavy equipment and building materials; • Directing construction traffic with a flag person;	Less than Significant

	• Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; • Ensuring access for emergency vehicles to the Project site; • Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; • Maintaining access to adjacent property; and • Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible. Obtain all necessary permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize City-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the issued permits shall be submitted to the City of Madera Community Development Department.	
Impact #3.13 – 4 – substantially increase hazards due to a design feature	**Mitigation Measures:** Implement Mitigation Measure #3.13-2; no additional mitigation is required.	Less than Significant
Impact #3.13-5 – Result in inadequate emergency access	**Mitigation Measures:** Implement Mitigation Measure #3.13-2; no additional mitigation is required.	Less than Significant

Table ES-2
Evaluation of Alternatives
Compared to Proposed Project

Impact Topic	Proposed Project	No Project Alternative	Reduced Traffic Alternative	Reduced Water Demand Alternative
Aesthetics				
3.3-1 - Adverse affect on scenic vista	LTS	LTS/S	LTS/S	LTS/G
3.1-2 - Damage scenic resources	LTS	LTS/S	LTS/S	LTS/G
3.1-3 - Substantial light and glare	LTSM	LTSM/S	LTS/S	LTSM/G
Agricultural and Forestry Resources				
3.2-1 – Convert farmland	LTS	LTS/S	LTS/S	LTS/S
3.2-2 – Conflict with Williamson Act	LTS	LTS/S	LTS/S	LTS/S
3.2-3 – Conflict with forestry zoning	LTS	LTS/S	LTS/S	LTS/S
3.2-4 – Loss of forest land	LTS	LTS/S	LTS/S	LTS/S
3.2-5 – Other agriculture/forestry changes	LTS	LTS/S	LTS/S	LTS/S
Air Quality				
3.3-1 – Conflict with air quality plan	LTS	LTS/L	LTS/L	LTS/L
3.3-2 – Violate air quality plan	LTS	LTS/L	LTS/L	LTS/L
3.3-3 - Cumulatively considerable increase	LTS	LTS/L	LTS/L	LTS/L
3.3-4 – Expose sensitive receptors	LTSM	LTS/L	LTS/L	LTS/L
3.3-5 – Create objectionable odors	LTS	LTS/L	LTS/L	LTS/L
Health Risks	LTSM	LTSM/L	LTS/L	LTSM/S
Biological Resources				
3.4-1 – Adverse effect	LTSM	LTSM/S	LTSM/S	LTSM/S
3.4-2 – Riparian/sensitive habitat impact	N	N/S	N/S	N/S
3.4-3 – Wetlands impact	N	N/S	N/S	N/S
3.3-4 – Migratory fish/wildlife	N	N/S	N/S	N/S
3.3-5 – Local policies/ordinances	N	N/S	N/S	N/S
3.3-6 – Adopted HCP or NCCP	N	N/S	N/S	N/S
3.3-7 – Reduce fish/wildlife habitat	N	N/S	N/S	N/S
3.3-8 - Reduce fish/wildlife populations	N	N/S	N/S	N/S
3.3-9 – Reduce number/range of species	N	N/S	N/S	N/S
Cultural Resources				
3.5-1 – Significant historic resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-2 – Archaeological resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-3 – Paleontological resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-4 – Disturb human remains	LTSM	LTSM/S	LTSM/S	LTSM/S

Geology, Soils, and Seismicity				
3.6-1 – Fault rupture/seismic effects	LTS	LTS/S	LTS/L	LTS/L
3.6-2(a) – Erosion/soil instability onsite	LTSM	LTSM/S	LTSM/L	LTSM/L
3.6-2(b) - Erosion/soil instability offsite	LTSM	LTSM/S	LTSM/L	LTSM/L
3.6-3 – Unstable soil	N	N/S	N/S	N/S
3.6-4 – Affect mineral resource	N	N/S	N/S	N/S
Greenhouse Gases				
3.7-1 – Generate significant GHG	SU	SU/S	SU/L	SU/L
3.7-2 – Conflict with plan, policy, or reg.	LTS	LTS/S	LTS/L	LTS/L
Hazards and Hazardous Materials				
3.8-1 – Transport, use, disposal hazard	LTSM	LTSM/G	LTSM/S	LTSM/S
3.8-2 – Accidental release of materials	LTSM	LTSM/G	LTSM/S	LTSM/S
3.8-3 – Impact on schools	N	N/S	N/S	N/S
3.8-4 – Listed hazardous site	N	LTS/G	LTS/S	LTS/S
3.8-5 – Within two miles of an airport	LTS	LTS/G	LTS/S	LTS/S
3.8-6 – Near a private airstrip	N	N/G	N/S	N/S
3.8-7 – Impair adopted emergency plan	LTS	LTS/G	LTS/S	LTS/S
3.8-8 – Wildland fire	LTS	LTS/G	LTS/S	LTS/S
Hydrology and Water Quality				
3.9-1 – Violate water quality standards	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-2 – Deplete groundwater supplies	SU	SU/S	SU/L	SU/L
3.9-3 - Alter existing drainage -siltation	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-4 – Alter existing drainage – flooding	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-5 – Exceed drainage system capacity	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-6 – Degrade water quality	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-7 – Place housing in 100-year flood zone	N	N/S	N/S	N/S
3.9-8 – Structures impede 100-year flood	N	N/S	N/S	N/S
3.9-9 – Exposure to flood hazard	LTS	LTS/S	LTS/S	LTS/S
3.9-10- Contribute to inundation	N	N/S	N/S	N/S
Land Use and Planning				
3.10-1 – Physically divide community	LTS	LTS/S	LTS/S	LTS/S
3.10-2 – Conflict with land use plan	LTS	LTS/S	LTS/S	LTS/S
3.10-3 – Conflict with HCP or NCCP	N	N/S	N/S	N/S
Noise				
3.11-1 – Exposure to excessive noise	LTSM	LTSM/L	LTSM/L	LTSM/L
3.11-2 – Exposure to excessive vibration	LTS	LTS/L	LTS/L	LTS/L
3.11-3 – Permanent increase in noise	LTS	LTS/L	LTS/L	LTS/L
3.11-4 – Temporary or period noise increase	LTS	LTS/L	LTS/L	LTS/L
3.11-5 – Noise impact from airport	LTS	LTS/L	LTS/S	LTS/S
3.11-6 – Noise impact from private airstrip	N	N/L	N/S	N/S
Public Services and Utilities				
3.12-1 - Need for expanded fire services	LTS	LTS/S	LTS/L	LTS/S
3.12-2- Need for expanded police services	LTS	LTS/L	LTS/L	LTS/S

3.12-1 – Increased water demand	SU	SU/G	SU/L	SU/L
3.12-4 – Increased wastewater demand	LTS	LTS/L	LTS/L	LTS/L
3.12-5 – Increased stormwater	LTS	LTS/L	LTS/L	LTS/S
3.12-6 – Increased solid waste	LTS	LTS/L	LTS/L	LTS/L
Transportation and Traffic				
3.13-1 – Conflict with transportation plan	SU	SU/S	SU/L	SU/L
3.13-2 – Conflict with congestion plan	SU	SU/S	SU/L	SU/L
3.13-3 – Change in air traffic patterns	N	N/S	N/S	N/S
3.13-4 – Increase in hazardous design	LTSM	LTSM/S	LTSM/L	LTSM/S
3.13-5 – Inadequate emergency response	LTS	LTS/S	LTS/L	LTS/S
3.13-6 – Alternative transportation conflict	LTS	LTS/S	LTS/L	LTS/S

Acronyms:
N= No impact
LTS = Less than significant
LTSM = Less than significant with mitigation
SU = Significant and unavoidable
S = Similar impact to proposed project
L = Less impact than proposed project
G = Greater impact than proposed project

CHAPTER ONE

INTRODUCTION

CHAPTER ONE – INTRODUCTION

This section of the Draft Environmental Impact Report (EIR) briefly describes the proposed actions, delineates the procedure and methodology for environmental evaluation of the actions, and outlines the contents of this Project EIR.

1.1 Summary of Proposed Project

A detailed and complete description of the Madera Travel Center, hereafter referred to as the proposed Project, analyzed in this Draft EIR is presented in Chapter Two. The proposed Travel Center has the following characteristics:

- 50-acre site;
- Restaurant;
- Hotel;
- Travel stop and tire shop;
- RV and boat storage;
- Lot split and Sharon Boulevard dedication; and
- Off-site extensions of water and wastewater mains.

As discussed more fully in Chapter 2 (Project Description), the approvals required of the City of Madera to authorize these land uses include a tentative subdivision map, site plan review, conditional use permits, a variance, building permits, and a street right-of-way dedication. The applicant has also stated its intention to request that the Madera City Council enter into a Development Agreement in conjunction with the Project to establish a mechanism for reimbursing a portion of off-site infrastructure costs, and as a means of vesting the requested approvals.

1.2 Type and Purpose of the Draft EIR

This Draft EIR has been prepared under the direction of the City of Madera in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000-21177) and the State *CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387). The City of Madera is the lead agency for consideration of this EIR and potential project approval.

CEQA requires that public agencies consider the potentially significant adverse environmental effects of projects over which they have discretionary approval authority before taking action on those projects. (Pub. Resources Code, § 21000 et seq.) As defined by Section 15378 of the *CEQA Guidelines*, a project is any action that "…has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment…"

CEQA also requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant adverse environmental effects of projects it approves or

implements. If a project would result in significant and unavoidable environmental impacts (i.e., significant effects that cannot be feasibly mitigated to less-than-significant levels), the project can still be approved, but the lead agency's decision-makers must prepare findings and issue a "statement of overriding considerations" explaining in writing the specific economic, social, or other considerations that they believe, based on substantial evidence, make those significant effects acceptable (Pub. Resources Code, § 21002; CEQA Guidelines, § 15093).

According to *CEQA Guidelines* Section 15064, subdivision (f)(1), preparation of an EIR is required whenever a project may result in a significant adverse environmental impact. An EIR is an informational document used to inform public agency decision makers and the general public of the significant environmental effects of a project, identify possible ways to mitigate or avoid the significant effects, and describe a range of reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project.

As Lead Agency, the City has determined that a Project EIR should be prepared for the proposed Project, and related actions outlined in Chapter Two in accordance with the requirements of CEQA. Section 15121(a) of the *CEQA Guidelines* defines an EIR as an informational document that "…will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

This Draft EIR is a "project EIR," as opposed to a "program EIR." As described in *CEQA Guidelines* section 15161, a "project EIR" is "[t]he most common type of EIR," which "examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation." Generally, when a project-level analysis is prepared under CEQA, no subsequent environmental review is required to carry out the proposed development (Public Resources Code section 21166 and *CEQA Guidelines* section 15162 and 15163.). Thus, this EIR is intended to provide project-specific analysis such that a subsequent or supplemental EIR would not be required unless certain circumstances arise as outlined in Public Resources Code section 21166 and *CEQA Guidelines* section 15162 and 15163.

Under CEQA, the Lead Agency is the public agency with principal responsibility for carrying out or approving a project. In this case, as noted earlier, the City of Madera will act as Lead Agency. Under Section 15381 of the *CEQA Guidelines*, a Responsible Agency is a public agency other than the Lead Agency that has discretionary approval authority over the project or a portion of the project, and will rely on the EIR prepared by the Lead Agency. The Responsible Agencies for this Project, if any, are listed in Chapter Two of this EIR.

The CEQA process requires that the Lead Agency consider input from other interested agencies, citizen groups, and individuals. CEQA provides for a public process requiring full public disclosure of the expected environmental consequences of the proposed action. The public must

be given a meaningful opportunity to comment. After a project is approved, CEQA also requires monitoring to ensure that all mitigation measures that may have been adopted are implemented.

CEQA requires a minimum 45-day public review period for commenting on the Draft EIR. During the review period, any agency, group or individual may comment in writing on the Draft EIR, and the Lead Agency must respond in writing to each comment on environmental issues in the Final EIR. According to Section 15202 of the *CEQA Guidelines*, CEQA does not require formal hearings at any stage of the environmental review process; however, it is typical to consider the EIR and its findings during public hearings required for the associated project.

1.3 Scope of the Draft EIR

The proposed Project is evaluated at a project level of detail in this EIR. The following describes each of the environmental topics that are analyzed in the Draft EIR.

Aesthetics. This section addresses visual and aesthetic impacts including impacts on scenic vistas, scenic highways, and light and glare, along with community design issues. Potential impacts are identified and appropriate mitigation measures are proposed.

Agricultural and Forestry Resources. This section describes the existing agricultural resources and potential environmental effects from Project implementation on the Project site and its surrounding area and includes measures intended to reduce or avoid potential impacts to the resource. There are no forestry resources on or near the Project site.

Air Quality. This section addresses potential short- and long-term air quality impacts and the overall magnitude of emissions resulting from implementation of the Project, as well as measures that could be implemented to reduce Project emissions. An assessment of potential toxic air contaminants has also been conducted through a Health Risk Assessment.

Biological Resources. This section evaluates the available data and project-specific biological field survey(s) of the area to determine whether the Project has any potential to disturb special-status species, adversely affect habitat or wetlands, or conflict with plans and policies protecting biological resources, and recommends measures that are necessary to mitigate potential impacts.

Cultural Resources. Existing and potential cultural resources (archaeological, paleontological, and historical) are described in this section, and impacts and mitigation measures are identified.

Geology, Soils, and Seismicity. This section addresses the potential impacts the Project may have on soils and assesses the effects of Project development in relation to geologic and seismic conditions.

Greenhouse Gases. This section analyzes the Project's potential contribution to greenhouse gas emissions.

Hazards and Hazardous Materials. Hazardous materials, fire hazards, airport safety issues, and emergency response issues are addressed in this section.

Hydrology and Water Quality. This section addresses issues associated with hydrology and water quality, for both surface and ground water, storm water runoff, and flooding.

Land Use and Planning. This section addresses potential impacts related to land use conflicts and project compliance with City of Madera land use planning documents, regulations and zoning.

Noise. The noise section evaluates impacts on sensitive receptors from noise-generating activities during both construction and long-term operations, including new stationary noise sources and traffic noise associated with roadways.

Public Services, Utilities, and Service Systems. This section provides an analysis of potential Project impacts on police and fire protection, and schools, water supply, sewage disposal, storm water drainage, and solid waste management.

Transportation and Traffic. This section evaluates and summarizes existing and cumulative conditions in the relevant study area, including an analysis of roadway capacities and future cumulative traffic conditions. Circulation improvements are identified to reduce potential impacts, and public transit needs are discussed.

1.4 Organization of the EIR

Sections 15122 through 15132 of the *CEQA Guidelines* identify the content requirements for Draft and Final EIRs. A Draft EIR must include a description of the environmental setting, environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary defines the general characteristics of the proposed Project and provides an overview of the Draft EIR. The Executive Summary also summarizes the alternatives to the Project and areas of known controversy.

CHAPTER ONE

Chapter One briefly summarizes the proposed actions under review, delineates the procedures and methodology for environmental evaluation of the Project, and outlines the contents of the EIR.

CHAPTER TWO

Chapter Two describes the proposed Project in detail and summarizes the general characteristics of the Project location. The Project objectives are also presented (these are addressed again in

Chapter Four.) The Project's environmental setting is briefly described, and the regulatory context within which the Project is evaluated or must be approved is outlined.

CHAPTER THREE

Chapter Three is comprised of a series of sections, one for each of the environmental topics listed above. Each section includes a description of the environmental and regulatory settings, thresholds of significance and methodology, and potential impacts and mitigation measures.

Introduction

Each environmental topic is introduced by either a brief description of the topic or a brief statement of the rationale for addressing the topic.

Regulatory and Physical Setting

The existing regulatory and physical setting and conditions with respect to the environmental topic being discussed are briefly described.

Impact Evaluation Criteria

The standards or thresholds by which impacts are measured are identified, with the objective of determining if an impact is significant. Where no locally adopted or other specific standards exist, the thresholds set forth in Appendix G (Environmental Checklist) of the *CEQA Guidelines* are used, unless additional relevant impact considerations beyond the Appendix G items are deemed appropriate. Where the unique aspects of the Project or the existing physical conditions create the potential for impacts not listed in Appendix G, additional thresholds (beyond those set forth in Appendix G) are created and applied therein.

Impact Analysis

Impact #: Each identified environmental impact is numbered for reference in accordance with the chapter subsection (e.g., #3.4-1). Information leading to the significance determination is discussed.

Conclusion: This is a statement identifying whether the impact is potentially significant or less than significant. If found to be potentially significant, the conclusion states whether the impact can be avoided or reduced to a less than significant level through implementation of mitigation measures, or whether the impact is significant and/or unavoidable, based on the impact evaluation criteria.

Mitigation Measure #: Each proposed or recommended mitigation measure is described and listed by number, referenced in accordance with the chapter subsection (e.g., #3.4-1).

Effectiveness of Mitigation: For potentially significant impacts, a statement is made regarding whether the impact can be mitigated to a less than significant level or, alternatively, whether the

impact is only partially mitigated, unavoidable, and/or irreversible, based on the significance thresholds.

CHAPTER FOUR

Chapter Four describes and evaluates alternatives to the proposed Project. *CEQA Guidelines* Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the Project, which could feasibly attain most of the basic objectives of the Project and avoid and/or substantially lessen the environmental effects of the Project. The "no project" alternative must be considered to compare the environmental consequences of the proposed Project to the consequences of taking no action. The potential environmental impacts of these alternatives are compared to the environmental impacts of the Project as proposed. The analysis of alternatives includes an assessment of the degree to which each of the alternatives attains the identified Project objectives.

CHAPTER FIVE

Chapter Five includes an analysis of cumulative impacts, based on potential impacts of the proposed Project when combined with the related impacts associated with past, present and reasonable foreseeable projects.

CHAPTER SIX

Chapter Six contains required discussions and analyses of various issues mandated by CEQA. The following topics are addressed in this chapter:

- Significant Unavoidable Environmental Effects;
- Significant Irreversible Environmental Changes;
- Irreversible Changes to the Environment
- Growth Inducing Impacts;
- Effects Found Not to be Significant, and
- Energy Conservation.

CHAPTER SEVEN

Chapter Seven includes a list of references used and persons that were consulted during preparation of the Draft EIR.

CHAPTER EIGHT

Chapter Eight presents a list of all authors and other persons who contributed to preparation of the Draft EIR.

APPENDICES

Following the text of the Draft EIR, several documents and technical studies have been included to facilitate full environmental review of the proposed Project.

1.5 Distinction between Review of Environmental Issues and Project Merits

Often during review of an EIR, the public raises issues that relate to the proposed Project itself or the Project's community benefits or consequences (referred to herein as "project merits"), rather than the environmental analyses or impacts raised in the EIR. Lead Agency review of environmental issues and project merits are both important in the decision of what action to take on a project, and both are considered in the approval process for a project. However, a Lead Agency is required only to respond in its CEQA review to substantive environmental issues that are raised. Certifying an EIR (i.e., finding that it was completed in compliance with CEQA) and taking action on the proposed project rely on procedurally distinct processes and may result in separate decisions made by the Lead Agency.

An example of a project-merits issue that is important, but is not a substantive environmental issue, is economic effects that do not result in any physical change to the environment. At any time that the Project comes before the Planning Commission or the City Council, the merits of the project will be discussed. The Planning Commission and the City Council may hold public meetings or hearings to review project merits that are separate from those intended for reviewing the EIR and environmental issues.

In contrast, an EIR is "…a detailed statement prepared under CEQA describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects" (*CEQA Guidelines* Section 15362). An EIR is intended to identify significant effects on the environment defined in *CEQA Guidelines* Section 15382 as "…substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" An EIR is intended to be used by the public, decision-makers, interested individuals, and other agencies and organizations that may have responsibility for a project or project components. *CEQA Guidelines* Section 15091 points out that "no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding." Further, when significant environmental effects cannot be reduced to a less than significant level, the Lead Agency must prepare a Statement of Overriding Considerations, in addition to findings, that documents how project benefits outweigh the unavoidable impacts. Finally, *CEQA Guidelines* Section 15092 states that "after considering the final EIR and in conjunction with making findings…the lead agency may decide whether or how to approve or carry out the project," which is a separate action from EIR certification.

1.6 Environmental Scoping

This Draft EIR addresses the potential environmental impacts of the proposed Project. The City of Madera issued a Notice of Preparation (NOP) and Notice of Availability for the proposed

Project on February 19, 2015, which was circulated for the statutory 30-day public review period until March 20, 2015. A public scoping meeting was advertised and was conducted by the City on March 3, 2015: there were no attendees.

The scope of this Draft EIR includes the potential environmental impacts identified in the NOP and issues raised in comment letters provided in response to the NOP. Four comment letters were received. Copies of the written comments received during the public review period are contained in Appendix A, and Table 1-1 summarizes the issues identified by the commenting agencies, along with a reference to the section of this Draft EIR where the issues are addressed.

Table 1-1
NOP Comment Letters

Commenting Agency/Person	Comment Type/Summary	Issue Addressed in:
San Joaquin Valley Air Pollution Control District Arnaud Marjollet, Director of Permit Services	Air Quality District's attainment and non-attainment status under State and federal regulations is noted. Advisory provided regarding analysis of construction emissions, operational emissions, use of CalEEMod, evaluation of nuisance odors, conducting of a health risk assessment. Reference is made to District various rules.	Section 3.3 Air Quality
Madera Irrigation District, Sean Smith, District Engineer	Water Resources EIR must fully and accurately disclose the sources of water and project demand. A water expert should evaluate water impacts. Consistency with completed water planning efforts should be noted.	Section 3.9 Hydrology and Water Quality and Section 3.12 Public Services, Utilities and Service Systems
Department of Transportation, District 6 David Padilla, Associate Transportation Engineer	Traffic The traffic study should reference Caltrans' traffic impact study guide. The proposed trip generation rate should be reviewed by Caltrans. Caltrans requests adequate distance between the Avenue 17 driveway and northbound off-ramp. Right-of-way dedication is required along Avenue 17 for the interchange improvement.	Section 3.13 Transportation/Traffic
State of California Governor's Office of Planning and Research (OPR) Scott Morgan, Director	General OPR has identified the agencies involved with the project and issues that may be impacted by the project. OPR requested that copies of responses to the NOP from agencies also be sent to the State Clearinghouse.	Not Applicable

This Draft EIR has taken into consideration the comments received from the various agencies in response to the NOP.

1.7 Environmental Issues Determined not to be Significant

Based on the environmental scoping process, including responses to the Notice of Preparation, the City determined that the proposed Project would not result in potential impacts to the following environmental topics. As such, these were scoped out, or dismissed, from analysis in the EIR for the reasons cited below:

- Septic systems and alternative waste disposal systems – The Project proposes to connect to the City sewer system;

- Mineral resources - A previous EIR prepared and certified for a different project on this site in 2007 concluded that no mineral resources are present;

- Population/housing - The proposed project does not have a residential component; as such, population and housing will not be affected by the proposed Project; and

- Recreation – The proposed project does not have a residential component; as such, recreation will not be affected by the proposed Project.

1.8 Review of the Draft EIR

Upon completion of the Draft EIR, the City of Madera will file a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (Public Resources Code, Section 21161). Concurrent with the NOC, this Draft EIR will be distributed to responsible and trustee agencies, other affected agencies, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code Section 21092.2(a). A Notice of Availability (NOA) will be provided to public agencies and interested parties pursuant to *CEQA Guidelines* Sections 15085, 15087(c).

During the public review period, the Draft EIR, including the technical appendices, is available for review at the City of Madera Community Development Department and the Madera County Library.

City of Madera Community Development Department, Planning Division
Madera City Hall
205 West Fourth Street
Madera, CA 93637

Madera County Library
121 North G Street
Madera, CA 93637

The document will also be available on the City of Madera website at the following address:

www.cityofmadera.org

This Draft EIR will be circulated for public review for a period of 45 days. Interested agencies and members of the public are invited to provide written comments on the Draft EIR to the City of Madera Community Development Department. Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged.

Written comments on this Draft EIR should be addressed to:

City of Madera
Community Development Department
Attention: David Merchen, Director
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1.9 Final EIR Certification

Upon completion of the 45-day review period, the City of Madera will review all written comments received and prepare written responses for each comment. A Final EIR (FEIR) will then be prepared incorporating all of the comments received, responses to significant environmental issues raised in the comments, and any changes to the Draft EIR that result from the comments received. The FEIR will be made available to commenting agencies at least 10 days prior to the public hearing, at which the Planning Commission will consider certification of the Final EIR. Comments received and the responses to comments will be included as part of the record for consideration by the Planning Commission. The Planning Commission's actions certifying the Final EIR and granting quasi-adjudicatory approvals would be final. Additionally, proposed development agreement for the Project will require action by the City Council, given the legislative character of development agreements (See Gov. Code, § 65867.5, subd. (a)).

All persons who commented on the Draft EIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

1.10 Previous Environmental Documentation

In 2007, an EIR was prepared for a different project on this site, referred to as Gateway Galleria (SCH #2006061106). That Draft EIR is dated April 2007 and the Certified Final EIR is dated June 2007. The project description included prezoning in support of annexation to the City of Madera and a two-phase, retail and commercial development totaling 452,499 square feet. Due to the age of the previous EIR and the change in the project description, the proposed EIR for the Madera Travel Center has not been tiered from that document, and the impact analyses contained in this Draft EIR of the proposed Project are entirely new.

While the proposed use of the project site has changed since 2007, this EIR has used data and analyses from the previous 2007 EIR wherever it was appropriate to do so, with the full understanding that certain background information and analyses were revisited due to age, changes in the physical environment, changes in regulations, changes in the proposed land uses, or changes in the *CEQA Statutes* and/or *Guidelines*. By using as much of the previous EIR information as possible, the Madera Travel Center EIR was prepared in a more efficient and thorough manner while complying with all requirements of CEQA.

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CHAPTER TWO

PROJECT DESCRIPTION

CHAPTER TWO - PROJECT DESCRIPTION

2.1 Project Location

The proposed Madera Travel Center, hereafter referred to as the proposed Project, is located in the City of Madera, near the northern edge of the city limits, at the Avenue 17/State Route 99 (SR 99) interchange. Madera is located along SR 99, 13 miles southeast of Chowchilla and 15 miles northwest of Fresno (Figure 2-1). The Project site encompasses approximately 24.5 acres of an approximate 50 acre parcel (Assessor's Parcel Number 013-240-003) (Figure 2-2). The balance of the parcel will be separated from the Travel Center site through a tentative parcel map. A street right-of-way dedication is also proposed.

2.2 Site Characteristics

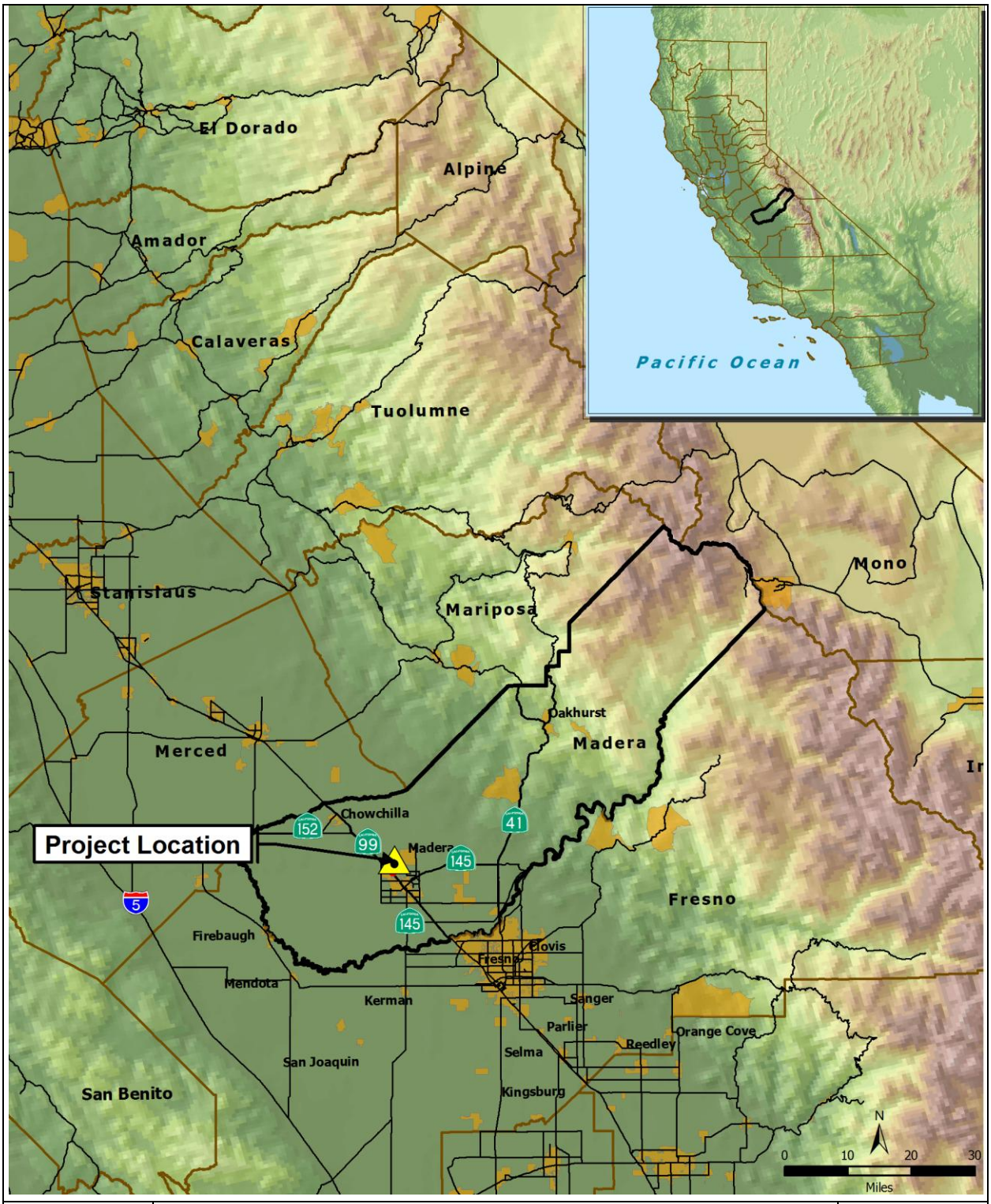
The proposed Project site was previously used as a holding facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. With the relocation of the heavy equipment business around 2007, only a few miscellaneous remnants of the prior operation remain. That heavy equipment is no longer stored at the site. The site includes an abandoned single-story building (approximately 200 square feet) and a portable building (approximately 200 square feet), both near the center of the site. The site is currently unoccupied, but was previously occupied by National Hardware Supply, a business that stored trucks, trailers, and various pieces of large equipment onsite. The perimeter of the site is secured by a chain-link fence. An asphalt paved driveway extends into the site from Avenue 17 to the north and meanders along the northwest side of the site to the center where the vacant buildings are located. Other features include a stormwater detention basin in the northwest portion of the site and a large dirt/aggregate-surfaced parking area that extends from the north end to the south end of the site along the west side, The site also contains large amounts of construction debris, refuse, fill dirt, storage containers, and scrap wood. The Project site terrain is flat and the majority of the ground surface is an earth and gravel mixture, with patches of low grassy areas (Figure 2-3).

The property has been designated by the California Department of Conservation (Division of Land Resource Protection) under the Farmland Mapping and Monitoring Program (FMMP) as "Urban and Built-up Land (D)" and "Vacant or Disturbed Land (V)" and the property is not subject to a Williamson Act contract.

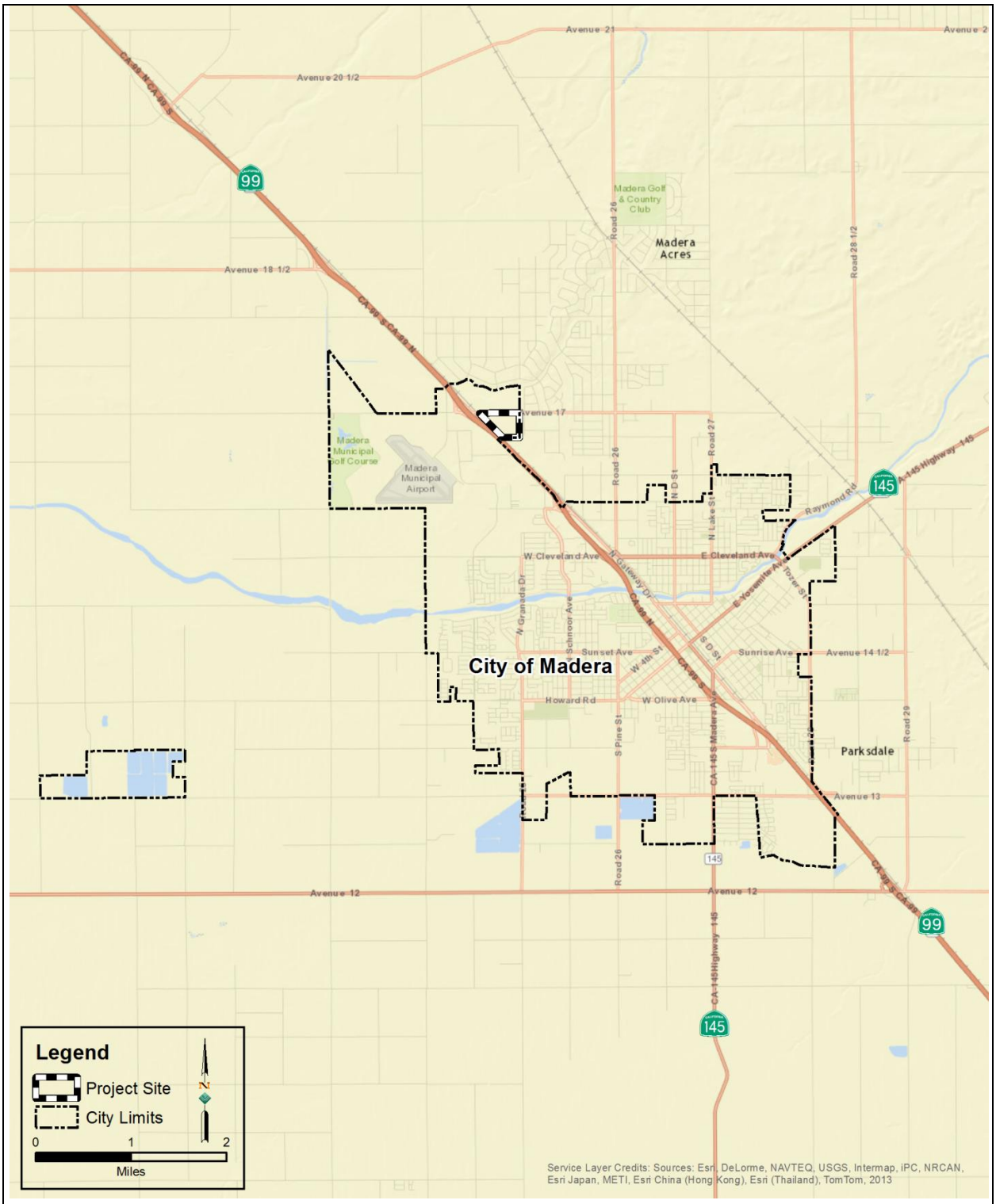
The site is designated for Commercial use on the Madera General Plan Land Use Diagram and zoned C-2 (Heavy Commercial). (Figures 2-4 and 2-5.)

2.3 Surrounding Land Uses

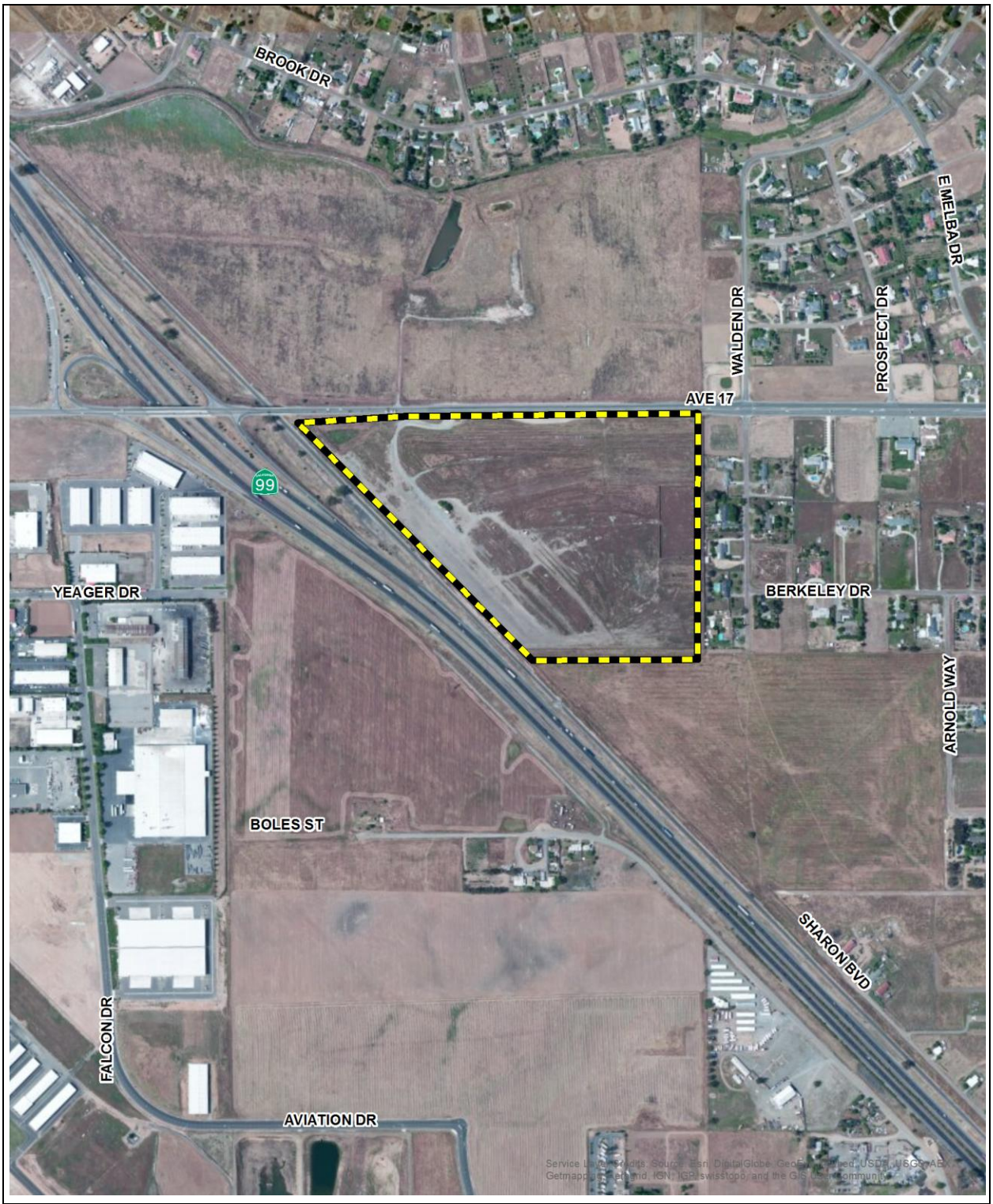
The Project site is bounded by Avenue 17, undeveloped land, and an abandoned dairy facility to the north; residential units to the east; undeveloped land to the south; and SR 99, Southern Pacific Railroad tracks, and undeveloped land to the west. The City-approved Madera Town



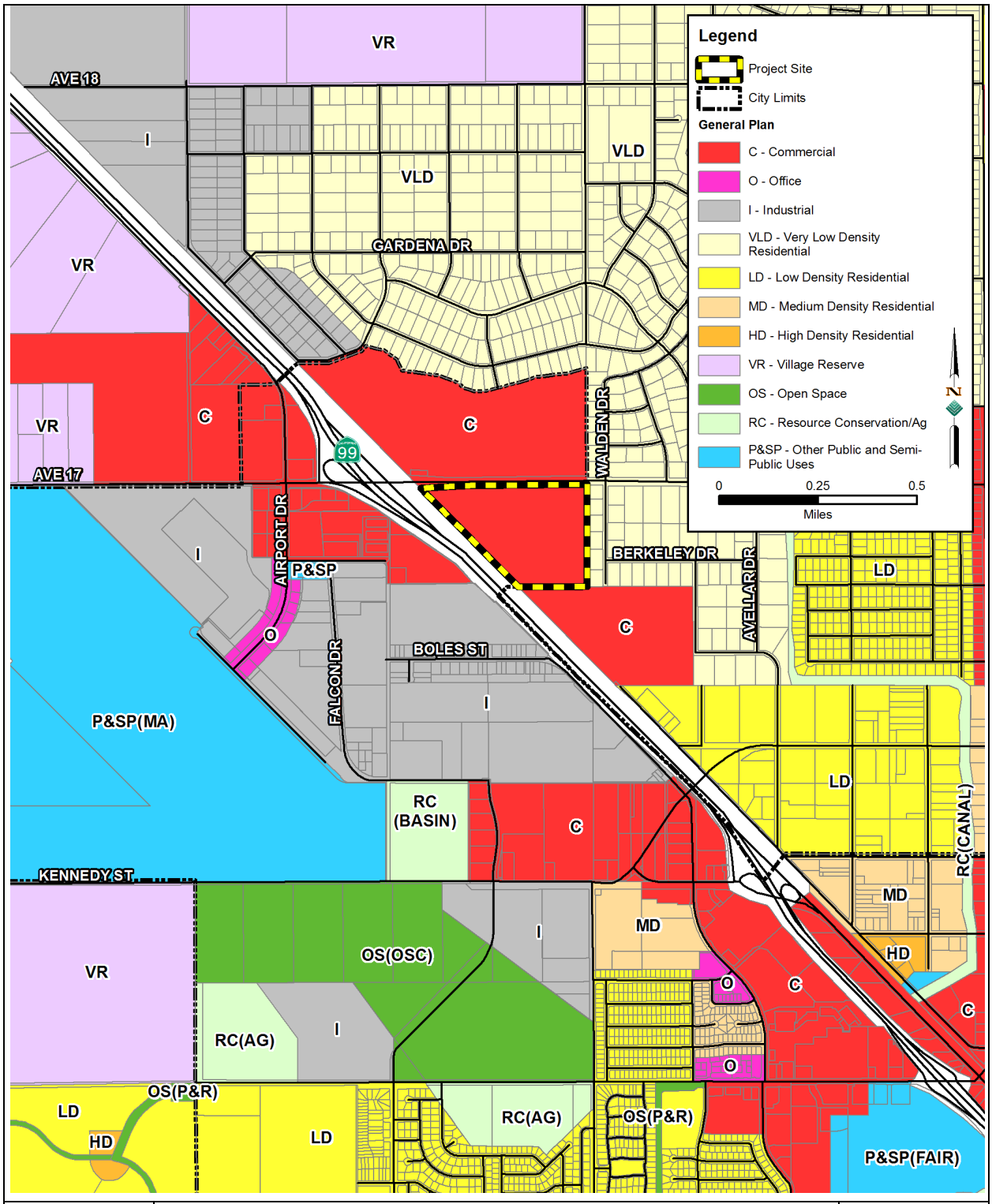
Quad Knopf	Regional Vicinity Map	Figure 2 - 1



Quad Knopf	Local Vicinity Map	Figure 2 - 2



Quad Knopf	Project Site	Figure 2 - 3



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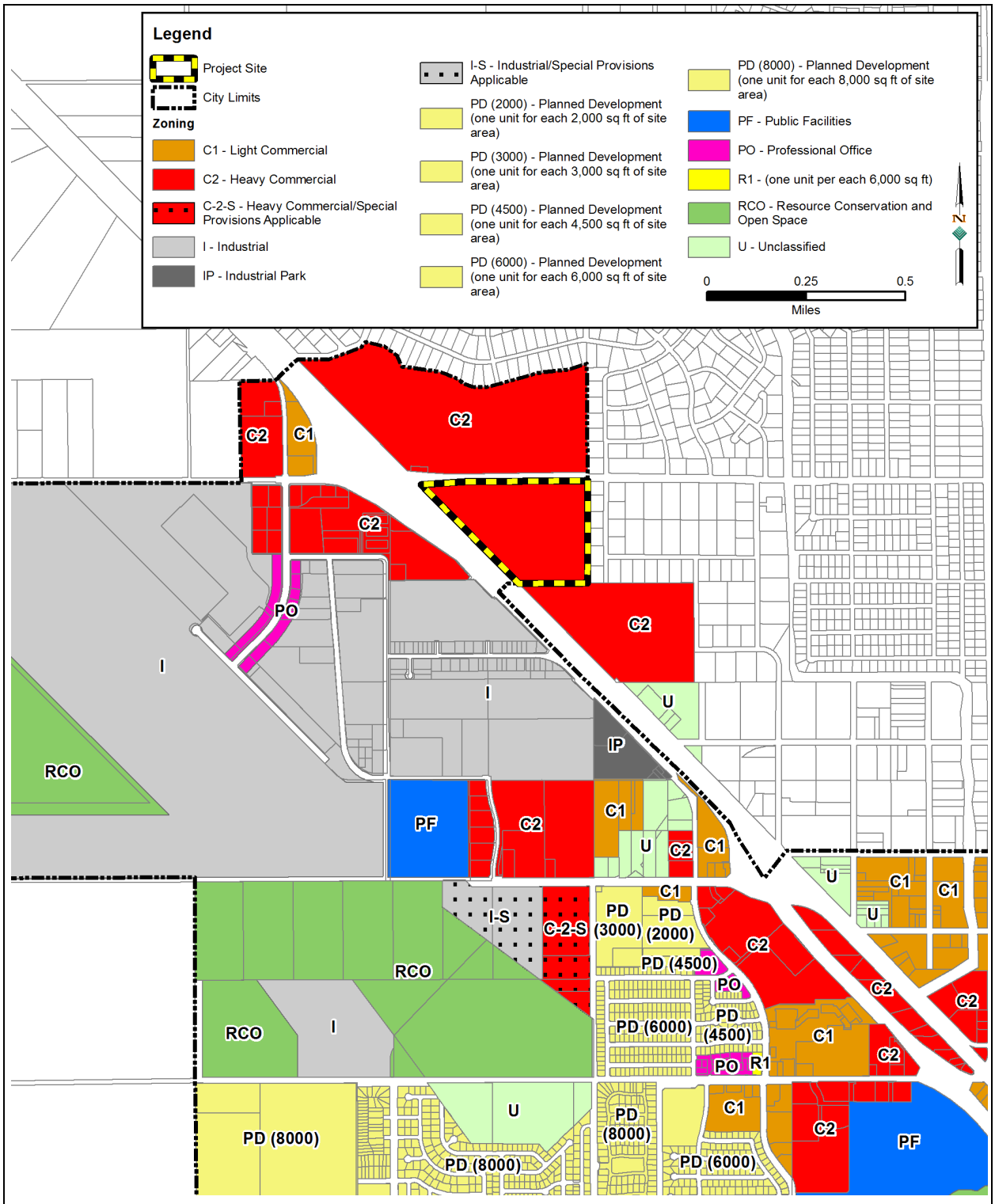
General Plan Land Use Designations

Figure 2 - 4



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Zoning Districts

Figure 2 - 5

Center project may eventually be developed immediately north of the project site, across Avenue 17. Other land uses in the area include light industrial parks and the Madera Municipal Airport west of SR 99.

2.4 Proposed Project Components

The overall proposed Project addressed in this EIR is referred to as a Travel Center. Figure 2-6 depicts the proposed site plan. Buildings have not yet been designed, and detailed floor plans, elevations, materials, and colors will be determined during the design review process. The proposed Project is comprised of the following preliminary components:

Travel Stop

The 11,981 square-foot Travel Stop building will have 20- to 23-foot eave heights. The building includes 7,965 square feet within the store portion and a 4,016 square foot, branded food restaurant with drive-through and 45-person seating capacity. These uses will be served by 56 dedicated car parking spaces and 98 dedicated truck parking spaces. Gasoline and diesel fuel will be sold, plus propane will also be available on site. There will be nine fuel islands for trucks and nine fuel islands for automobiles; there will be truck scales, an oil-water separator, Recreational Vehicle (RV) dump, three 20,000-gallon above ground diesel fuel tanks, one 20,000-gallon underground gasoline tank, one 12,000-gallon and 8,000-gallon underground gasoline split-tank, and one 12,000-gallon underground diesel exhaust fluid tank. All large truck maneuvering will be segregated from car traffic and non-trucker personnel for safety.

Tire Shop and Truck Area

An 8,073 square foot Tire Shop building with 20-foot eave height is proposed in a separate area from the Travel Stop building. The Tire Shop's main function will be to replace tires and check fluids and light bulbs for semi-trailer trucks only. There will be no heavy maintenance or engine rebuilding activities conducted on-site.

Project Hotel

The hotel will be a free-standing 81-room, 57,792 square foot, four-story hotel with the top of the tower at 59 feet above the ground, and a hip roof ridge at 47 feet above the ground. The ground floor is 18,144 square feet in area. Proposed exterior materials are stone, cement siding, and two-color stucco with accent banding. Roofs will be constructed of either composition shingles or single membrane materials. Proposed amenities include an outdoor swimming pool, picnic arbor, free breakfast for guests, fitness center, meeting facilities, and business center for travelers. There are 70 parking car spaces and nine (9) RV parking spaces proposed.

Restaurant with Drive-through Lane

This freestanding restaurant in the northwest corner of the site consists of a 4,400 square foot building with 20 to 25-foot eave height and 66 parking spaces. This free-standing building also incorporates drive-through windows and long queuing driveway.

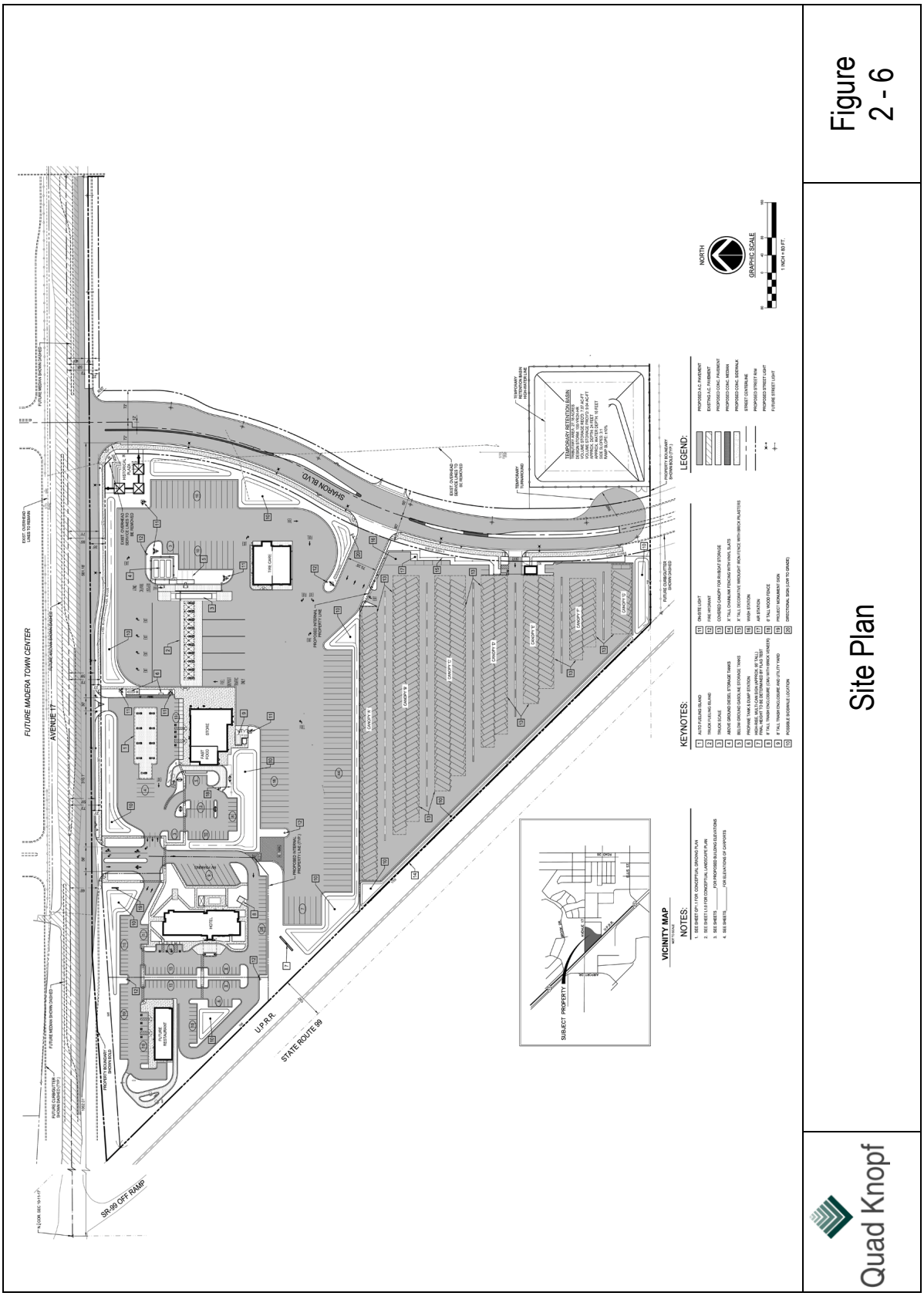


Figure 2 - 6

Site Plan

Quad Knopf

RV and Boat Storage Facility

The Recreational Vehicle and Boat Storage Facility will consist of five canopy-covered, open-air storage buildings that provide a total of 307 storage spaces. A small office building and a wash area will be provided along with 10 parking spaces. The secure facility will be surrounded by fencing. Along Sharon Boulevard, the frontage will incorporate a "zig-zag" iron fence with brick or stone posts with landscape for screening. On-site security consists of monitored camera surveillance along with dedicated keypad entry/exit that controls rolling iron gates.

The number of spaces within each of the self-storage canopy areas are as follows:

- Canopy A - 43 spaces;
- Canopy B – 80 spaces;
- Canopy C – 65 spaces;
- Canopy D – 52 spaces;
- Canopy E – 36 spaces;
- Canopy F – 22 spaces; and
- Canopy G – 9 spaces.

Historical Pedestrian Plaza

An important corner of the property is the southwest corner of Avenue 17 and Sharon Boulevard. The proposed Project includes a pedestrian plaza at this location that will address a part of the history of Madera. Three 24-foot square, composition-shingle roofed, log pavilions with benches will provide rest and shelter for city residents and other visitors. Brick planters with metal plaques will describe the logging history of the Madera area.

Storm Drainage

Storm water runoff will generally be directed, where feasible, to low-lying landscaped areas used as vegetated swales, or bioretention areas. The landscaped areas will likely store approximately six inches of water prior to overflowing into the storm drain system. The Project will implement volumetric treatment criteria and/or flow-based treatment criteria in accordance with Section E.12.e.ii.c of the State Water Resources Control Board (SWRCB) Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ). In large storm events, storm water runoff will be directed to temporary drainage facilities near the southern end of the Project site. A maximum of two temporary basins, totaling approximately four acres in size, will accommodate site and adjacent street runoff until such time as permanent drainage facilities become available. Potential basin locations on both sides of the new Sharon Boulevard alignment are being evaluated. The final design of the temporary drainage facilities will be established in conjunction with grading and drainage plans which will be approved by the City prior to construction.

Water and Wastewater

The Project proponent will install water and wastewater lines within the Project site in accordance with City requirements. See Offsite Improvements, below, for a description of water and wastewater facilities that will be extended to the Project site from offsite locations.

In the event the extension of the water line does not accommodate domestic and fire flow requirements, other measures such as the installation of an on-site tank, booster pump or even a new well in the vicinity would need to be considered. The Project developer will need to develop a water system model to support the proposed design and connection to the water system improvements.

Grading

Total ground disturbance is approximately 33.4 acres, including offsite improvements. Approximately 18.2 acres, or 75 percent, of the site will be devoted to impervious surfaces. Water required during the construction process for dust control and compaction is expected to total 2.4 million gallons for the complete construction period (pers. comm. Lane Engineering, 2015).

Landscaping and Irrigation

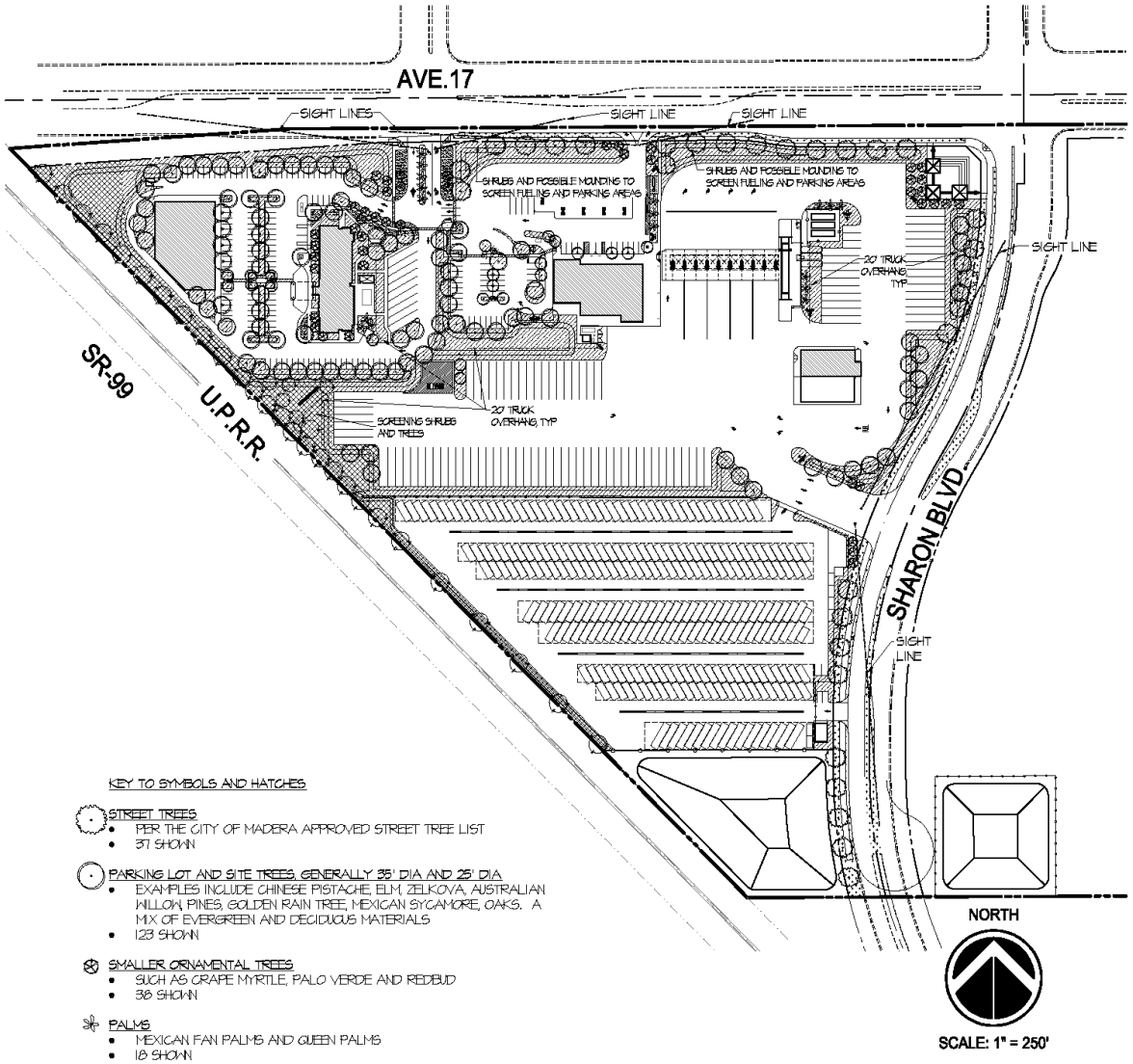
The site will be landscaped with water-efficient deciduous and evergreen trees and a variety of tall, medium and low shrubs and ground covers to provide visual interest and pedestrian scale within the site and to screen views from off site. Tree locations will be established to meet the City of Madera's parking lot shade requirements in all passenger car parking areas and drives, as well as to meet street tree and other requirements. Plants will be ranked "Medium", "Low" and "Very Low" water use per California's Water Use Classification of Landscape Species (WUCOLS), and the overall landscape will meet the requirements of the State's Model Water Efficient Landscape Ordinance (MWELO).

Plant materials will be provided per Figure 2-7. The landscape types and distribution are described in Table 2-1 as follows:

Table 2-1
Landscape Types and Distribution

Landscape Type	Landscape Coefficient (Kc)*	Approximate Square Feet	Percent of Onsite Total
Especially Water Efficient Perimeter Plantings	.3	73,323	24%
Shrub Plantings	.5	98,875	32%
Warm Season Turf	.6	3,348	1%
Irrigated Areas, some with Low Water use Trees on Bubblers	.1	127,255	42%
Offsite Shrubs and Trees (including some areas that may be paved in Medians)	.4	49,017	
Total Square Feet of Landscape		348,655	

*Kc indicates water need of the plant, from a low of .1 to a high of 1.0



KEY TO SYMBOLS AND HATCHES

STREET TREES
- PER THE CITY OF MADERA APPROVED STREET TREE LIST
- 37 SHOWN

PARKING LOT AND SITE TREES, GENERALLY 35' DIA AND 25' DIA
- EXAMPLES INCLUDE CHINESE PISTACHE, ELM, ZELKOVA, AUSTRALIAN WILLOW, PINES, GOLDEN RAIN TREE, MEXICAN SYCAMORE, OAKS. A MIX OF EVERGREEN AND DECIDUOUS MATERIALS
- 123 SHOWN

SMALLER ORNAMENTAL TREES
- SUCH AS CRAPE MYRTLE, PALO VERDE AND REDBUD
- 38 SHOWN

PALMS
- MEXICAN FAN PALMS AND QUEEN PALMS
- 18 SHOWN

TREES ESPECIALLY WATER-EFFICIENT AND FULL FOR PERIMETER SCREENING
- EVERGREEN TREES SUCH AS AUSTRALIAN WILLOW, CALIFORNIA PEPPER AND OAKS
- 34 SHOWN

AREAS OF ESPECIALLY WATER-EFFICIENT PLANTING
- PRIMARILY AROUND THE PERIMETER OF THE SITE FOR SCREENING

AREAS OF SHRUBS AND GROUND COVERS
- WATER-EFFICIENT PLANTINGS OF SHRUBS AND GROUND COVERS TO PROVIDE VISUAL RELIEF AND TO SCREEN VIEWS OF THE TRUCK PARKING AND FUELING AREAS. PLANTING AROUND THE RESTAURANT AND HOTEL TO FEATURE MORE COLOR AND PEDESTRIAN SCALE PLANTINGS, AREAS IN THE PARKING LOT AND FUELING AREAS SELECTED FOR THEIR LARGER SIZE AND SCREENING ABILITY

TURF
- WARM SEASON TURF, GENERALLY IMPROVED COMMON BERMUDA

OFFSITE AND MEDIAN PLANTINGS
- AS DETERMINED BY CITY OF MADERA. MAY INCLUDE SOME AREAS OF PAVING AT THE NOSES OF MEDIANS

BASIS OF DESIGN

SIGHT LINES
APPROXIMATED. NO PLANTS OR OTHER OBSTRUCTIONS BETWEEN 30" AND 96" ON THE ROAD SIDE OF THESE LINES

PARKING LOT SHADING
PARKING LOTS FOR PASSENGER CARS TO BE SHADED PER THE CITY OF MADERA'S SHADING REQUIREMENTS. TREE ARRANGEMENT AS SHOWN PROVIDES OVER 40% SHADE IN THESE LOTS

SCREENING/MOUNDING
- PLANTING ALONG AVENUE 17 AND SHARON BLVD WILL PROVIDE AT LEAST 3' OF SCREENING OF THE PARKING LOTS/FUELING AREAS PER THE CITY OF MADERA'S REQUIREMENTS.
- PERIMETER TREES ON AVENUE 17 AND SHARON BLVD FRONTAGES WILL BE LOCATED TO AID IN THE REDUCTION OF GLARE OFFSITE FROM LIGHTING
- PLANTING ON THE INTERIOR OF THE SITE WILL BE DESIGNED TO HELP SCREEN THE VIEW OF TRUCKS AND FUELING FROM OFFSITE.

TRUCK PARKING
TRUCKS REQUIRE 20' CLEAR BEHIND EACH PARKING SPACE FOR OVERHANG. NO TREES OR TALL SHRUBS IN THIS AREA.

Quad Knopf

Landscape Concept Plan

Figure 2 - 7

Approximately 250 trees will be provided, most installed from 15-gallon containers and some from five-gallon and 24-inch box containers. Tree sizes for specific uses (Street Trees and Parking Lots) will meet City of Madera requirements. Shrubs will be installed from five-gallon and one- gallon containers. The small amount of turf to be used will be seeded.

Areas not indicated for planning (such as the restaurant pad and basin) will be planted or otherwise treated to comply with Air District and Stormwater Pollution Prevention Plan (SWPPP) requirements to prevent dust and erosion.

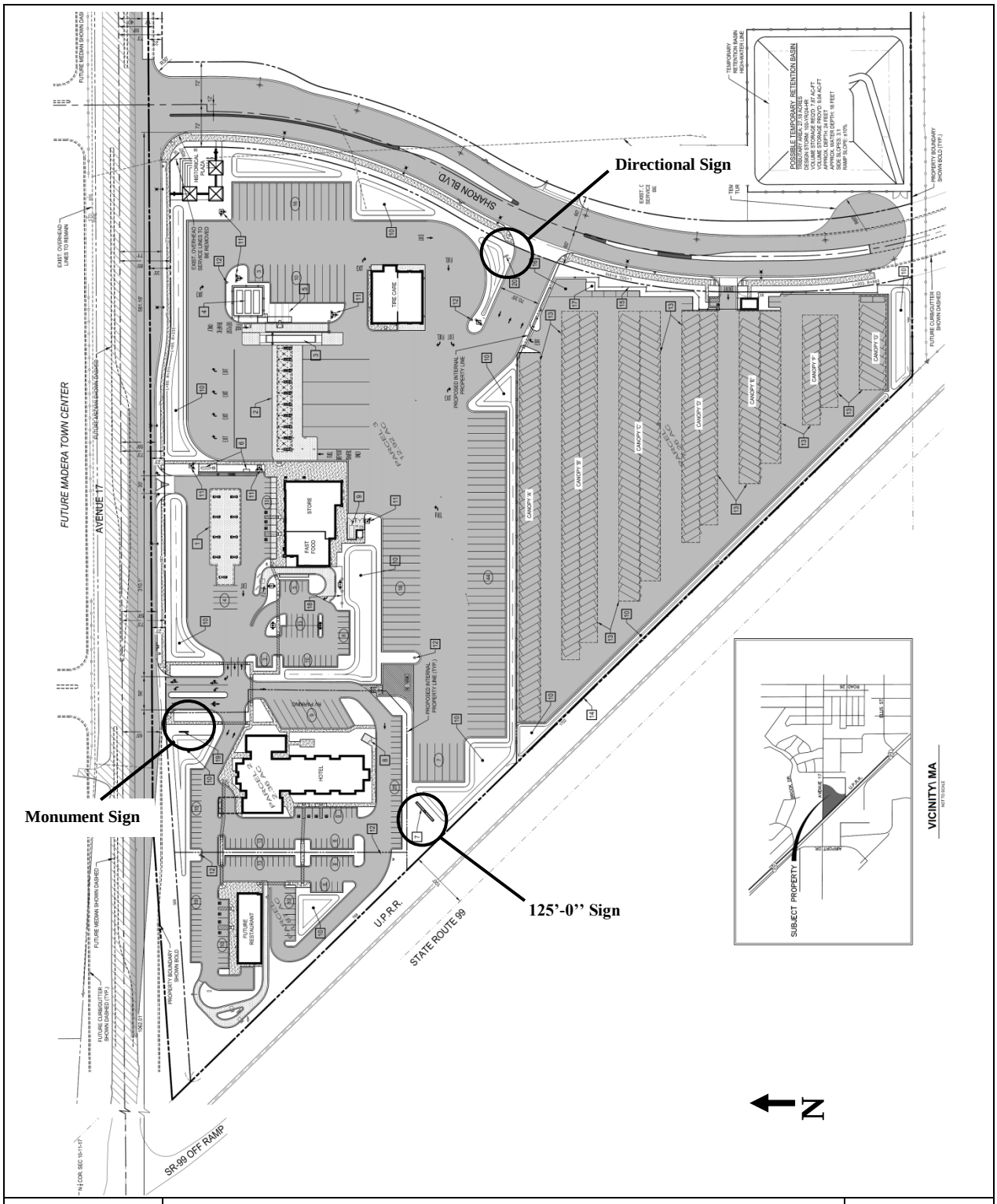
Irrigation will be a mix of low-volume overhead irrigation (rotators) and surface and sub-surface drip irrigation. The minimum efficiency of all irrigation utilized will be 71 percent per MWELO, with the majority of the specified equipment in the 85 percent to 95 percent range. There will be a separate water meter for landscape irrigation, and the irrigation controller will be a "Smart Controller" able to compensate for changing weather and seasons.

Outdoor Lighting

The Travel Center is proposed to be illuminated during nighttime hours by a combination of pole- and building-mounted fixtures. The lighting concept for the site includes locations of proposed 30-foot high pole-mounted lighting, under canopy lighting, and building decorative lighting. Pole-mounted lighting fixtures will be located throughout the site in order to achieve an acceptable level of illumination for safety and movement of pedestrians and vehicles. All proposed fixtures will be energy efficient LED non-glare, directional cut-off fixtures, intended to allow for dark-sky conditions and zero foot-candle light-spillage across the property lines. The building wall sconces provide not only the near-building security lighting, but with their battery packs, they double for the code-required emergency egress lighting.

Signage

The Project site will include one 125-foot tall, single high-rise, LED illuminated, multi-tenant sign that will advertise several tenants (see Figure 3.1-6). In accordance with the City of Madera's Freeway Sign Criteria, in order for a sign of this type to be considered, it will need to conform with certain design features, including design and color elements, that are intended to provide consistency in design and create a visual identity for the community along the Freeway corridor. As proposed, the design of the project's freeway sign may require modification in order to conform with these requirements. As required by the City's Freeway Sign Criteria, the applicant has completed a flag test as a component of an application for variance and use permit. Results of the flag test shall be utilized to justify the height of the sign. Figure 2-8 includes potential sites for signage of various types.



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Possible Signage Locations

Figure 2 - 8

Street Improvements, Driveways, and Parking

The proposed Project also proposes numerous free-standing signs. This includes a 20-foot tall multiple-tenant freestanding sign, two CAT Scale Freestanding Signs (one that is 21.5-foot tall and the second which is 2-feet tall and is attached to the larger freestanding sign) and eight directional signs. The proposed 21.5-foot CAT Scale sign exceeds the 20-foot height limit (Figure 3.1-7). Because the eight directional signs exceed the maximum allowable face area, it was recommended by the City of Madera Planning Department that directional signs be revised to consist of a maximum face area of eight square feet.

A total of 307 parking spaces will be provided, as follows:

- Restaurant: 66 spaces; and
- Hotel: 70 spaces.

Public Improvements

The proposed Project includes right-of-way dedication for, and construction of, Sharon Boulevard, beginning at Avenue 17 and extending to a temporary cul-de-sac at the southern end of the Project site. The right-of-way dedication is 120 feet in width. The new Sharon Boulevard will be constructed as an arterial roadway with curb, gutter, and sidewalks. It will include a 16-foot wide median, two 12-foot southbound lanes, two 12-foot northbound lanes, and a 25-foot wide park strip with sidewalk. Street improvements along the Avenue17 frontage, including installation of signalized intersections on Avenue 17, are also proposed.

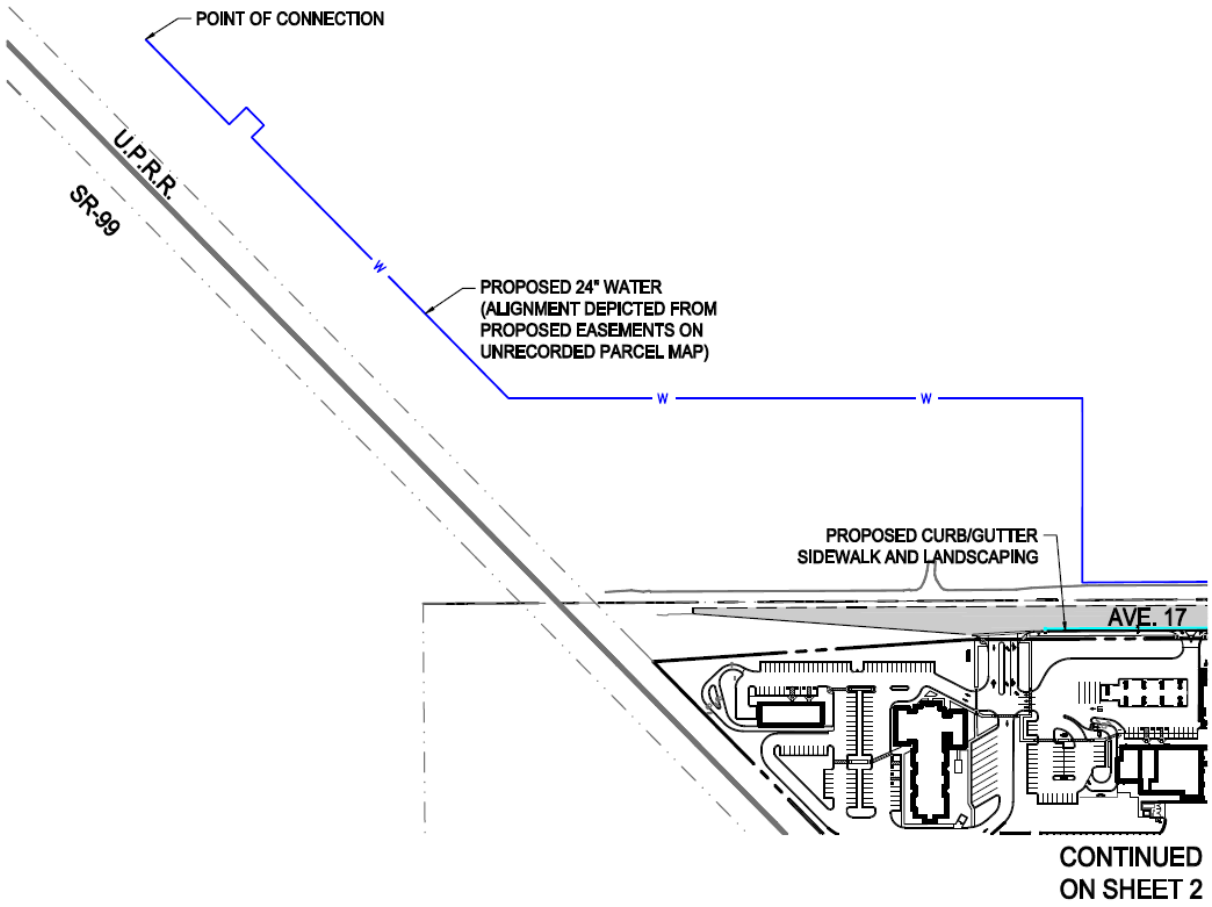
Autos will enter and access the travel stop, hotel and restaurant from Avenue 17 (west entrance), which will be aligned with the future Madera Town Center access driveway across Avenue 17 to the north. A dedicated right-turn pocket will be constructed into the Project site on Avenue 17 to give motorists an opportunity to quickly enter the site without having to queue behind trucks. A second Avenue 17 entrance/exit (right-in/right-out) is proposed at the east end of the auto fueling area of the Project site to give eastbound motorists a second opportunity to enter the site. This second access on Avenue 17 will also give motorists the opportunity to quickly exit the site.

Trucks will enter and exit the site on Sharon Boulevard. A full median break will be constructed in Sharon Boulevard to provide unrestricted movement out of the site.

Access to the RV/Boat Storage area will be via a one-way entrance off Sharon Boulevard. Exiting from the RV/Boat Storage area will utilize the main truck entrance/exit noted above.

Proposed offsite improvements are illustrated in Figures 2-9, 2-10, and 2-11, and are described below.

- RV Storage Facility: 9 spaces;
- Travel Stop: 56 car spaces and 98 truck spaces;
- RV Storage Facility: 9 spaces; and
- Travel Stop: 56 car spaces and 98 truck spaces.



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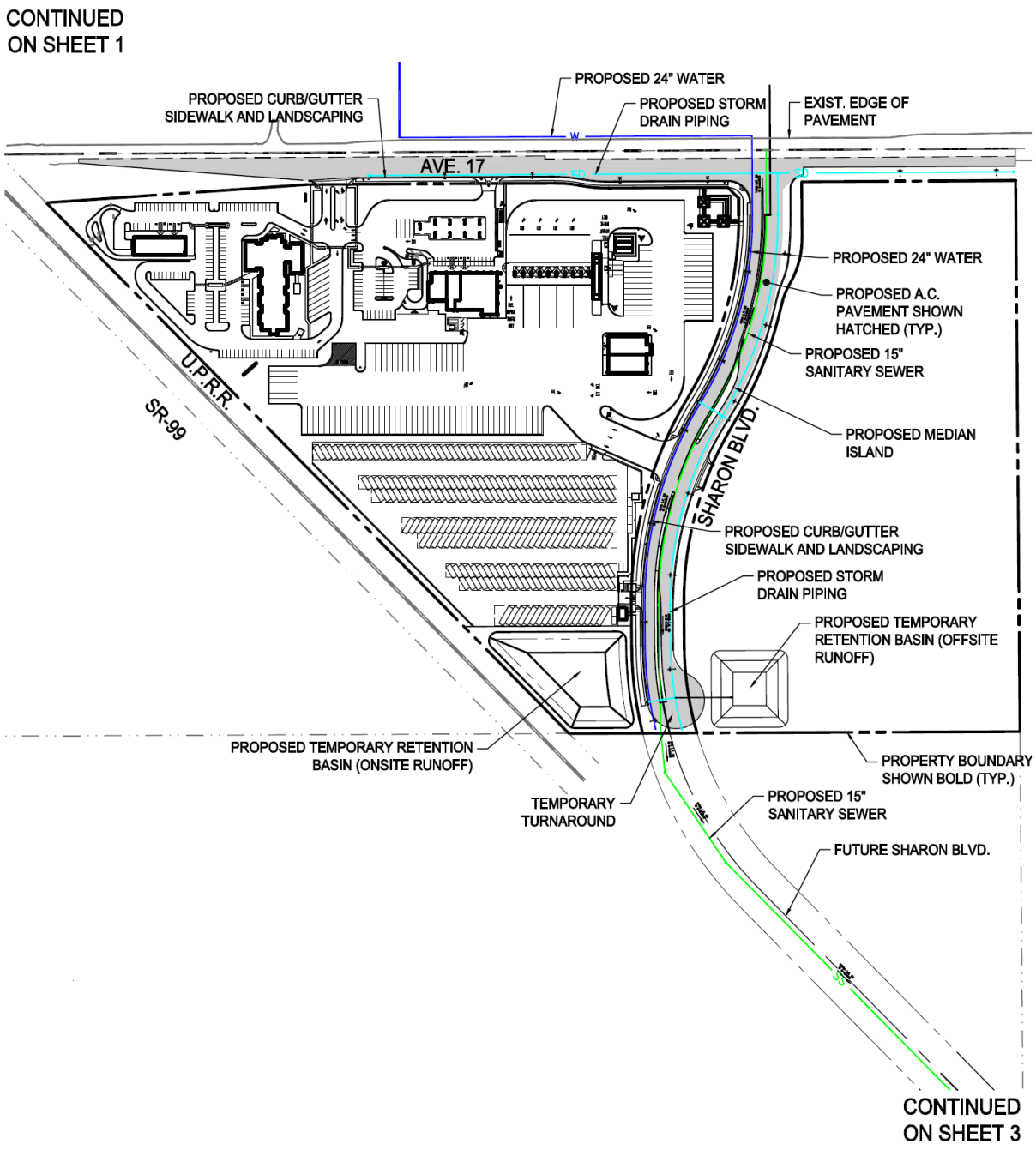
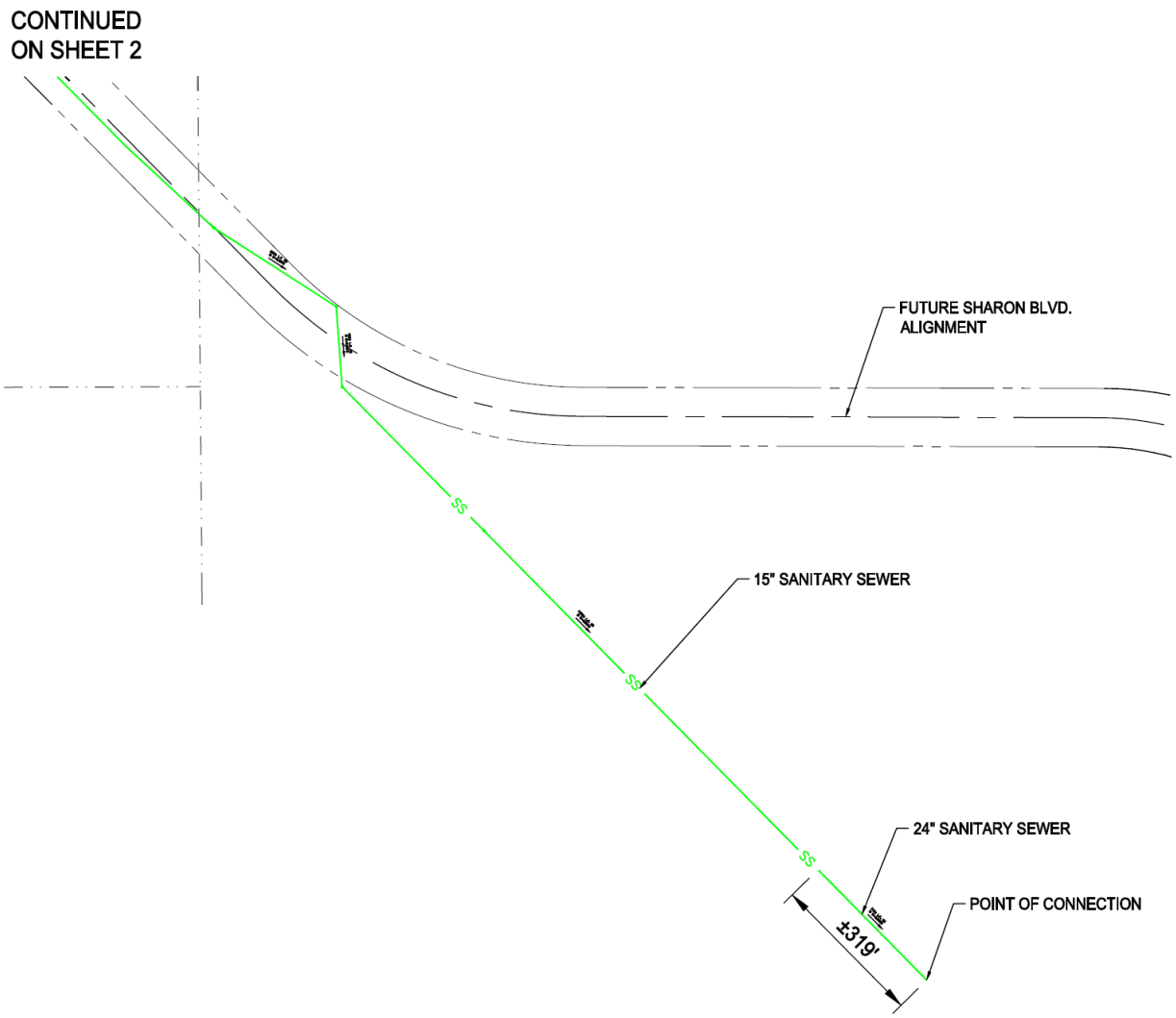
Offsite Improvements

Figure 2 - 9



Quad Knopf	Offsite Improvements	Figure 2 - 10



Quad Knopf	Offsite Improvements	Figure 2 - 11

Offsite Improvements

WATER FACILITIES

The Project proponent will construct a 24-inch water main beginning at its current terminus north of Avenue 17 and adjacent to SR 99 southeasterly to Avenue 17. The water main will be extended easterly along Avenue 17, and then extended along the Sharon Boulevard alignment. The City's Water System Management Plan calls for a new well in the vicinity of the project site, which may also be installed in conjunction with the project if determined to be necessary. Partial development of a potential well site on a site immediately north of the subject property was completed in 2008. The City also completed an initial review and environmental determination for multiple alternative well sites along the future Sharon Boulevard corridor both within and south of the subject parcel. Any future well would be developed to City standards and specifications and would be linked to the existing water distribution system to provide domestic and fire flow needs to the area.

WASTEWATER FACILITIES

The Project proponent will construct a 24-inch sewer main in the proposed Sharon Boulevard roadway dedication from its current termination point north of Ellis Street for approximately 319 feet. The Project proponent will construct a 15-inch sewer main from the termination point of the 24-inch main to the Sharon Boulevard/Avenue 17 intersection. A sewer line will also be constructed along the Sharon Boulevard frontage.

STORM WATER

A maximum of two temporary retention basins will be constructed as part of the project. Final configuration and location(s) of the retention basin(s) will be determined during the building permitting process.

Best Management Practices

The Project proponent proposes to implement best management/sustainable practices, as summarized below:

- Efficient irrigation, in compliance with MWELO;
- Storm drain signage;
- Gasoline and diesel fueling areas will be covered by canopies and will be surfaced with Portland cement concrete. Diesel fueling areas will be covered by canopies and will have catch basins piped to an oil-water separator at each fueling bay to effectively preclude these areas from degrading storm water runoff. Storm water will be precluded from entering catch basins due to covered canopies and grading design;

- Fuel delivery areas will have catch basins to capture any incidental spillage and will be piped to an oil-water separator, and discharged to the sanitary sewer system. Catch basins will not receive storm water runoff due to grading design;

- Above ground diesel tanks will have a containment curb around them;

- Maintenance bays in the tire shop will be fully covered to preclude degradation of storm water runoff as a result of maintenance operations;

- Vegetated swales;

- Bioretention areas;

- Flow-based, storm water treatment device;

- Low-demand/flow-flow water fixtures as required by the California Green Building Code;

- Trucks over a 10,000 Gross Vehicle Weight Rating (GVWR) are required under California law to idle for fewer than five minutes. There are situations where idling longer is allowed, i.e., stuck in traffic, necessary for inspections, operating a Power Take-Off Device, queuing more than 100 feet from residential area, truck engine meets the optimal low-NOx idling emission standard, and located at least 100 feet from residential area. Must have required clean-idle label; and

- DEF (Diesel Exhaust Fluid) available for purchase at the pumps.

Development Phasing

The Project is proposed to be developed in a single phase of construction, although construction of some components could be delayed. Construction is planned to commence in the third quarter of 2016 and is projected to be completed by the first quarter of 2017.

2.4.1 PROPOSED OPERATIONS

Hours of Operation

- Travel Stop/Tire Care: 24 hours per day/7 days per week
- Restaurant: 24 hours per day/7 days per week
- Hotel: 24 hours per day/7 days per week
- Self Storage: 8AM - 5PM, 7 days a week

Number of Employees

- Travel Stop/Tire Care: 25 – 30 employees
- Restaurant: 20 – 25 employees

- Hotel: 15 – 20 employees
- Self Storage: 2 - 3 employees

Projected Patronage

Based on records from other similar facilities owned by the Project proponent, daily vehicle traffic to the Project site is estimated as follows:

- 2,000 automobiles per day; and
- 600 semi-trucks per day.

Projected Energy Usage

Based on records from other similar facilities owned by the Project proponent, electrical energy usage on a yearly basis is 1,265,066.5 kWh.

Projected Water Usage

Based on information supplied by Lane Engineers' (2016) experience with hundreds of travel stops throughout the nation, the proposed Project is expected to use water at a rate of approximately 10,000 gallons per day (gpd) for the Travel Stop, Tire Shop, and Restaurant. Based on conceptual landscape plan and landscape architect calculations (Lane Engineers 2016) landscaping for the entire site is expected to use 13,500 gpd of water. The applicant has estimated water usage of 5,300 gpd for the hotel (65 gpd per room) based on their experience with existing operations, and approximately 5,000 gpd for the second restaurant. Combined, the proposed Project would require a total of 33,800 gpd, or 37.9 acre-feet per year, of water.

Onsite Fuel Storage

Gasoline and diesel fuel will be maintained on site in above ground and underground storage tanks. All fuel storage will be in accordance with local, State, and federal standards.

2.4.2 PROPOSED SUBDIVISION

The proposed Project includes a tentative subdivision map that would result in the 49-acre parcel being divided into five parcels, as summarized below:

- Parcel 1 – Approximately 1.9 acres. Includes the Restaurant;
- Parcel 2 – Approximately 2.4 acres. Includes the Hotel;
- Parcel 3 – Approximately 12.9 acres. Includes the Travel Stop and Tire Shop;
- Parcel 4 – Approximately 7.3 acres. Includes the RV and Boat Storage Facility; and
- Parcel 5 – Approximately 18.8 acres. This remainder parcel will not be developed as part of this proposed Project.

In addition, a street right-of-way dedication for Sharon Boulevard measuring 5.1 acres is proposed.

2.5 Project Objectives

The underlying purpose of the proposed Project is to construct a Travel Center and related land uses on an approximately 50-acre parcel proposed to be five parcels totaling 24.5 acres within the city limits of Madera. The parcel is abutting State Route 99, a major thoroughfare. The Project will serve travelers and truck traffic already using State Route 99 and serve other potential customers within nearby areas. More specific Project objectives are:

- To effectuate land use decisions embodied in the City of Madera General Plan and Zoning Ordinance by developing uses on Assessor's Parcel 013-240-003 consistent with, or conditionally permitted by, those contemplated by those planning documents;

- To develop a property of sufficient size to accommodate all of the following: a Travel Center of approximately 11,981 square feet that consists of a convenience store and adjoining fast food restaurant, restrooms, and auto and truck fuel dispensing area able to accommodate approximately 2,000 cars and 600 semi-trucks per day; a 81-room hotel on one acre; a free-standing drive-through restaurant with indoor seating for approximately 140 people; an approximately 150,000 square foot RV/Boat storage facility; and an approximately 8,073 square foot tire care facility;

- To provide visitor-serving facilities that maximize the benefits of the Project site's proximity to State Route 99 for all buildings and tenants and thereby minimize traffic generation on local streets and total vehicle miles traveled (and attendant air pollution and greenhouse gas generation) by visitors exiting and reentering that highway;

- To construct a facility with access to adequate existing or anticipated utility infrastructure to support planned operations;

- To create new jobs that can be filled wholly or partly by local residents; and

- To maximize tax revenues to the City of Madera.

2.6 Uses of the EIR and Required Agency Actions and Permits

Following is a description of entitlement actions and approvals that will likely be required by the City of Madera in order for the Project to be implemented:

- Site Plan Review – Overall site;
- Truck Stop – Conditional Use Permit (This will include tire shop and related facilities);
- Hotel – Conditional Use Permit;
- RV/Boat Storage – Conditional Use Permit;
- Drive-through Restaurant – Conditional Use Permit;
- Outdoor Seating – Conditional Use Permit;
- Subdivision of the existing parcel – Tentative Subdivision Map;
- Alcohol Sales in Restaurant/Convenience Store – Conditional Use Permit;
- Signage – Variance and Conditional Use Permit if sign exceeds height and size limits;

- Development Agreement – Development Agreement for overall development;
- Building Permits – All structures; and
- Construction of off-site utilities and infrastructure.

Permits that may be required by other entities are summarized below:

- San Joaquin Valley Air Pollution Control District - Indirect Source Review; and
- County of Madera – Construction of off-site utilities and infrastructure in County public street right-of-way.

In conjunction with the formal submittal of applications, the City will confirm a precise set of entitlements that will be required to support Project components.

In addition, the following State agencies may or may not have involvement in the project implementation process:

- Department of Transportation (Caltrans); and
- Native American Heritage Commission.

CHAPTER THREE

ENVIRONMENTAL IMPACT ANALYSES

CHAPTER THREE – ENVIRONMENTAL IMPACT ANALYSES

Organization of Issue Areas

This Draft Environmental Impact Report (Draft EIR) provides analysis of impacts for those environmental topics determined through the environmental scoping process as those that would result in "potentially significant impacts" as a result of project implementation. Sections 3.1 through 3.13 discuss the environmental impacts that may result with approval and implementation of the proposed Project.

Issues Addressed in this EIR

The following environmental issues are addressed in Chapter Three:

- Aesthetics;
- Agricultural and Forestry Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology, Soils, and Seismicity;
- Greenhouse Gases;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Public Services, Utilities, and Service Systems; and
- Transportation and Traffic.

As is described in Section 1.7, the Project will not have adverse impacts to the issues noted below, and therefore, these issues are not included in Chapter 3:

- Geology, Soils, and Seismicity - Septic systems and alternative waste disposal systems are not discussed further, as the Project proposes to connect to the City sewer system.

- Geology, Soils, and Seismicity, Mineral resources - A previous EIR prepared and certified for a different project on this site in 2007 concluded that no mineral resources are present on the entire Project site.

- Population/housing - The proposed project does not have a residential component; as such, population and housing will not be affected by the proposed Project.

- Recreation – The proposed project does not have a residential component; as such, recreation will not be affected by the proposed Project.

Each environmental issue area in Section 3.1 through 3.13 contains a description of:

1. The environmental setting as it relates to the specific issue;
2. The regulatory framework governing that issue;
3. The methodology used in identifying the issues;
4. The significance criteria;
5. An evaluation of project-specific impacts and identification of mitigation measures; and
6. A determination of the level of significance after mitigation measures are implemented.

Level of Significance

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. *CEQA Guidelines* Section 15091 requires that decision makers mitigate, to the extent feasible, the significant impacts identified in the Draft EIR. If the EIR identifies any significant unmitigated impacts, CEQA Guidelines Section 15093 requires decision makers in approving a project to adopt a Statement of Overriding Considerations that explains why the benefits of the project outweigh the adverse environmental consequences identified in the EIR.

The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact against the applicable threshold. Thresholds were developed using criteria from the *CEQA Guidelines* and Appendix G Checklist; State, federal, and local regulatory schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

Impact Analysis and Mitigation Measure Format

The Impact Analysis section presents the analysis of whether there are any impacts and, if so, whether each can be mitigated to a less than significant level, and is comprised of the following subsections:

- **Impact #Title:** Each identified environmental impact is numbered for reference. Each impact is numbered in accord with the Chapter subsection (e.g., #3.8.1);

- **Conclusion:** This is a statement of whether or not an identified impact is significant or less than significant. Significant environmental effects include direct, indirect, short-term, long-term, and unavoidable impacts;

- **Mitigation Measure #:** Each mitigation measure is numbered in accord with its chapter subsection and correlated with the impact to which it applies; and

- **Effectiveness of Measure:** For significant impacts, a statement is made regarding whether the impact can be mitigated to a less than significant level or, alternatively, whether the impact is only partially mitigated, immitigable, unavoidable, and/or irreversible, based on the Impact Evaluation Criteria.

The above format is intended to conform to standards for adequacy of an EIR as described in §15151 of the *CEQA Guidelines,* which states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed Project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and good faith effort at full disclosure.

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3.1 Aesthetics

This section provides an analysis of the potential aesthetic and visual resource impacts that may be caused by implementation of the proposed Project, including disturbance of scenic resources such as trees or rock outcroppings, and light or glare.

3.1.1 ENVIRONMENTAL SETTING

Project Site and Surrounding Areas

The proposed Project site consists of approximately 50 acres previously used as a holding facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. With the relocation of the heavy equipment business around 2007, only a few miscellaneous remnants of the prior operation remain. The site is unimproved, void of any gutters, or sidewalks, but has a storm water retention basin located in the northwestern corner (see Figure 2-3). The site is surrounded by a full chain-link fence, and includes an asphalt paved driveway (enters the site from Avenue 17 to the north and meanders along the northwest side of the site to the center site where two office buildings are located), and a large dirt/aggregate parking area that extends from the north end to the south end of the site along the west side. Surrounding land uses include Avenue 17, undeveloped land and an abandoned dairy facility to the north; residential units to the east; undeveloped land to the south; and SR 99, Southern Pacific Railroad tracks, and undeveloped land to the west.

Elevation on the proposed Project site is approximately 265 feet above sea level. Avenue 17 is elevated above the site along approximately half of the northern edge (due to the over-crossing of the railroad and freeway). Topography of the site is flat. The majority of the site consists of dirt and gravel mix with some grasses and weeds. The site may have been graded at one time to accommodate its previous use of parked equipment and stored machine parts.

Scenic Views and Resources

Visual resources are 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 middle 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. These features act as the focal point of a viewshed and are usually foreground elements.

State and county governments can designate scenic vistas; however, there are no state or county designated scenic vistas in the vicinity of the proposed Project site. The General Plan does not designate the proposed Project site as scenic or an area having highly-valued scenic resources.
The proposed Project vicinity does not contain notable features that would typically fall under the heading of visual resources, such as unique geological features, natural areas, etc. The site lies along the valley floor with little vertical differentiation that might provide scenic quality (hillside areas, rock outcrops, etc.). The features of the proposed Project's visual setting that

might shape an appreciation of its visual character are limited to typical urban elements and are subject to personal interpretation.

Aesthetic effects are influenced by such factors as the location of the viewer, duration of exposure, and the status of the viewer in relation to the proposed Project. "Status of the viewer" is a reference to the fact that a resident of a property that has a direct view of the proposed Project site from an adjacent property is likely to feel differently about the new development than a non-resident who catches a brief glimpse of the proposed Project site driving along SR 99 and Avenue 17.

Surrounding Areas

The Project site is bordered by SR 99 to the west, Avenue 17 to the north, rural residences to the east, and vacant land to the south. The general character of the surrounding areas of the Project site is described below.

North: The Project site is bordered by Avenue 17 to the north. Land on the adjacent side of Avenue 17 is undeveloped and designated for heavy commercial use.

East: Land immediately to the east is bordered by six rural residential dwellings and is separated by a fence.

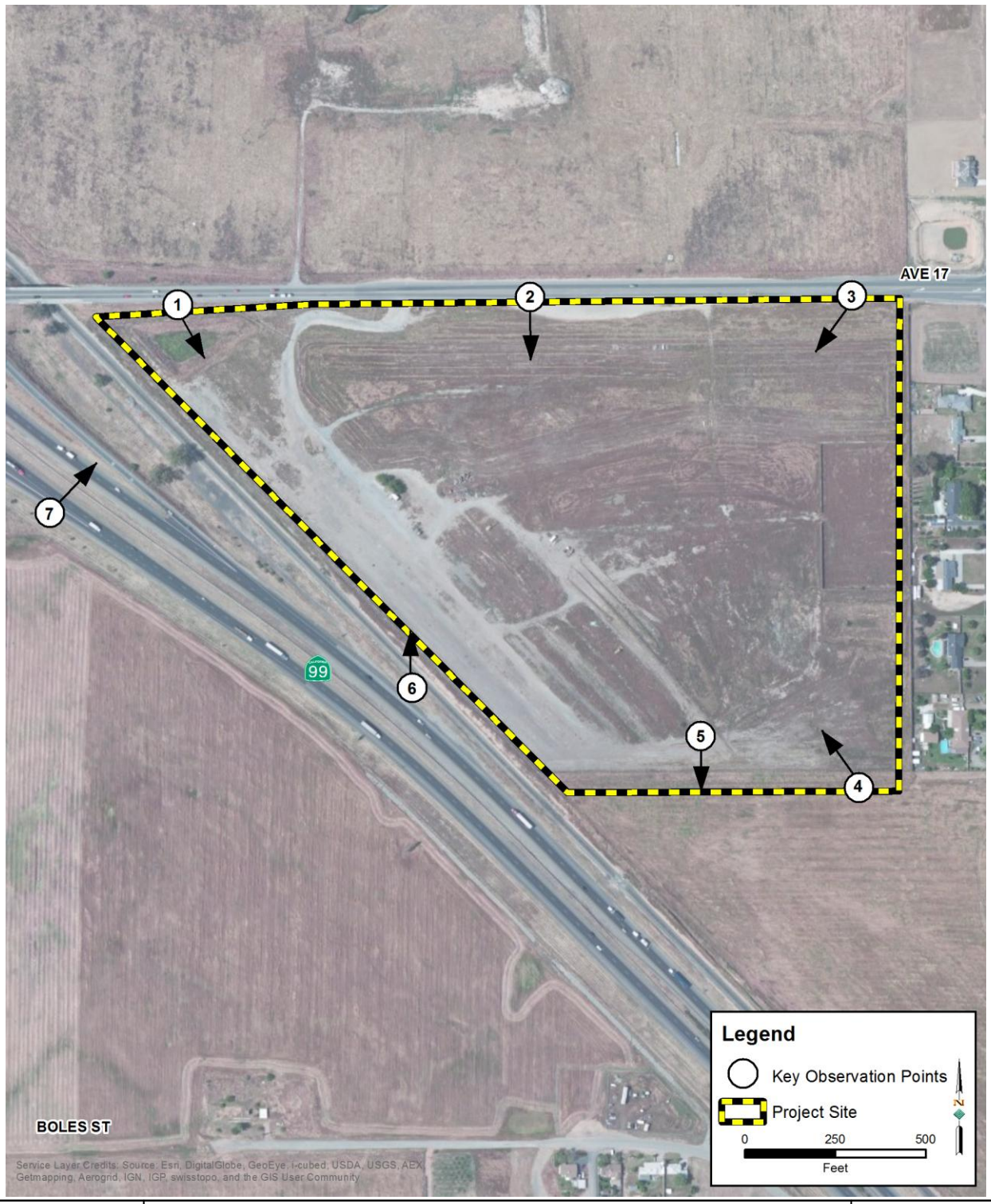
South: Land to the south is undeveloped and designated for commercial use.

West: The western border of the Project site consists of a Southern Pacific Rail Road (UPRR) track and SR 99. Industrial-type businesses are located on the opposite side of SR 99.

Passing vehicles in the northbound and southbound lanes of SR 99 have visibility of the Project site from the west. In addition, vehicles driving along Avenue 17 to the north have views of the Project site. The residential homes to the east would have views of the Project site; however, views are shielded by a fence that separates the Project site from the residences. SR 99 provides the most notable views of the Project site, due to its large volume of passing vehicles and adjacency to the Project site. The views from SR 99, Avenue 17 and the residential homes include a chain link fence that surrounds the vacant, approximately 50 acre property. Views of the proposed Project site and vicinity as a whole are expansive due to the lack of development in the area.

Key Observation Point (KOP) locations discussed below were chosen to represent areas that are most sensitive to visual change generated by the proposed Project (Figure 3.1-1). Figures 3.1-2, 3.1-3, 3.1-4, and 3.1-5 contain photographs of KOPs described in Figure 3.1-1.

KOP 1: The viewpoint from KOP 1 is of the Project site from the Avenue 17 eastbound lane. From this viewpoint, vacant earth and scattered grassland is visible throughout the Project area. SR 99 is visible to the east of the viewframe.



Quad Knopf	Key Observation Points (KOP) Map	Figure 3.1 - 1

Quad Knopf	KOPs 1 & 2	Figure 3.1 - 2

Quad Knopf	KOPs 3 & 4	Figure 3.1 - 3

Quad Knopf	KOPs 5 & 6	Figure 3.1 - 4

Quad Knopf	KOP 7	Figure 3.1 - 5

KOP 2: This KOP is located along the northern edge of the Project site and is facing west toward SR 99. This KOP shows the undeveloped land located in the northwestern portion of the Project site, and the chain link fence that currently borders the Project site.

KOP 3: KOP 3 is located at the northeastern portion of the Project site and is facing south toward the site. Visible are the residences located along the eastern border of the Project site.

KOP 4: KOP 4 is located at the southeastern corner of the Project site facing north. Visible from this viewpoint is the fence that separates the Project site from the adjacent rural residences.

KOP 5: KOP 5 is located along the southern edge of the Project site and faces south toward the adjacent vacant property. Although this site is currently undeveloped, it is designated for industrial use. Passing vehicles along SR 99 are located in the distant background.

KOP 6: KOP 6 is located from the northbound travel lane of SR 99 looking toward the Project site. Seen from this viewpoint is the railroad line that separates SR 99 from the distant Project site. From this viewpoint, the 125-foot proposed multi-tenant Travel Stop pole sign will be visible to passing vehicles.

KOP 7: KOP 7 is located from the southbound travel lane of SR 99 looking toward the Project site. Seen from this viewpoint is vacant grassland that makes up the northern portion of the Project site. From this viewpoint, the 125-foot proposed multi-tenant Travel Stop high-rise sign will be visible to passing vehicles.

Light and Glare

Light and glare effects also are somewhat subjective; they are more likely to disturb permanent residents than transient highway travelers. Light and glare effects must be evaluated from two viewpoints: 1) the viewpoint from the Project site toward surrounding uses and 2) the viewpoint from surrounding uses toward the Project site. The degree of impact is proportional to the perceived negative effect on surrounding land uses. If there is a continuous light or glare that is visible from nearby residences, and if it creates a nuisance to residents, the impact is potentially significant. The sensitivity of viewers to changes in the viewshed can be measured by the extent and nature of City General Plan provisions that address visual resources regarding development proposals.

Light that falls beyond the intended area of illumination is referred to as "light trespass." Types of light trespass include spillover light and glare. Spillover light is light that illuminates surfaces beyond the intended area and is typically caused by artificial lighting sources from building security lighting, illuminated signs, parking lot lights, street lights, and the campus stadium field lights. Light trespass can unfavorably affect light-sensitive land uses, such as residential neighborhoods at nighttime.

The second type of light trespass is glare, which results when a person's eyes have difficulty adjusting to bright lights while in a darker setting. Glare can occur from a direct light source, such as vehicle headlights in the night, or indirectly from reflection such as light shining off of a

building. Glare can result from sunlight or from artificial light reflecting off reflective building materials or glass windows, depending on the angle of the sun. Glare resulting from sunlight reflecting off building exteriors can be reduced with design features that incorporate low-reflective glass and exterior materials and colors that absorb, rather than reflect, light. Glare can also be reduced by incorporating light sources that are designed to direct light downward rather than upward toward the sky.

Because the Project site is currently vacant, no light, glare, or light trespass into the night sky or surrounding areas is currently being generated on-site. Existing light and glare sources in the Project area are from vehicles traveling along SR 99 and development beyond SR 99 to the west, Avenue 17 to the north, and the rural residences to the east of the Project site. Overall, light levels are at a low to medium intensity, due to the mix of open space and development in the Project area. In conclusion, passing vehicles traveling along SR 99 and Avenue 17 represent the main source of glare to the Project vicinity.

3.1.2 REGULATORY SETTING

Federal

There are no specific federal regulations applicable to aesthetics.

State

CALIFORNIA SCENIC HIGHWAY PROGRAM

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. No State-designated scenic highways are located in the vicinity of the Project site.

NIGHTTIME SKY – TITLE 24 OUTDOOR LIGHTING STANDARDS

The California Legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sector. In November 2003, CEC adopted changes to the Title 24, parts 1 and 6, Building Energy Efficiency Standards. These standards became effective on October 1, 2005, and included changes to the requirements for outdoor lighting for residential and nonresidential development. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

Local

CITY OF MADERA GENERAL PLAN

Physical features that define the aesthetic character of an area are referred to as visual resources. Visual resources are protected through policies that are mandated in the City of Madera General Plan's Housing Element and Community Design Element (2009a). The City of Madera General Plan sets forth the following goals and policies relevant to visual resources:

Housing Element and Community Design Element

Policy H-3.8: The City shall require quality design and appearance of all new development so that they add value to the community's built environment and reduce potential for community objection.

Policy CD-1: The City of Madera will require that all new developments are well-planned and of the highest possible quality. The City will seek to build an image of Madera as a contemporary small city with vibrant, livable neighborhoods and walkable pedestrian- and bicycle- oriented development.

Policy CD-2: All new development shall adhere to the basic principles of high-quality urban design, architecture and landscape architecture including, but not limited to, human-scaled design, pedestrian orientation, interconnectivity of street layout, siting buildings to hold corners, entryways, gathering points and landmarks.

Policy CD-3: Madera will strive to continuously improve the architectural quality of public and private projects. Developers proposing to rely on the use of "standard designs" or "corporate architecture" will be required to improve their designs as necessary to meet the City's overall standards for quality.

Policy CD-4: Site layout and building design shall take into consideration Madera's warm, dry climate, by including trees, landscaping and architectural elements to provide shade.

Policy CD-5: New development shall be approved only if it meets the design principles set forth in this Community Character Element and to any local, project specific, or citywide design guidelines.

Policy CD-7: All new development projects requiring site plan approval shall establish landscape and façade maintenance programs for the first three years, ensuring that streetscapes and landscapes areas are installed and maintained as approved.

Policy CD-12: Public art (statues, sculpture, fountains, and monuments) and other design features should be used to enliven the public realm.

Policy CD-15: Except where site conditions make it infeasible, new commercial development shall be designed to front or have a presence along all street frontages. The intent of this policy is

to enhance the pedestrian scale of new development, and minimize the presence of parking, circulation, and loading areas as the primary visual features of development.

Policy CD-16: Soundwalls or fences along streets other than arterials and expressways and adjacent to rail lines should be used only if no other design solutions exist for reducing the impact of roadway noise on residential areas, consistent with this General Plan's policy regarding noise mitigation preferences.

Policy CD-17: Where the use of security fencing, window barriers, or similar features are necessary to secure a building or site, these measures shall be incorporated into the visual/architectural design of the project and shall be complementary to surrounding uses. This policy is not intended to apply to security features which are not visible from public rights of way or adjacent properties.

Policy CD-18: Where soundwalls are used, they shall be set back from the street, include design features that enhance visual interest, and be landscaped in order to mitigate their impact on urban character and the pedestrian environment.

Policy CD-25: Sidewalks shall be provided on both sides of the street in commercial and residential areas, and where appropriate in industrial areas.

Policy CD-22: Commercial developments should have public open space areas such as plazas, courtyards, expanded walkways, or other areas suitable for small gatherings. The facilities should be sized proportionate to the scale of the development.

Policy CD-47: Commercial projects shall be designed to minimize the intrusion of parked vehicles on the streetscape. Parking areas, driveways, and drive-through lanes should not be located between buildings and the sidewalk.

Policy CD-48: Buildings and building entrances shall be oriented to the pedestrian environment.

Policy CD-49: Buildings shall include human-scale details such as windows facing the street, awnings, and architectural features that create a visually interesting pedestrian environment.

Policy CD-50: Parking lots shall be landscaped, including shade trees, to create an attractive pedestrian environment and reduce the impact of heat islands.

Policy CD-51: Safe and well-defined pedestrian connections from buildings to parking areas, from buildings to the adjoining street(s), and among buildings on the same site shall be provided. Pedestrian connections between commercial development and surrounding residential neighborhoods shall also be provided. Enhanced paving materials or other techniques shall be used to identify pedestrian connections.

Policy CD-53: Unarticulated, boxy structures shall be broken up by creating horizontal emphasis through the use of trim, varying surfaces, awnings, eaves, or other ornamentation, and by using a combination of complementary colors.

Policy CD-55: Loading facilities for uses requiring delivery from large trucks shall be screened from public view and located away from residential uses.

Policy CD-57: Where possible, parking lots shall be located behind or on the side of buildings to reduce their visual impact.

Policy CD-60: Commercial site boundaries adjacent to residential areas shall be visually screened with ornamental masonry walls and landscaping. Wall height is to be determined and approved as part of the site plan review process.

Policy CD-61: All outdoor storage areas shall be visually screened with ornamental fencing or walls, and landscaping.

Policy CD-62: Development in industrial areas which are visible from public roadways and/or from adjacent properties shall incorporate high quality design principles, including:

- Offices and enclosed structures oriented toward street frontages;
- Building facades that provide visual interest;
- Loading facilities and storage areas which are screened from public view along collectors and arterials;
- Visually appealing fences and walls; and
- The use of landscaped buffers around parking lots and industrial structures.

Policy CD-64: Where industrial development abuts non-industrial uses, appropriate buffering techniques shall be employed such as, enhanced architecture, increased setbacks, screening landscaping, or some combination of these features.

Policy CD-65: Regardless of building materials or construction techniques, such as tilt up concrete or prefabricated metal buildings, all buildings shall meet all of the City's standards and guidelines for excellence in design.

3.1.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

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

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

c) Substantially degrade the existing visual character or quality of the site and its surroundings; or

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

3.1.4 IMPACTS AND MITIGATION MEASURES

Impact #3.1-1 - Have a substantial adverse effect on a scenic vista or substantially degrade the existing visual character or quality of the site and its surroundings (a, c):

There are no State or County designated scenic vistas in the vicinity of the proposed Project site. The Madera General Plan does not designate the proposed Project site as scenic or an area having highly-valued scenic resources.

There is potential that the proposed Project may affect scenic views and resources or degrade the visual character of the area. An impact would occur if the proposed Project changes the view to the middle ground or background elements of the broad viewshed, or removes the visually important trees, rocks, or historic buildings in the foreground. Since aesthetic considerations are often subjective and difficult to judge, two generally objective criteria are used in this EIR to establish the level of significance of the change. The first addresses the visibility of the landscape being altered and whether it will appear in the foreground, middle ground or background of most viewers. Changes in the foreground are most significant, with distance and topography or vegetative screening reducing impact. The second criterion concerns visual contrast, which is a measure of the degree of perceptible change. This is often characterized as being a strong, moderate or weak change. Using this approach, a "strong" change would be immediately apparent and would dominate the landscape, whereas a "weak" change would be barely noticeable.

The areas surrounding the proposed Project area are a mix of various land uses including residential and commercial uses. SR 99 borders the proposed Project site on the west and Avenue 17 forms the northern boundary. Existing views of the proposed Project site and surrounding areas are provided above in Figures 3.1-2 through 3.1-4. Consequently, views from those directions looking on the proposed Project site will be altered as the nature of the proposed Project will be substantially different than what currently exists, but the proposed Project will not substantially degrade the existing visual character of the site and its surroundings. In this case, the proposed Project site was previously used as a facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. The heavy equipment business was relocated around 2007, but a few miscellaneous remnants of the prior operation remain.

The proposed Project will consist of a travel center building, tire shop and truck area, a four-story hotel, a restaurant with drive-through, RV and boat storage, and a pedestrian plaza, which will all be subject to a site plan review by the City. The Project site is located in the Heavy Commercial, C-2 zone. Section 10-3.904 of the zoning code requires that the maximum height of any building in the C-2 zone shall be 65 feet, unless a use permit is secured for additional height. Additionally, the zoning code requires that commercial projects undergo site plan review, at which time General Plan conformance is required, including the community development policies. The community development policies specify that development will be in conformance

with community design guidelines. The City's primary mechanism for addressing aesthetics and design is the implementation of the General Plan and design guidelines through the site plan review process.

There is one specific reference to lighting in the zoning code. Section 10-3.4.0106 addresses approval determinations for site plan review. This section requires that a determination shall be made that "proposed lighting is so arranged as to deflect the light away from adjoining properties or public streets." Compliance with the City zoning code requirements, including conformance with the General Plan and community development policies, will reduce potential visual impacts from the Project on surrounding areas. An overview of the square footage and heights for each of the free-standing Project components are shown in Figure 3.1-6.

Signage

The Project site will include one 125-foot tall, single high-rise, LED illuminated, multi-tenant sign that will advertise several tenants (Figure 3.1-6). In accordance with the City of Madera's Freeway Sign Criteria (Provided by City staff July 2015), in order for a sign of this type to be considered, it will need to conform with certain design features, including design and color elements, that are intended to provide consistency in design and create a visual identity for the community along the Freeway corridor. A flag test was conducted by Effective Images on March 23, 2015 (Effective Images 2015) to determine the visibility of a sign of this type from various locations. The results indicated that a blimp located on the west side, mid-property would be visible from the southbound SR 99 lane approximately 0.1 miles from the exit due to tree covered terrain. This blimp would be visible approximately 0.7 miles from the northbound lane the entire distance to the exit. A second blimp was located 200 feet south of the northwest corner of the proposed Project. This blimp was visible from the southbound lane beginning approximately 0.2 miles from the exit the entire distance to the exit. From the northbound lane, the blimp was visible beginning 0.7 miles from exit the entire distance to the exit, as there are no obstructions visible from this viewpoint to the exit.

The proposed Project also proposes numerous free-standing signs. This includes a 20-foot tall multiple-tenant freestanding sign (Figure 3.1-6), two CAT Scale Freestanding Signs (one that is 21.5-foot tall and the second which is 2-feet tall and is attached to the larger freestanding sign) and eight directional signs. The proposed 21.5-foot CAT Scale sign exceeds the 20-foot height limit (Figure 3.1-7). The eight directional signs exceed the maximum allowable face area. It was recommended by the City of Madera Planning Department that directional signs be revised to consist of a maximum face area of 8 square feet. A more detailed overview of the different types of signs and lighting is provided in Figure 2-9 in Chapter 2.

Residences may have a direct line of sight of the proposed Project structures, but the visual impact of this development in proximity to residences to the east is not considered to be significant due to the fact that all proposed structures will be set back from residences to the east by approximately 500 feet, and therefore, are not likely to obstruct any existing views.

OVERALL HEIGHT: 125'
TOTAL SQ. FT.: 1191.60

LOVE'S HI-RISE
MADERA, CA

4' 10" X 36' DECORATIVE SWOOSH

7' x 8' 8¾" HEART
(61.10 SQ. FT.)

1' SEPARATION

7' 9" X 19' LOVE'S
(147.25 SQ. FT.)

9' 6" X 36' PRICER
BY OTHERS (CONCEPT ONLY)
76" NUMERALS
(342 SQ. FT.)

6' 9" X 19' ARBY'S
(128.25 SQ. FT.)

6' 9" X 19' CHESTER'S
(128.25 SQ. FT.)

6' 9" X 19' TENANT SIGN
(128.25 SQ. FT.)

6' 9" X 19' HOTEL SIGN
(128.25 SQ. FT.)

6' 9" X 19' SELF STORAGE
(125.25 SQ. FT.)

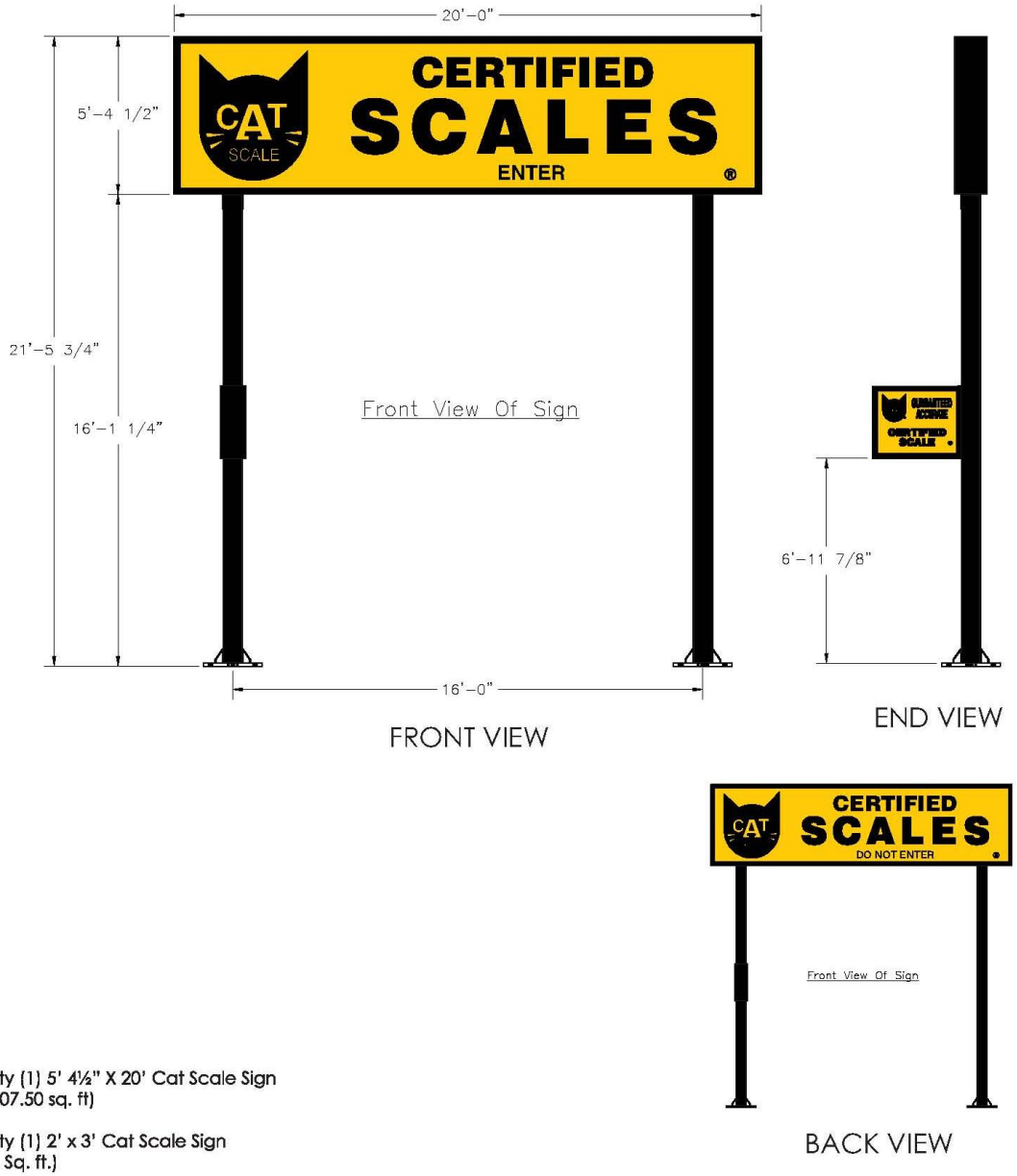
10' X 10' CITY OF MADERA
(SQ. FT. NOT COUNTED IN TOTAL)

59' FROM BOTTOM
OF SELF STORAGE TO GRADE

8' X 20' STONE BASE

NOTE: DIESEL INSTALLED TOWARDS INTERSTATE / HIGHWAY

Quad Knopf	125-Foot Multi-Tenant Sign	Figure 3.1 - 6



Quad Knopf	CAT Scale Signage	Figure 3.1 - 7

During construction of the proposed Project, mechanical equipment, outdoor storage, and earth moving activities will have a temporary effect on scenic views for residents to the east. Although impacts can be considered significant, the sight of construction equipment in the area is common and will be temporary. Indeed, as mentioned above, the proposed Project site was previously used as a facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. Therefore, such temporary visual construction impacts would be less than significant.

Highway commercial centers are intended to enhance their existing settings, including the freeway frontage. The proposed Project is oriented with the backs of buildings facing the SR 99 corridor.

Conclusion: The proposed Project's design goal is to reduce the adverse impacts on surrounding viewsheds. Landscaping and beautification techniques will be integrated into the design as proposed by the applicant and as a result of the City's design review process in order to minimize visual impacts. All proposed signage will need to be in conformance with the City's Freeway Sign Criteria Manual. Adherence to the Highway Commercial Zone General Provision requirements is mandatory and enforceable through the design review process. Consistency with the City's Municipal Code and General Plan goals would ensure that the proposed Project will be designed to integrate with the surrounding built environment and will include adequate landscaping for the site. Therefore, impacts will be ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.1-2 - Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (b):

Conclusion: The proposed Project will comply with City standards. Additionally, the site is not located within view of a designated scenic highway; therefore, the proposed Project will have a ***less-than-significant*** impact.

Mitigation Measures: No mitigation measures are required.

Impact #3.1-3 - Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (d):

The proposed Project site is currently undeveloped, vacant land. Existing sources of light and glare from the areas surrounding the Project site include street lights, exterior lighting from the nearby residential uses to the east, industrial uses to the west, as well as distant illumination from the Pilot Travel Center which is located two miles north of the Project site, at the Avenue 18 ½ off-ramp. Light sources also present at the Project site are the intermittent light from headlights of the passing vehicles at nighttime along SR 99 and Avenue 17. Ambient nighttime lighting in the vicinity of the Project site is characteristic of a semi-urban area with both minor and major transportation corridors adjoining the site (SR 99 and Avenue 17).

New Project lighting has the potential to create light pollution in the vicinity of the proposed Project site, especially in the residential areas and along SR 99. Light pollution is a potential impact from the operation of any light source at night. Proper light shields, design, and landscaping are commonly used to reduce light pollution generated by blocking the conveyance of lights upwards. It is anticipated that the materials utilized in the construction of the proposed lighting fixtures would be generally similar to those utilized at the nearby Pilot Travel Center located north of Madera. Lighting within fueling areas would consist of canopy-mounted lighting directed downward. The result is that lights are not visible from above and do not add ambient light to the nighttime sky.

Since the Madera Travel Center will be accessible 24 hours a day, nighttime lighting is necessary to provide and maintain a safe, secure, and an attractive environment. Ideally, visual harmony can be achieved by the types of lighting that can provide the features of safety, security and attractiveness, without serving as a nuisance to the surrounding areas. The type of light fixture chosen to be incorporated into the design will ultimately determine the extent to which light will spill over onto surrounding areas. Light fixtures that are downcasting, shielded, and low mounted to reduce light trespass onto adjacent land uses are a common design feature to mitigate light trespass.

In this case, the Travel Center will be illuminated during nighttime hours by a combination of pole- and building-mounted fixtures. Figure 2-8 of Chapter 2 illustrates the lighting concept for the site, including locations of proposed pole-mounted lighting, under canopy lighting, and building decorative lighting. Pole-mounted lighting fixtures will be located throughout the site in order to achieve an acceptable level of illumination for safety and movement of pedestrians and vehicles. All proposed fixtures will be energy efficient Light-emitting diode (LED) non-glare, directional cut-off fixtures, intended to allow for dark-sky conditions and zero foot-candle light-spillage across the property lines. The building wall sconces provide not only the near-building security lighting, but with their battery packs, they double for the code required emergency egress lighting.

The Project site will include one 125-foot tall, single high-rise, LED illuminated, multi-tenant sign that will advertise all tenants to be located as part of the Project site. Proposed pole-mounted signs will be internally illuminated. While the intensity of lighting will be relatively low, the height of certain signs when viewed against the dark night sky may make them visually prominent. The proposed Project is required to adhere to lighting requirements contained in Chapter 6: Sign Regulations, Section 10-6.03 of the Madera Municipal Code, for all proposed signs on-site.

Operation of the proposed Project will also introduce light from headlights of vehicles entering and exiting the site from the proposed driveways; however, the site layout was designed so that the entering and exiting vehicles avoid direct glare onto adjacent sensitive receptors and public rights-of-ways. The Project will also be required to comply with Nighttime Sky – Title 24 Outdoor Lighting Standards.

Conclusion: Light production will occur from outside of buildings and on signage which will be visible from adjacent areas and the highway. This impact is considered ***potentially significant.*** The following mitigation measures are required to address Project impacts.

Mitigation Measure #3.1-3a: A lighting plan shall be prepared and submitted to the City of Madera Community Development Department for approval in conjunction with and prior to the issuance of building permits. The lighting plan shall adhere to the City of Madera Design & Development Guidelines and design review requirements, as applicable, regarding the appropriate use of building materials, lighting, and signage to prevent light and glare from adversely affecting motorists and adjacent land uses. The City shall ensure that the lighting Project plan incorporates the requirements set forth in mitigation measures 3.l-3b through 3.l-3e below.

Mitigation Measure #3.1-3b: Decorative uplighting used to illuminate trees, walls, fountains, and other objects shall be ground-mounted and directed upwards, away from the viewer to prevent glare.

Mitigation Measure #3.1-3c: Night lighting shall be limited to that necessary for security, safety, and identification and also be screened from adjacent residential areas and not be directed beyond the boundaries of the parcel on which the buildings are located. Outdoor security lighting at businesses shall be controlled by timers.

Mitigation Measure #3.1-3d: All lighting proposed as part of the Project, shall be fully hooded, shielded, directed downward and away from adjoining properties and rights-of-way. Light shields shall be installed and maintained consistent with manufacturer's specifications, and shall reduce the spillage of light on to adjacent properties to less than a one-foot standard, as measured at the adjacent property line.

Effectiveness of Mitigation: With the implementation of the above mitigation measures, the potentially-significant impact will be reduced to ***less than significant***.

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3.2 Agricultural and Forestry Resources

This section provides an analysis of the potential agricultural and forestry resources impacts that may be caused by implementation of the proposed Project. Potential impacts may include converting prime farm or forestry lands into another type of land use, or causing a conflict with an existing Williamson Act contract.

3.2.1 ENVIRONMENTAL SETTING

Regional Agricultural

Agriculture plays a significant role in the economy of Madera County and the City of Madera. According to the County's 2013 Crop Report, over the last four years Madera County has seen a steady increase in total commodity values, and in nine of the last 10 years, the County's commodity production has exceeded one billion dollars. Table 3.2-1 lists the top 10 leading crops followed by the dollar value for each.

Table 3.2-1
Ten Leading Crops Madera County 2013

Commodity	2013 Rank	2013 Dollar Value	2012 Rank
Almonds, Nuts & Hulls	1	$623,483,000	1
Grapes	2	$373,835,000	2
Milk	3	$323,112,000	3
Pistachios	4	$161,853,000	4
Cattle & Calves	5	$55,210,000	5
Replacement Heifers	6	$38,740,000	6
Pollination	7	$31,714,000	7
Alfalfa, Hay & Silage	8	$29,283,000	8
Corn, Grain & Silage	9	$29,035,000	9
Poultry	10	$20,985,000	10

Source: Madera Department of Agriculture, 2013.

Even as ongoing drought conditions in 2013 impacted growing conditions, Madera County reached a record high agricultural production level of $1,896,544,000 (this is an increase of $157,133,000 [9.03%] over 2012 production). Crop values can vary from year-to-year due to the variables of production, market, and weather conditions. Most increases can be attributed to strong market prices and increased production (Madera Department of Agriculture 2013).

Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system that is administered by the California Department of Conservation (2012). The system classifies agricultural land according to its soil quality and irrigation status. Categories of "Important Farmland" for purposes of analysis under CEQA include Prime Farmland, Farmland of

Statewide Importance, and Unique Farmland. Each of these three categories of Important Farmland is defined more specifically below.

- **Prime Farmland:** The best quality agricultural land is called "Prime Farmland." Prime Farmland is land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high crop yields when treated and managed according to current farming methods. To be classified as Prime Farmland, the land must have been used for production of irrigated crops sometime during the two cycles prior to the mapping date.

- **Farmland of Statewide Importance:** This farmland is similar to 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.

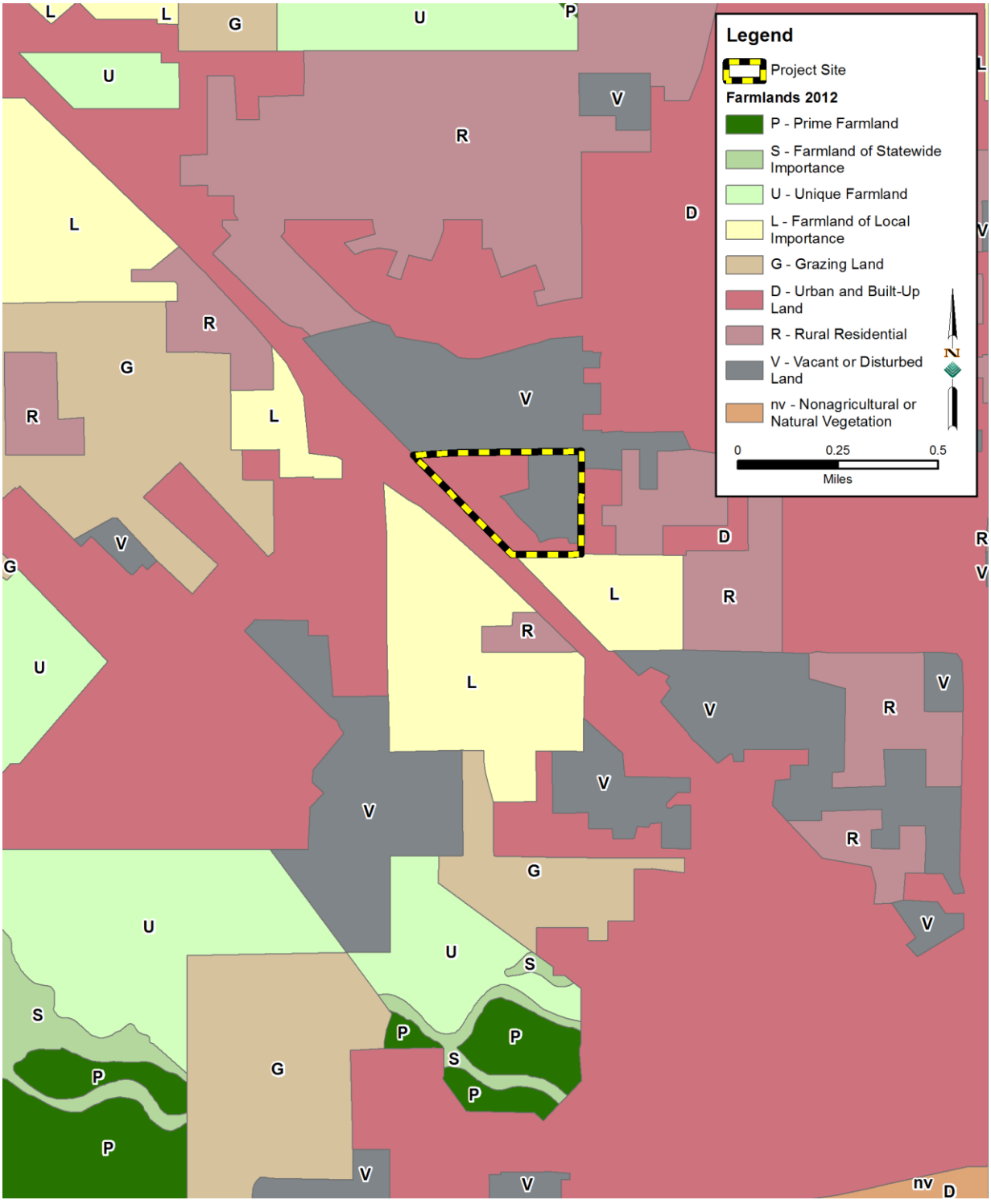
- **Unique Farmland:** Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped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

Other categories of land under the FMMP that are not considered "Important Farmland" for purposes of CEQA include Farmland of Local Importance, Grazing Land, Urban and Built Up Land, and Vacant Disturbed Land. The proposed Project property has been designated by the California Department of Conservation (Division of Land Resource Protection) under the FMMP as "Urban and Built-up Land (D)" and "Vacant or Disturbed Land (V)" (Figure 3.2-1).

Map updates showing land use changes are completed every two years throughout each county in California. Updates are done with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. Conversions during the 2010-2012 mapping update included the following changes within the City of Madera:

- Approximately 60 acres of new homes added throughout the City of Madera, including the Orchard Pointe (~30 acres) development. New businesses were also added (~10 acres) as well as a new pond at the sewage treatment plant (~35 acres); and

- Approximately 145 acres of homes were added due to increased density in formerly low-density housing areas. New buildings included a mini-storage facility (~10 acres), and a Hampton Inn (~5 acres). Multiple water control ponds were added throughout the city (~60 acres total) along with a new solar facility (~10 acres) near the Madera Community Hospital.



Quad Knopf	Farmland Mapping and Monitoring Program	Figure 3.2 - 1

Several other conversions occurred throughout Madera County. Areas of future concern include some smaller dairies that are going out of business. It is predicted that the dairies will be converted to irrigated farmland (particularly orchards) (California Department of Conservation 2012).

Regional Forestry

Before the emergence of farming, Madera County was supported for over 50 years (1876 to 1933) with the production of lumber. To a large degree, it was the resiliency of the timber industry which kept the town of Madera thriving (City of Madera 2015a). Table 3.2-2 lists the total timber production occurring for the years 2013, 2012, and 2011 in Madera County.

Table 3.2-2
Timber Harvest by County Year 2013

Item	Year	Production	Unit	Total Value
Timber	2013	5,769	MBF(1)	$459,000
	2012	9,900	MBF(1)	$810,000
	2011	3,839	MBF(1)	$282,000
Firewood	2013	14,656	Cord(2)	$806,000
	2012	1,509	Cord(2)	$280,000
	2011	1,745	Cord(2)	$204,000

Note: (1) = MBF: Thousand board feet and (2) = Cord: 128 Cubic feet.

Source: Madera Department of Agriculture, 2013.

During 2012, timber sales were double compared to the previous year. In 2013, production fell by 4,131 MBF. Firewood, which includes Christmas trees, greenery, pinecones and saw logs, resulted in 14,656 cords being sold in 2013, for a total value of $806,000.

The Timber Yield Tax program sets the harvest value of timber and collects an in lieu tax when it is harvested. The revenue from this program is allocated to the counties where the timber was harvested. Table 3.2-3 lists the amount of timber harvested in Madera County along with value estimates (California State Board of Equalization 2015).

Table 3.2-3
2013 Timber Harvest

County	Volume (Net MBF)	Volume Percent	Percent Public	Value	Value Percent	Percent Public
Madera	5,769	0.35	95.93	$458,809	0.15	97.39
All Counties	1,645,446	100.00	13.56	$314,957,647	100.00	8.53

Note: MBF=1,000 board feet.

Source: California State Board of Equalization, 2015.

As of 2013, 5,769 board feet of timber, which accounts for 0.35 percent of all counties in California, was harvested in Madera County. The timber is valued at 0.15 percent of California's total for timber that was harvested.

There is no forestry land located on the proposed Project site.

Agricultural Soils

The Natural Resources Conservation Service (NRCS) shows that three soil types occur on the proposed Project site, including Atwater loamy sand, Cometa sandy loam, and San Joaquin sandy loam. These soil types are listed in Table 3.2-4 and illustrated in Figure 3.2-2.

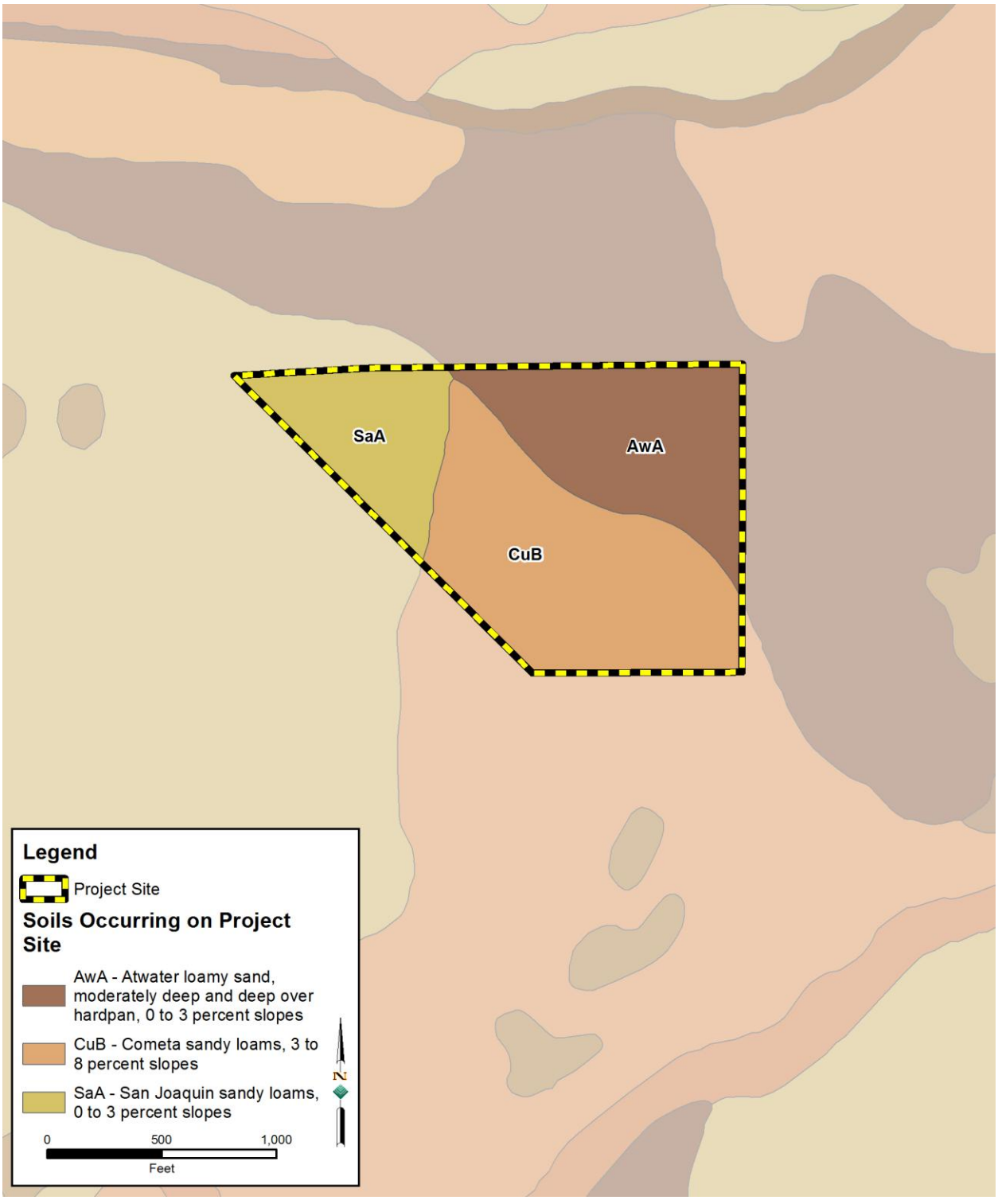
Table 3.2-4
Project Site Soils

Soil Name	Acreage	Percent of Site	Storie Index	Capability Classification	Crop Suitability
Atwater loamy sand (AwA)	16.4	33.4	72	4e	Trucks crops, grapes, tree fruits, nuts, grain and alfalfa
Cometa sandy loams (CuB)	23.1	47.0	43	4e	Rice, vineyards, orchards, dry-farmed grain and livestock grazing
San Joaquin sandy loams (SaA)	9.6	19.6	27	4s	Livestock grazing, small grains, irrigated pasture and rice, vineyards, fruit and nut crops

Source: Natural Resources Conservation Service, 2015.

The Storie Index rating expresses numerically the relative degree of suitability of a soil for general intensive agricultural uses at the time of the evaluation. The rating is based on soil characteristics and is obtained by evaluating soil surface and subsurface chemical and physical properties, as well as landscape surface features. A Storie Index rating of 100 is considered the best while a rating of 1 is considered the worst.

Land capability is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Capability classes, the broadest groups, are designated by numerals I through VIII with I indicating few limitations that restrict the soil's use and VIII indicating that the soil has limitations that nearly preclude its use for commercial crop production. Capability subclasses are soil groups within one class designated by the letters e, w, s, or c. In the case of the Project site two capability subclasses are listed:



Quad Knopf

Soils Map

Figure 3.2 - 2

- e - Indicates that the main hazard is the risk or erosion unless close-growing plant cover is maintained; and

- s - Indicates that the soil is limited mainly because it is shallow, droughty, or stony.

3.2.2 REGULATORY SETTING

Federal

FARMLAND PROTECTION ACT

The Farmland Protection Policy Act (Act) was passed into federal law as part of the Agriculture and Food Act of 1981 (Public Law 97-98). The Act was passed in response to the National Agricultural Land Study of 1980-1981, which found that millions of acres of farmland were being converted in the United States each year. A related report found that much of this conversion was the result of programs funded by the federal government. The intent of the Act is to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that – to the extent possible – federal programs are administered to be compatible with state and local units of government and private programs and policies to protect farmland.

State

LAND CONSERVATION ACT

Williamson Act Contracts/Farmland Security Zone Act

The Land Conservation Act (also known as the Williamson Act) is a California State statute administered by local governments. Local governments are not mandated to participate, and those that do have some latitude to tailor the program to suit local goals and objectives. Of California's 58 counties, 52 have executed contracts under the Land Conservation Act Program. Under the Williamson Act private landowners voluntarily restrict their land to agricultural and compatible open-space uses under minimum 10-year rolling term contracts with local governments. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. Table 3.2-5 lists the total Williamson Act contracts for Madera County.

A Farmland Security Zone (FSZ) contract is a contract between a private landowner and a county that enforceably restricts land to agricultural or open space uses. The minimum initial term is 20 years. Like a Williamson Act contract, FSZ contracts renew annually unless either party files a "notice of nonrenewal." FSZ contracts in Madera are included in Table 3.2-5.

Table 3.2-5
Total 2010 Reported Enrollment (Acres)

Land Conservation Act*		Farmland Security Zone*				Agricultural Conservation Easement		Other Enforceable Restriction	Total
		Urban		Non-Urban					
Prime	Nonprime	Prime	Nonprime	Prime	Nonprime	Prime	Nonprime		
201,160	274,732	13,936	362	46,334	2,111	328	-	-	538,963

Note: * Totals include both continuing term and nonrenewal contracts.

Source: California Department of Conservation, Division of Land Resource Protection, 2013.

Neither the proposed Project site nor lands within the Project vicinity are under Williamson Act or FSZ contracts.

PUBLIC RESOURCES CODE SECTION 21060.1

Public Resource Code Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

PUBLIC RESOURCES CODE/GOVERNMENT CODE

The California Public Resource and Government Codes defines Forest Land, Timber Land and Timber Land Production Zones as follows:

Forest land (Pub. Resources Code, § 12220, subd. (g)): Land that can support 10-percent native tree cover of any species, including: hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

Timber Land (Pub. Resources Code, § 4526): Land, other than land owned by the Federal government and land designated by the Board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the Board on a District basis after consultation with the District committees and others.

Timber Land Production Zone (Gov. Code, § 51104, subd. (g)): Timber Land Production Zone (TPZ) are areas that have been zoned and are devoted to uses for growing and harvesting timber, or for growing and harvesting timber and compatible uses.

Local

CITY OF MADERA GENERAL PLAN

Agricultural resources are protected through policies that are mandated in the City of Madera General Plan Land Use Element and Community Development Element. The City of Madera General Plan sets forth the following goals and policies relevant to agricultural resources:

Policy LU-10: The Growth Boundary is considered by the City to define the physical limits of development in Madera. The City shall direct all future growth in Madera and in the unincorporated area outside the city limits to occur inside the Growth Boundary shown on the Land Use Map in this General Plan. Within the City's Planning Area, the City encourages the County to assist the City in maintaining an agricultural greenbelt around the Growth Boundary by limiting the use of land designated for Agriculture on the City's General Plan Land Use map to agriculture.

The following apply to the Growth Boundary:

- The Growth Boundary may only be revised as part of a comprehensive update of the General Plan involving, at a minimum, the Land Use and Circulation elements; and

- Any revision to the Growth Boundary shall be accompanied by a statement of findings which demonstrate the following:

    1. That the revision is consistent with the intent of the Growth Boundary and all other applicable policies in this General Plan;

    2. That the revision is necessary to accommodate planned growth in Madera.

Policy LU-11: The City specifically envisions the establishment and maintenance of a greenbelt of agricultural and other open space lands around the urbanized portion of the Planning Area, outside the Growth Boundary, as shown on the Land Use Map. In addition to the maintenance of appropriate agricultural land use designations, the City encourages the use of Williamson Act contracts and similar mechanisms to ensure the maintenance of the greenbelt. Along the west edge of the Planning Area, the greenbelt is intended to be permanent, and the implementing mechanisms on the west edge should reflect that intent, including transfer of development rights, permanent conservation easements, etc. (See specific policies for Villages D & E for requirements to establish a permanent edge/buffer on the western boundary of these Villages).

Policy LU-30: The following are the City's open space land use categories: Resource Conservation/Agriculture: This category designates lands planned to remain in use as agricultural lands (such as the growing of crops) or for conservation purposes (such as habitat lands).

- Open Space: This category designates lands planned or in use as publicly owned open space, public parks, and similar uses.

Policy CON-15: The City will seek to protect land in the Planning Area which is designated for Agricultural and Resource Conservation, and will encourage the County of Madera to do the same. Measures the City will use (and encourage the County to use) include:

- Maintaining parcels large enough to sustain agricultural production (preferably a minimum of 20 acres);
- Preventing the premature conversion of agricultural uses; and
- Prohibiting uses that are incompatible with long term agricultural production.

Implement the policies and actions in this General Plan to uphold Madera's Growth Boundary, including limiting the extension of urban services such as water and sewer beyond the Growth Boundary.

Policy CON-17: The City supports the protection of agricultural operations by requiring that buffers be established between urban residential areas and areas planned to remain in agricultural use. The buffers shall be designed to address the physical effects of agricultural practices on urban uses, such as chemical spraying, noise, etc.

Zoning Ordinance

Section 10-3.418, Right-to-farm, is a County ordinance intended to protect agricultural activities, operation and facilities, which are conducted or maintained for commercial purposes and in a manner consistent with proper and accepted customs and standards, from encroaching non-agricultural uses. This is accomplished by establishing that such activities, operations and facilities do not constitute a public or private nuisance if they have been in operation for at least one year and did not constitute a nuisance when they began. Additionally, this ordinance requires that a notice be given explaining this policy to prezoning and/or subdivision applicants within 300 feet of land zoned for agricultural uses or in agricultural operations.

3.2.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

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

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code

section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g));

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

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

3.2.4 IMPACTS AND MITIGATION MEASURES

Impact #3.2-1 - Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use:

According to aerial photographs taken in 1950, 1972 and 1987 the proposed Project site has historically been used for agricultural production. This was previously confirmed by the owner who stated that the site was used for pastureland prior to the storage of construction equipment (Gateway Galleria EIR 2007). No portion of the site is currently used for any kind of agricultural production. The majority of the property consists of earth and gravel mix with some vegetation consisting of mostly grasses and weeds that have taken over fallow agricultural fields in past years of non-use.

As seen above in Figure 3.2-1, the proposed Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the FMMP. Rather, the FMMP designates the Project site as "Urban and Built-up Land (D)" and "Vacant or Disturbed Land (V)." Urban and Built-up Land (D) is designated as "Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel (Farmland Mapping and Monitoring Program data, 2012a). 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." Vacant or Disturbed Land (V) is designated as "Open field areas that do not qualify for an agricultural category, mineral and oil extraction areas, off road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges." Regardless, the development of the proposed Project will not affect this land.

Conclusion: A ***less-than-significant*** impact has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.2-2 - Conflict with a Williamson Act contract or agricultural zoning:

The Project site is designated by the Madera General Plan as C – Commercial, and by the City of Madera Zoning as C2 - Heavy Commercial. The uses under the proposed Project, therefore, will

be consistent with the existing zoning. The proposed Project site is also not under a Williamson Act contract.

Conclusion: Implementation of the proposed Project will not conflict with either a Williamson Act contract, or agricultural or forest zoning; therefore, a ***less-than-significant*** impact has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.2-3 - Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g)): or **Impact #3.2-4 - Result in the loss of forest land or conversion of forest land to non-forest use:**

The California PRC, Section 12220 (g) defines "Forest land" as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." According to the State of California and Department of Forestry and Fire Protection's "Land Cover Multi-Source Data Compiled for Forest and Range 2003 Assessment" map, the majority of the proposed Project site is classified as "Urban" and "Irrigated Cropland" (California Department of Forestry and Fire Protection 2003). There are no forestry resources on the site.

Conclusion: This impact is ***less than significant,*** as the Project site would not conflict with forestry zoning, or result in the lost or conversion of forest land.

Mitigation Measures: No mitigation measures are required.

Impact #3.2-4 - Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use:

There is no active agricultural land in the vicinity of the proposed Project site. Land uses in the area include light industrial parks and the Madera Municipal Airport west of SR 99. The land south of the Project site has the same General Plan and zoning designations as the proposed Project site. The City's General Plan (page 5-29) states, under Action Item CON-16.1, "The City recognizes that some agricultural soils in the city and the Planning Area are proposed for future urban development; in these cases the following apply:

- Agricultural use should be allowed to continue as long as possible; and
- The purchase of fee interest, easements, or other measures which would have the effect of permanently precluding the planned conversion to urban uses consistent with the Land Use Map of this General Plan should be avoided.

In summary, the proposed Project would be consistent with the General Plan's policies regarding agricultural lands.

Conclusion: The proposed Project will not result in urban and agricultural interface conflicts, nor will it create additional pressures to convert land to non-agricultural use. Any potential agricultural impacts would be adequately addressed by the City's right-to-farm ordinance. Impacts would be ***less than significant.***

Mitigation Measures: No mitigation measures are required.

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3.3 Air Quality

This section provides an analysis of the potential air quality impacts that may be caused by implementation of the proposed Project. Potential impacts may include exceeding local air district thresholds for criteria air pollutants and/or affecting sensitive receptors with substantial amounts of pollutants or odors. This section is based on the Air Quality and Greenhouse Gas Technical Report, dated April 2015, prepared by OB-1 Air Analyses, Inc. (Appendix B).

This section also includes a summary of the Health Risk Assessment report, which assesses potential impacts of toxic air contaminants. The Health Risk Assessment, dated May 1, 2015, was prepared by Vista Environmental and is contained in Appendix C.

The analysis in this section addresses comments contained in a letter from the San Joaquin Valley Air Pollution Control District (SJVAPCD), dated March 12, 2015, provided as a response to the Notice of Preparation for the Draft EIR.

3.3.1 ENVIRONMENTAL SETTING

Topography and Climate

Madera County is within the San Joaquin Valley Air Basin (SJVAB). Among California's air basins, the SJVAB is the second largest at approximately 250 miles long. The basin is surrounded by the Sierra Nevada Mountains to the east (8,000 to 14,000 feet above mean sea level), the Coast Ranges to the west (average 3,000 feet above mean sea level), and the Tehachapi Mountains to the south (6,000 to 8,000 feet above mean sea level) (SJVAPCD 2003). California's air basins are illustrated in Figure 3.3-1.

Climate of the SJVAB is classified as "inland Mediterranean." During the summer, average temperatures in the basin are around 95º Fahrenheit (F), with highs exceeding 100º F. The summers are characterized as hot and dry. Winter temperatures can fluctuate between 35º F to 55º F. Average temperatures in January are about 44º F. At times, the valley floor drops below freezing.

Annual precipitation in the SJVAB averages around 10 inches, with approximately 90 percent occurring between November and April. Most of the rainfall occurs in northern and eastern parts of the SJVAB. The weather pattern is controlled by the "Pacific High" which consists of a semi-permanent subtropical high-pressure belt.

Inversions and Airflow

When air temperatures increase with elevation, inversion layers are created as "vertical mixing" occurs. This abnormal pattern prevents the upward flow of air and thereby traps pollutants near the ground surface. There are two types of inversion layers in the SJVAB identified as radiation inversions and subsidence inversions:

Radiation inversions (vertical mixing) occur when nocturnal cooling takes place near the surface of the ground, and extends upward for several hundred feet. This type of inversion is usually

associated with a still evening air and no clouds. According to the San Joaquin Valley Air Pollution Control District (SJVAPCD 2003):

> During summer months, daytime heat from the sun lifts the inversion to heights anywhere from 2,000 to over 5,000 feet (even higher over mountain ranges due to heating of the slopes), which helps disperse pollutants and lowers their concentrations. However, these same summer daytime conditions also increase ozone production, which can neutralize or offset the effects of enhanced vertical dispersion. Studies have shown that radiation inversions tend to persist longer into daylight hours in the southern part of the SJVAB due to a lack of marine air intrusion and associated atmospheric mixing. On the worst dispersion days the inversion may remain only a few hundred feet above the surface of the SJVAB (2013 Plan for the Revoked 1-hour Ozone Standard).

Subsidence inversions (horizontal mixing) occur when air descends downward and warms due to compression. This type of inversion is quite persistent, since heat from the ground does not reach the inversion base to break it up. High pressure ridges over the State are associated with subsidence inversions.

Inversions occur during all seasons, but are more persistent in the winter months at 50 to 1,000 feet above the basin floor. Inversion layers are responsible for ozone formation and increase levels of carbon monoxide (CO) and Particulate Matter of 10 micrometers or smaller (PM10). High ozone events can be linked to air pollutant emissions build up in the atmosphere below the inversion. During these occasions, it is not uncommon for one-hour ozone precursors to exceed federal standards. "During many high ozone level events, the SJVAB is likely experiencing a combination of radiation and subsidence inversions." Particulate Matter concentrations grow rapidly where inversion layers occur, and cause a regional buildup of secondary species including ammonium nitrate, and chemically aged organic carbon species which results in an increase of toxicity.

Air pollution is transported by the dominant airflows through the SJVAB. Figure 3.3-1 provides an illustration of the SJVAB, which is identified in brown. When winds mix at high velocity, the transport of pollutants is great. Transport of pollutants is guided by both the wind's speed and direction (vertical or horizon mixing). According to the SJVAPCD:

> Wind speed and direction data indicate that during the summer the light and variable winds usually result from an influx of air from the Pacific Ocean through the Bay Area delta region, entering the north end of the valley. The wind generally flows in a south-southeasterly direction through the valley, through the Tehachapi Pass, and into the Southeast Desert Air Basin portion of Kern County (2013 Plan for the Revoked 1-hour Ozone Standard).

The result of these conditions is a relatively high concentration of air pollution in the valley during inversion episodes. Inversions cause haziness, which in addition to moisture may include suspended dust, emissions from vehicles, particulates from wood stoves, and other pollutants.

Odor Sources

Existing odor sources in the general area of the proposed Project may include odors from diesel and gas fumes from the passing vehicles of the adjacent SR 99 and from the passing trains on the Southern Pacific Railroad line that runs parallel to the Project site to the west. Odors coming from the light industrial uses and the Madera Municipal Airport are also possible, but due to the distance from the Project site, the likeliness for potential odors from these sources reaching the Project site are minimal.

The existing single-family units that are located to the north and east of the Project site are not expected to generate odors that would impact the Project site, as residences do not typically produce such odors. In addition, the proposed Project is designed to provide an approximate 500-foot buffer between the proposed Project and the nearest residence.

There are no uses surrounding the Project site that are listed as being one of the common facilities that have been known to produce odors as listed in *Table 6 – Screening Odors for Potential odor Sources* of the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI).

REGIONAL AIR QUALITY

The Environmental Protection Agency (EPA 2013a) has designated the SJVAB in extreme nonattainment area under the federal 8-hour ozone standard and in nonattainment for Particulate Matter 2.5 microns or smaller (PM2.5). The California Air Resources Board (CARB 2013a) has designated the SJVAB in severe nonattainment for the ozone designation, PM10, and PM2.5 standards. The SJVAB meets the federal and State standards or is unclassifiable for all other pollutants and in nonattainment for the State's 8-hour ozone.

Madera County Emissions Inventory

Table 3.3-1 summarizes Madera County's most recently available emissions inventory estimate for the main pollutants of concern for the SJVAB. A total is provided for each pollutant emission.

Table 3.3-1
2008 Madera County Emissions Inventory

Emissions Classification	Pollutants (tons per day)			
	ROG	NOx	PM10	PM2.5
Stationary Sources	2.29	2.84	0.72	0.59
Area-Wide Sources	7.83	0.60	16.04	3.03
Mobile Sources	5.13	15.24	0.94	0.68
Total Madera County Sources	15.25	18.68	17.70	4.30

Notes: Total based on non-rounded emissions estimates.

Source: California Air Resources Board, 2012.

Quad Knopf	California Air Basins	Figure 3.3 - 1

According to the results, nitrogen oxide (NOx) accounts for the largest pollutant in the county with 18.68 tons per day with the majority coming from mobile sources. The second largest source of pollutants is PM10 accounting for 17.70 tons per day. Reactive organic compounds, or ROG, are considered the third highest pollutant in Madera County.

LOCAL AIR QUALITY

Air quality monitoring stations are maintained throughout the SJVAB. The Madera-City monitoring site is located closer to the city center of Madera than the Madera-Pump Yard site. The Madera-City site is operated by the SJVAPCD and became operational in June 2010. This site monitors ozone, PM2.5, PM10, and meteorology. The purpose of this site is to measure downwind concentrations of the city of Madera, which will provide needed information about the variability of air quality levels on the Valley floor of Madera County (United States Environmental Protection Agency 2013c). The Madera-City monitoring site is closest to the Project site and therefore referenced here.

The following ozone, PM2.5 and PM10 results listed in Tables 3.3-2 through 3.3-4 are from the Madera-City monitoring site, which covers 2011 through 2013. Table 3.3-6 provides a list of federal and State ambient air quality standards for comparison.

Table 3.3-2
Ozone Trend Summary-Madera-28261 Avenue 14 Monitoring Station

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]	
2014	3	37	0	13	0.102	*	*	0.095	*	0.095	*	*
2013	3	46	0	22	0.121	0.10	0.099	0.101	0.090	0.101	0.084	98
2012	9	48	0	30	0.120	0.11	0.105	0.105	0.097	0.105	0.086	97
2011	1	28	0	15	0.095	0.12	0.106	0.085	0.107	0.084	*	85

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.
[1] D.V. = State Designation Value
[2] D.V. = National Design Value
* There was insufficient (or no) data available to determine the value.

Source: California Air Resources Board, 2013b.

During 2012, the maximum State 1-hour ozone concentration of 0.09 ppm was exceeded for 9 days. This same year resulted in exceeding the State's 8-hour standard of 0.070 ppm for 48 days. The national 8-hour standard of 0.075 ppm was also exceeded by 30 days during 2012. Although 2013 and 2012 both resulted in more days exceeding the 1-hour and 8-hour ozone standards than 2011, the year coverage included 12 days more days in 2012 and 13 more days in 2013.

Table 3.3-3
PM2.5 Trend Summary-Madera-28261 Avenue 14 Monitoring Station

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	
2013	24.0	17.8	17.9	18.1	18	54.6	52	87.5	87.5	100
2012	17.7	16.0	*	*	*	43.2	51	58.8	58.8	93
2011	34.0	20.4	*	*	*	59.1	*	71.2	71.2	95

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.
[1] D.V. = State Designation Value
[2] D.V. = National Design Value
* There was insufficient (or no) data available to determine the value.

Source: California Air Resources Board, 2013.

During 2011, the estimated days over the national 24-hour PM2.5 standard resulted in 16.3 days more than in 2012. However, the number increased by 6.3 days again in 2013. Both the national and State annual average was exceeded in 2013. The high 24-hour average was greatest in 2013 and lowest in 2012. However, 100 days were covered during 2013, while 2012 coverage only included 93 days, and 2011 95 days.

Table 3.3-4
PM10 Trend Summary-Madera-28261 Avenue 14 Monitoring Station

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	
2013	0.0	*	37.4	*	35	*	110.3	*	0
2012	0.0	*	36.3	*	31	*	115.3	*	0
2011	*	*	31.2	*	*	*	118.8	*	0

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.
[1] D.V. = State Designation Value
[2] D.V. = National Design Value
* There was insufficient (or no) data available to determine the value.

Source: California Air Resources Board, 2013.

There was insufficient or no data available for State standards at this monitoring station during the specified timeframe (nor was any data available at the Madera-Pump Yard monitoring station). None of the estimated days over the national 24-hour standards or annual high 24-hour averages were exceeded during 2012 and 2013. The high 24-hour averages were available for all three years and none were exceeded.

LOCAL SOURCES OF AIR POLLUTANTS

Local sources of air pollution include mobile source emissions (traffic) from the adjacent roadways (Avenue 17, Arnold Way, and Walden Drive) and from State Route (SR) 99, located immediately west of the Project site. Additional sources of air pollution include area sources from farming activities on the surrounding lands. Farming activities generate fugitive dust

(PM10 and PM2.5) from tilling and windblown dust, and exhaust emissions (ROG, NOx, and CO) from agricultural equipment.

Sensitive Receptors

Certain populations, such as children, the elderly, and persons with preexisting respiratory or cardiovascular illness, are particularly sensitive to the health impacts of air pollution. For purposes of CEQA, the SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. Office workers may also be considered sensitive receptors, based on their proximity to sources of toxic air contaminants and that workers may be exposed over the duration of their employment (SJVAPCD, 2012b). Single-family homes near the Project site are located to the northeast and east.

Pollutants of Concern

For reasons described previously, the criteria pollutants of greatest concern for the Project area are ozone, PM10, and PM2.5. Although the SJVAB is in attainment of the federal and State carbon monoxide standards, carbon monoxide is a pollutant of concern, due to the potential for localized "hotspots" to occur. Other pollutants of concern are toxic air contaminants and asbestos (San Joaquin Valley Air Pollution Control District 2011). The following provides a summary of the pollutants of concern for the Project area.

Ozone

Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include ROG and NOx (ozone precursors are discussed below), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Often, the effects of emitted ROG and NOx are felt a distance downwind of the emission sources. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

Ozone can irritate lung airways and cause inflammation much like a sunburn. Other symptoms include wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities. People with respiratory problems are most vulnerable, but even healthy people who are active outdoors can be affected when ozone levels are high. Chronic ozone exposure can induce morphological (tissue) changes throughout the respiratory tract, particularly at the junction of the conducting airways and the gas exchange zone in the deep lung. Anyone who spends time outdoors in the summer is at risk, particularly children and other people who are more active outdoors. Even at very low levels, ground-level ozone triggers a variety of health problems, including aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ozone also damages vegetation and ecosystems. It leads to reduced agricultural crop and commercial forest yields; reduced growth and survivability of tree seedlings; and increased susceptibility to diseases, pests, and other stresses such as harsh weather. In the United States alone, ozone is responsible for an estimated $500 million in reduced crop production each year. Ozone also damages the foliage of trees and other plants, affecting the landscape of cities, national parks and forests, and recreation areas. In addition, ozone causes damage to buildings, rubber, and some plastics.

Ozone is a regional pollutant, as the reactions forming it take place over time, and it materializes downwind from the sources of the emissions. As a photochemical pollutant, ozone is formed only during daylight hours under appropriate conditions, but it is destroyed throughout the day and night. Thus, ozone concentrations vary, depending upon both the time of day and the location. Even in pristine areas, some ambient ozone forms from natural emissions that are not controllable. This is termed background ozone. The average background ozone concentrations near sea level are in the range of 0.015 to 0.035 parts per million (ppm), with a maximum of about 0.04 ppm.

Reactive Organic Gases

Reactive organic gases (ROG) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. ROG consist of nonmethane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. It should be noted that there are no State or federal ambient air quality standards for ROG because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROG are also transformed into organic aerosols in the atmosphere, which contribute to higher PM10 levels and lower visibility.

Because ROG is an ozone precursor, the health effects associated with ROG emissions are due to its role in ozone formation and, as discussed above, not due to direct effects.

Nitrogen Oxides

During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides or NOx. This occurs primarily in motor vehicle internal combustion engines, and fossil fuel-fired electric utility facilities and industrial boilers. The pollutant NOx is a concern because it is an ozone precursor, which means that it helps form ozone. When NOx and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight and heat to form ozone. NOx can also be a precursor to PM10 and PM2.5.

One of the most important health effects associated with NOx emissions is related to its role in ozone formation, as discussed above. Its role in the secondary formation of ammonium nitrate (NO_2) results in particulate health effects described in the next section. NO_2 is the largest and most important component of NOx. NO_2 acts mainly as an irritant affecting the mucosa of the

eyes, nose, throat, and respiratory tract. Extremely high-dose exposure (as in a building fire) to NO_2 may result in pulmonary edema and diffuse lung injury. Continued exposure to high NO_2 levels can contribute to the development of acute or chronic bronchitis. Low level NO_2 exposure may cause increased bronchial reactivity in some asthmatics, decreased lung function in patients with chronic obstructive pulmonary disease and increased risk of respiratory infections, especially in young children.

Particulate Matter

Particulate matter is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small that they can only be detected using an electron microscope. The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers (μm) in diameter pose the greatest problems, because they can get deep into lungs and the bloodstream. The EPA health standards have been established for two categories of particulate matter (United States Environmental Protection Agency 2015b):

1. PM10 – "inhalable coarse particles" with diameters larger than 2.5 micrometers and smaller than 10 micrometers; and

2. PM2.5 – "fine particles," with diameters that are 2.5 micrometers and smaller. For reference, PM2.5 is approximately one-thirtieth the size of the average human hair.

Although the PM10 standard is intended to regulate "inhalable coarse particles" that range from 2.5 to 10 micrometers in diameter, PM10 measurements contain both fine and coarse particles. These particles come in many sizes and shapes and can be made up of hundreds of different chemicals. Some particles, known as primary particles, are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires. Others form in complicated reactions in the atmosphere from chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industrial activity, and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution in the United States.

Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function, the development of chronic bronchitis, and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide

Carbon monoxide is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide. Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are sources of CO indoors.

Motor vehicles are the dominant source of CO emissions in most areas. CO is described as having only a local influence because it dissipates quickly. High CO levels develop primarily during winter, when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Because CO is a product of incomplete combustion, motor vehicles exhibit increased CO emission rates at low air temperatures. High CO concentrations occur in areas of limited geographic size, sometimes referred to as hot spots. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin, reducing the amount of oxygen transported in the bloodstream. The health threat from relatively low levels of CO is most serious for those who suffer from such heart-related diseases as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

TOXIC AIR CONTAMINANTS

A toxic air contaminant is defined as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. Toxic air contaminants 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 toxic air contaminants that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. 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.

Diesel Particulate Matter

The California ARB identified the PM emissions from diesel-fueled engines as a toxic air contaminant in August 1998 under California's toxic air contaminant program (California Air Resources board 2011). In California, diesel engine exhaust has been identified as a carcinogen. Most researchers believe that diesel exhaust particles contribute the majority of the risk.

Diesel exhaust fluid is used as a consumable in selective catalytic reduction in order to lower NOx concentration in the diesel exhaust emissions from diesel engines.

Diesel particulate matter (DPM) is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40 percent of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about three percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report diesel PM emissions also include heavy construction (except highway) manufacturers of asphalt, paving materials and blocks, and electrical generation.

Diesel particulate matter is a subset of PM2.5—diesel particles are typically 2.5 microns and smaller. In a document published in 2002, the EPA noted that in 1998, diesel PM made up about six percent of the total PM2.5 inventory nationwide. The complex particles and gases that make up diesel exhaust have the physical properties of organic compounds that account for 80 percent of the total particulate matter mass consisting of hydrocarbons and their derivatives and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust. The chemical composition and particle sizes of DPM vary among different engine types (heavy-duty, light-duty), engine operating conditions (idling, accelerating, decelerating), expected load, engine emission controls, fuel formulations (high/low sulfur fuel), and engine year.

Some short-term (acute) health effects of diesel exhaust exposure include eye, nose, throat, and lung irritation, and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient PM pollution in urban environments. In a 2002 report from the Office of Environmental Health Hazard Assessment titled "Health Effects of Diesel Exhaust Report," it was noted that numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. The National Toxicology Program asserted that more serious, long-term health effects of diesel exhaust have demonstrated an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure in its 2005 Report on Carcinogens, Eleventh Edition.

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability,

and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.

Project construction sometimes requires the demolition of existing buildings where construction occurs. Buildings often include materials containing asbestos. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers to the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs).

The Department of Conservation, Division of Mines and Geology published a guide entitled, "A General Location Guide for Ultramafic Rocks In California - Areas More Likely to Contain Naturally Occurring Asbestos," dated August 2000, for generally identifying areas that are likely to contain naturally occurring asbestos. According to the California Division of Mines and Geology, rock formations that contain naturally occurring asbestos are known to be present in 44 of California's 58 counties, including Madera County.

A review of a map containing areas more likely to have rock formations containing naturally occurring asbestos in California indicates that the Project site is not in an area that is likely to contain naturally occurring asbestos. The nearest locations of naturally occurring asbestos shown are approximately 33 miles east of the Project site near Pine Flat Dam. As noted in the Division of Mines and Geology's report, the map shows only the general location of naturally occurring asbestos-containing formations and may not show all potential occurrences.

3.3.2 REGULATORY SETTING

Air pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The Environmental Protection Agency (EPA) regulates at the federal level. The CARB regulates at the State level and SJVAPCD regulates at the regional air basin level.

Federal

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA handles global, international, national, and interstate air pollution issues and policies. The agency sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, as well as provides research and guidance in air pollution programs and sets National Ambient Air Quality Standards (also known as federal standards). There are standards for six common air pollutants, which are identified as criteria air pollutants that originated from provisions of the 1970 Clean Air Act. The six criteria pollutants are:

- Ozone (O3);
- Particulate matter less than 10 microns and 2.5 microns and smaller (PM10 and PM2.5);
- Nitrogen dioxide (NO2);
- Carbon monoxide (CO);
- Lead; and
- Sulfur dioxide (SO2).

Federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants (Environmental Protection Agency 2012).

The Federal Clean Air Act requires the EPA to set outdoor air quality standards for the nation. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards. Table 3.3-5 lists federal and State ambient air quality standards for the six criteria pollutions along with five additional pollutants.

Table 3.3-5
Federal and State Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards[1] Concentration[3]	Method[4]	National Standards[2] Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone (O3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	_	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.075 ppm (147 µg/m3)		
Respirable Particulate Matter (PM10)[8]	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		_		
Fine Particulate Matter (PM2.5)[8]	24 Hour	_	_	35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12.0 µg/m3	15 µg/m3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m3)		9 ppm (10 mg/m3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		—	—	
Nitrogen Dioxide (NO2)[9]	1 Hour	0.18 ppm (339 µg/m3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)		0.053 ppm (100 µg/m3)	Same as Primary Standard	
Sulfur Dioxide (SO2)[10]	1 Hour	0.25 ppm (655 µg/m3)	Ultraviolet Fluorescence	75 ppb (196 µg/m3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	_		—	0.5 ppm (1300 µg/m3)	
	24 Hour	0.04 ppm (105 µg/m3)				
				0.14 ppm (for certain areas)[10]	—	

Ambient Air Quality Standards						
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	—	
Lead [11,12]	30 Day Average Calendar Quarter Rolling 3-Month Average	1.5 µg/m3 – –	Atomic Absorption	— 1.5 µg/m3 (for certain areas)[12] 0.15 µg/m3	— Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles [13]	8 Hour	See footnote [13]	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride [11]	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

Notes: ppm = Parts Per Million, µg/m3 = micrograms per cubic meter, and mg/m3 = milligrams per cubic meter.

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-**hour** standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the California ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not

Ambient Air Quality Standards

exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To compare the national 1-hour standard directly to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
11. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To compare the 1-hour national standard directly to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The California ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved
14. In 1989, the California ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, 2013.

San Joaquin Valley Attainment Status

The EPA and CARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Table 3.3-6 lists the updated federal and State attainment standards for the SJVAB.

Table 3.3-6
San Joaquin Valley Air Basin Attainment Status

Pollutant	Federal Standards	State Standards
Ozone	Nonattainment/Extreme	Nonattainment/Severe
PM10	Attainment	Nonattainment
PM2.5	Serious Nonattainment	Nonattainment
Carbon Monoxide	Unclassifiable/Attainment	Attainment/Unclassified
Nitrogen Dioxide	Unclassifiable/Attainment	Attainment
Sulfur Dioxide	Unclassifiable/Attainment	Attainment
Lead (Particulate)	Unclassifiable/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: California Air Resources Board, 2015b.

Madera County is unclassified for State CO, along with Merced and Kings Counties. All other counties in the basin are attainment for State CO. Only a portion of Kern County is designated attainment for federal SO2, all other counties, including Madera, are unclassifiable. As shown in Table 3.3-7, while the basin is in attainment for federal PM10 standards, it is in nonattainment of State standards. The federal attainment status was updated from nonattainment to attainment in 2008 (San Joaquin Air Basin, 2015b). When an area reaches attainment after being designated nonattainment, it officially becomes a Maintenance area, in that the air regulators for the area are required to adopt a plan that will demonstrate how the area will maintain the attainment status.

CALIFORNIA AIR RESOURCES BOARD

The State Implementation Plan for the State of California is administered by the CARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. A State Implementation Plan is prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain National Ambient Air Quality Standards. The State Implementation Plan incorporates individual federal attainment plans for regional air districts. Federal attainment plans prepared by each air district are sent to California ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring) control measures and strategies and enforcement mechanisms.

CARB also administers California Ambient Air Quality Standards for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six criteria pollutants listed above as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. Visibility-reducing particles are suspended particulate matter. Visibility is the distance through the air that an object can be seen without the use of instrumental assistance. Vinyl chloride is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. Visibility-reducing particles and vinyl chloride are not assessed in this analysis because the Project would not be exposed to or generate those pollutants.

State and federal ambient air quality standards are summarized in Table 3.3-6. The figures listed in the table come from the California ARB's most recently updated 2013 standards.

Comparison is made throughout the remainder of this report to the standards listed in Table 3.3-6. Details are also provided on the health risks associated of each pollutant in other sections throughout this report.

Renewable Portfolio Standard

In 2002, SB 1078 required electric utilities to increase procurement of power generated by eligible renewable energy sources to 20 percent of total generation by 2017. In 2006, SB 107 accelerated the timetable to require 20 percent renewable energy by 2010. Then, in 2008, Governor Schwarzenegger signed Executive Order S-14-08, which increased the required renewables content to 33 percent by 2020. In September 2009, the Governor signed Executive Order S-21-09, which directed the CARB to adopt regulations consistent with the 33 percent renewable energy target in Executive Order S-14-08.

In the ongoing effort to codify the ambitious 33 percent by 2020 goal, SB X1-2 was signed by Governor Edmund G. Brown, Jr., in April 2011. This new Renewable Portfolio Standard (RPS) preempts the California ARB's 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities were required to adopt goals by the end of 2013, and will need to adopt an even more stringent goal of 25 percent by the end of 2016.

Title 24 2013 Standards (Effective July 1, 2014): The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations. The most significant efficiency improvements to the residential Standards are proposed for windows, envelope insulation and HVAC system testing. The most significant efficiency improvements to the nonresidential Standards are proposed for lighting controls, windows, unitary HVAC equipment and building commissioning. The 2013 Standards also include updates to the energy efficiency divisions of the California Green Building Code Standards (Title 24, Part 11). California Green Building Standards: On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a

comprehensive and uniform regulatory code for all residential, commercial, and school buildings.

Toxic Air Contaminant Regulation

The CARB's toxic air contaminant program traces its beginning to the criteria pollutant program in the 1960s. For many years, the criteria pollutant control program has been effective at reducing toxic air contaminants, since many volatile organic compounds and PM constituents are also toxic air contaminants. During the 1980s, the public's concern over toxic chemicals heightened. As a result, citizens demanded protection and control over the release of toxic chemicals into the air. In response to public concerns, the California legislature enacted the Toxic Air Contaminant Identification and Control Act governing the release of toxic air contaminants into the air. This law charges the CARB with the responsibility for identifying substances as toxic air contaminants, setting priorities for control, adopting control strategies, and promoting alternative processes. The CARB has designated almost 200 compounds as toxic air contaminants. Additionally, the CARB has implemented control strategies for a number of compounds that pose high health risk and show potential for effective control (California Air Resources Board 2011).

In 2005, the CARB approved an Air Toxics Control Measure (ATCM) to limit diesel-fueled commercial motor vehicle idling to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section (1) shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location and (2) shall not idle a diesel-fueled auxiliary power system for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

Naturally Occurring Asbestos Regulation

The CARB has an ATCM for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. This ATCM applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found (California Air Resources Board 2001). Areas, such as the Project site, are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The ATCM also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity (California Department of Conservation 2000).

California Air Resources Board Land Use Handbook

In 2005, the CARB adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook). The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of toxic air contaminants. The sources of toxic air contaminants identified in the Land Use Handbook are high-traffic freeways and roads,

distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. The proposed Project does not fall within the sources identified in the Handbook. If the project involves siting a sensitive receptor or source of toxic air contaminant discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors (California EPA, CARB 2005).

Regional

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The air pollution control agency for the SJVAB is the SJVAPCD. The agency is responsible for regulating emissions primarily from stationary sources, certain area-wide sources, and indirect sources and maintains air quality monitoring stations throughout the SJVAB.

Other responsibilities include coordinating with eight countywide transportation agencies in the development, update, and implementation of air quality plans for the SJVAB.

In addition to air quality plans, the SJVAPCD has prepared the GAMAQI, which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts. The GAMAQI was first adopted in 1998, revised in 2002, and recently updated with the 2015 GAMAQI, which is available on the SJVAPCD's website.

Attainment Plans

As described above under federal and State Regulatory Agencies, a State Implementation Plan is a federal requirement; each state prepares a plan to describe existing air quality conditions and measures that will be followed to attain and maintain the National Ambient Air Quality Standards. In addition, state ozone standards have planning requirements. However, state PM10 standards have no attainment planning requirements; rather, air districts must demonstrate that all measures feasible for the area have been adopted.

Ozone Plans

The SJVAB has developed a new plan for EPA's revoked 1-hour ozone standard. Although EPA approved the District's 2004 plan for the 1-hour ozone standard in 2010, EPA withdrew this approval as a result of litigation. The District's 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the District Governing Board at a public hearing on September 19, 2013. The modeling confirms that the Valley will attain the revoked 1-hour ozone standard by 2017. On May 6, 2014, the District submitted a formal request that the U.S. EPA determine that the Valley has attained the federal 1-hour ozone standard. The plan to address the 8-hour ozone standard is expected to be due to EPA in 2016.

Particulate Matter Plans

The SJVAB was designated nonattainment of State and federal health-based air quality standards for PM10. To meet Clean Air Act requirements for the PM10 standard, the SJVAPCD adopted a

PM10 Attainment Demonstration Plan (Amended 2003 PM10 Plan and 2006 PM10 Plan), which has an attainment date of 2010.

On September 20, 2007, the SJVAPCD adopted the 2007 PM10 Maintenance Plan and Request for Redesignation. The 2007 PM10 Plan contains modeling demonstrations that show the SJVAB will not exceed the federal PM10 standard for 10 years after the expected the EPA redesignation, monitoring, and verification measures, and a contingency plan. Even though the EPA revoked the federal annual PM10 standard, the 2007 PM10 Maintenance Plan addresses both the annual and 24-hour standards because both standards were included in the EPA-approved State Implementation Plan. EPA finalized the determination that the SJVAB attained the PM10 standards on October 17, 2007, effective October 30, 2007. On September 25, 2008, the EPA redesignated the SJVAB as attainment for the federal PM10 standard and approved the PM10 Maintenance Plan.

The SJVAB is also designated nonattainment for the new federal PM2.5 annual standard. The California ARB approved the District's 2012 PM2.5 Plan at a public hearing on January 24, 2013. The plan, approved by the District Governing Board on December 20, 2012, will bring the Valley into attainment of EPA's 2006 PM2.5 standard by the 2019 deadline, with most areas seeing attainment well before then.

Rules Applicable to the Project

The SJVAPCD rules and regulations that apply to this Project include, but are not limited to, the following:

Regulation VIII Fugitive PM10 Prohibitions: Rules 8011-8081 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 trackout, etc;

SJVAPCD Rule 2010: Permits Required Rule. The purpose of this rule is to require any person constructing, altering, replacing, or operating any source operation which emits, may emit, or may reduce emissions to obtain an Authority to Construct or a Permit to Operate;

SJVAPCD Rule 2201: New and Modified Stationary Source Review Rule. The purpose of this rule is to provide for the review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards. No net increase in emissions above specified thresholds from new and modified Stationary Sources of all nonattainment pollutants and their precursors;

SJVAPCD Rule 3180: Administrative Fees for Indirect Source Review (ISR). The purpose of this rule is to recover the SJVAPCD's costs for administering the requirements of Rule 9510;

SJVAPCD Rule 4641: Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and

maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641;

SJVAPCD Rule 4622: Gasoline Transfer into Motor Vehicle Fuel Tanks. The purpose of this rule is to limit emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks;

SJVAPCD Rule 4692: Commercial Charbroiling. The purpose of this rule is to limit volatile organic compounds (VOC) and PM10 emissions from commercial charbroiling. This rule also specifies the administrative, recordkeeping requirements, and the test method; The District will amend Rule 4692 (Commercial Charbroiling) in 2016, with a 2017 compliance date, to add emission control requirements for UFCs, as committed to in the District's 2012 PM2.5 Plan. Installing charbroiler emissions control systems during construction of new facilities is likely to result in substantial economic benefit compared to costly retrofitting. To ease the financial burden for Valley businesses that wish to install control equipment before it is required, the District will offer incentive funding during the time leading up to the 2016 amendment. Restaurants with UFCs may be eligible to apply for funding to add emission control systems; and

SJVAPCD Rule 9510: ISR. Indirect Source Review: This rule reduces the impact of NOx and PM10 emissions from growth on the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through onsite mitigation, offsite SJVAPCD-administered projects, or a combination of the two. This rule applies to new developments seeking a final discretionary approval that are over a certain threshold size. Any project exceeding the applicability thresholds listed below, which are identified in Section 2.0 of District Rule 9510, are required to submit an Air Impact Assessment (AIA) application prior to seeking final discretionary approval regardless of whether the proposed projects mitigated emissions are below two tons per year NOx and PM10.

- 50 residential units;
- 2,000 square feet of commercial space;
- 9,000 square feet of educational space;
- 10,000 square feet of government space;
- 20,000 square feet of medical or recreational space;
- 25,000 square feet of light industrial space;
- 39,000 square feet of general office space;
- 100,000 square feet of heavy industrial space; and
- Or, 9,000 square feet of any land use not identified above.

Compliance with SJVAPCD Rule 9510 reduces the emissions impact of the project through incorporation of onsite measures as well as payment of an offsite fee that funds emission reduction projects in the Air Basin. The emissions analysis for Rule 9510 is highly detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the CEQA process, though the control measures used to comply with Rule 9510 may be used to mitigate CEQA impacts. Minor changes to project components between the CEQA analysis and project construction often occur. An

example of such a change is a change in construction year, operational year, etc. The percentages of emission reductions required by Rule 9510 are:

Construction Exhaust:	20 percent of the total NOx emissions; and 45 percent of the total PM10 emissions.
Operational Emissions:	33 percent of NOx emissions over the first 10 years; and 50 percent of the PM10 emissions over the first 10 years.

A project's emissions can be reduced by incorporating SJVAPCD approved mitigation measures. These include, but are not limited to, the following:

- Bicycle lanes throughout the project;
- Proximity to existing or planned bus stops;
- Proximity to existing or planned local retail;
- Eliminate woodstoves and fireplaces from the project;
- Cleaner fleet construction vehicles; or
- Energy efficiency beyond Title 24 requirements.

Under Rule 9510, an Off-Site Emission Reduction Fee (Off-Site Fee) shall be paid by the applicant to the SJVAPCD for any emission reductions required by the rule that are not achieved through on-site emission reduction measures. Any necessary Off-Site Fee for a project is calculated based on information contained in the SJVAPCD's Off-site Emissions Estimator Worksheet and Fee Estimator Worksheet. The Off-site Emissions Estimator Worksheet uses the project's total tons of NOx and PM10 as calculated using California Emissions Estimator Model (CalEEMod) and compares the unmitigated emissions against the mitigated emissions, determining whether the reduction in emissions is sufficient to satisfy the rule. If the reduction is not sufficient, the required off-site emission reductions are calculated using the District's off-site emission reduction equations set forth in Rule 9510, section 7.0.

Fee Estimator is an Excel worksheet used to calculate the total dollar amount of off-site fees that must be paid to the District in order to cover the District's cost of obtaining the required off-site emission reductions, and therefore fulfill the rule requirement. This fee amount is derived by multiplying the total tons of off-site reductions by the applicable rate. Per the Rule 9510 fee schedule, the applicable rates are as follows:

Cost of NOx Reductions ($/ton)	$9,350.00
Cost of PM10 Reductions ($/ton)	$9,011.00

The monies collected from the Off-Site Fee are used by the SJVAPCD to reduce emissions in the San Joaquin Valley on behalf of the project, with the goal of offsetting the emissions increase from the project by decreasing emissions elsewhere. More specifically, the fees received by the SJVAPCD are used in the SJVAPCD's existing Emission Reduction Incentive Program (ERIP) to fund emission reduction projects (San Joaquin Valley Air Pollution Control District, 2006).

Madera County Transportation Commission

As designated by the federal government and the State, the Madera County Transportation Commission (MCTC) is the Regional Transportation Planning Agency (RTPA) and the designated Metropolitan Planning Organization (MPO) for Madera County. MCTC is a public organization that works with governments and the public to address issues and needs that occur across city and county boundaries. MCTC's role is to:

- Foster intergovernmental coordination;
- Undertake comprehensive regional planning with an emphasis on transportation issues;
- Provide a forum for citizen input into the planning process;
- Provide technical services to its member agencies; and
- Development and adoption of the Regional Transportation Plan and Transportation Improvement Program as required by state law.

In all these activities, the MCTC works to develop a consensus among its members with regards to multi-jurisdictional transportation issues.

2014 Regional Transportation Plan and Sustainable Communities Strategy

The Regional Transportation Plan (RTP) is a long-range transportation plan providing a vision for regional transportation investments over at least a 20-year period. The RTP provides an opportunity to identify transportation strategies today that address our mobility needs for the future. The Sustainable Communities Strategy (SCS) is a new element of the RTP that will demonstrate the integration of land use, transportation strategies, and transportation investments within the RTP. This new requirement was put in place by the passage of SB 375, with the goal of ensuring that the MCTC region can meet its regional greenhouse gas reduction targets set by CARB. At the core of the 2014 RTP & SCS are eight goals (MCTC 2014):

GOAL #1: Promote intermodal transportation systems that are fully accessible, encourage quality growth and development, support the region's environmental resource management strategies, and are responsive to the needs of current and future travelers.

GOAL #2: Promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to foster economic competitiveness of the Madera Region.

GOAL #3: Enhance transportation system coordination, efficiency, and intermodal connectivity to keep people and goods moving and meet regional transportation goals.

GOAL #4: Maintain the efficiency, safety, and security of the region's transportation system.

GOAL #5: Improve the quality of the natural and human built environment through regional cooperation of transportation systems planning activities.

GOAL #6: Maximize funding to maintain and improve the transportation network.

GOAL #7: Identify reliable transportation choices that support a diverse population.

GOAL #8: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).

Conformity with air quality is performed by MCTC on all regionally significant, non-exempt transportation projects to ensure those projects conform to the EPA regulations.

San Joaquin Valley Regional Blueprint

In early 2006, the eight Councils of Government (COGs) in the San Joaquin Valley came together in an unprecedented effort to develop a coordinated valley vision – the San Joaquin Valley Regional Blueprint. This venture of eight counties is being conducted in each county, and has been integrated to form a preferred vision for future development throughout the Valley to the year 2050.

On April 1, 2009, the San Joaquin Valley Regional Policy Council reviewed the Valley COGs' collaborative work on the Blueprint and took the following actions:

1. Adopted a list of Smart Growth Principles to be used as the basis of Blueprint planning in the San Joaquin Valley; and

2. Adopted Scenario B+ as the Preferred Blueprint Growth Scenario for the San Joaquin Valley to the year 2050. This preferred scenario will serve as guidance for the Valley's local jurisdictions with land use authority as they update their general plans.

The MCTC is included, as are, the counties of Fresno, Kern, Kings, Madera, Stanislaus, San Joaquin, and Tulare.

Local

CITY OF MADERA GENERAL PLAN

Pursuant to California Code Title 14, Section 65300, the 2009 City of Madera General Plan addresses air quality in its Circulation and Infrastructure Element and Conservation Element. Other policies related to greenhouse gas reduction, which also directly affect air quality, are provided in Section 3.7. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies, listed below:

Circulation and Infrastructure Element and Conservation Element

Policy CI-36: The City shall encourage an increase in bicycle ridership and pedestrian trips over automobile traffic, as a way to improve traffic safety, air quality and the health of Madera residents.

Policy CI-37: The City encourages the use of ridesharing and other Transportation Demand Management (TDM) tactics for reducing area traffic congestion and improving air quality.

Policy CON-28: Residential development projects and projects categorized as sensitive receptors shall be located an adequate distance from existing and potential sources of toxic emissions such as freeways, major arterials, industrial sites, and hazardous material locations. "Adequate distance" will be based on site-specific conditions, on the types and amounts of potential toxic emissions, and other factors.

Policy CON-29: The City shall require new air pollution point sources (such as, but not limited to, industrial, manufacturing, and processing facilities) to be located an adequate distance from residential areas and other sensitive receptors. "Adequate distance" will be based on site-specific conditions, the type and location of sensitive receptors, on the types and amounts of potential toxic emissions, and other factors.

Policy CON-30: The creation of dust during construction/demolition activities should be reduced to the extent feasible.

Action Item CON-30.1: Work with the San Joaquin Valley Air Pollution Control District to reduce particulate emissions from construction, grading, excavation, and demolition through standard and/or special conditions on these activities.

Policy CON-31: The City seeks to reduce the urban heat island effect in the City, which causes increased temperatures and increases in ground level ozone formation through methods such as:

- Increasing the amount of tree coverage in the city;
- Green roofs and rooftop gardens;
- The use of reflective treatments on roofs (such as those which qualify for the EPA/DOE's Energy Star rating); and
- The use of cool pavements such as permeable and light colored and reflective pavements.

Action Item CON-31.1: Develop and adopt a tree ordinance that protects existing trees in the public right of way and promotes the establishment of new tree resources in public areas, including the placement of trees in parkway strips to allow shading of streets. The tree ordinance could establish a City-approved tree-planting list and provide for the creation of a Master Tree Plan that would include an inventory of trees in public areas, including tree type, condition and size.

Action Item CON-31.2: Update or amend the City's zoning and building codes, and provide training to the City's Community Development Department staff, to incorporate features which will have the effect of reducing exterior heat gain, such as:

- Allowances for the construction of green roofs;
- Standards for surface shading of paved areas;
- Standards for the use of paving materials with an enhanced solar reflective index (SRI); and
- Standards that provide for pervious pavement options.

Policy CON-32: Where feasible, the City's vehicle fleet should include clean fuel, hybrid, electric, or other fuel-efficient vehicles, so long as their utility, durability, and cost meets the City's needs.

Action Item CON-32.1 Update the City's procurement policies to include criteria for vehicle purchases that implement this policy.

Policy CON-33: The City shall encourage the development of fueling stations that distribute alternative fuels (such as methanol, ethanol, compressed natural gas, biodiesel) to support alternative fuel vehicles.

Action Item CON-33.1: Update the City's Building and Zoning codes as needed to provide for fueling stations for alternative fuels as defined in Policy CON-33.

Action Item CON-33.2: Consider the adoption of an incentive program for fueling stations for alternative fuels as defined in Policy CON-33.

Policy CON-34: The City shall consider air quality when making changes to planned land uses and transportation systems.

Policy CON-40: All public and private development including homes, commercial, and industrial should be designed to be energy-efficient.

Action Item CON-40.1: Work with the local energy providers and developers on voluntary incentive based programs to encourage the use of energy efficient designs and equipment.

Action Item CON-40.2: Promote enhanced energy conservation standards for new construction through informational handouts, outreach to the construction industry, or other methods.

Action Item CON-40.3: City buildings and facilities will be operated in the most energy-efficient manner without endangering public health and safety and without reducing public safety or service levels.

Action Item CON-40.4: To the extent practical, integrate appropriate renewable energy and clean generation technologies into existing City facilities, such as solar, wind, biofuel, cogeneration, and fuel cells to power City facilities.

Policy CON-42: The City will promote and encourage co-generation projects for commercial, industrial, and municipal facilities, provided they meet all applicable air quality standards and provide a net reduction in GHG emissions associated with energy production.

Policy CON-43: The City will install renewable energy systems at its facilities where feasible, including solar collection systems at municipal properties and waste-to energy (methane recovery) systems at the waste water treatment plant.

Policy CON-44: The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of all private buildings and projects, including:

- Land planning and design techniques that preserve the natural environment and minimize disturbance of the land;
- Site development to reduce erosion, minimize paved surfaces and runoff and protect vegetation, especially trees;
- Water conservation indoors and outdoors;
- Energy efficiency in heating/cooling systems, appliances, lighting and the building envelope;
- Selection of materials based on recyclability, durability and the amount of energy used to create the material;
- Waste reduction, reuse and recycling during construction and throughout the life of the project;
- Other new aspects of green design and construction included in LEED or other certification programs;
- Control nighttime lighting to lower energy use, reduce glare, and prevent illumination of the night sky;

Action Item CON-44.1: Develop a voluntary, market-driven Green Building Program that includes performance standards, guidelines, review criteria, incentives, and implementation schedules for private sector development, with criteria tailored to project types (i.e., residential, commercial, retail), size, and location.

Action Item CON-44.2: Identify, evaluate, and provide incentives to encourage projects that incorporate green building practices and site design, including the potential for certification through the City's Building Department.

Action Item CON-44.3: Facilitate the professional development and education of City staff to learn about green building practices and to have the tools to evaluate development proposals.

Action Item CON-44.4: Offer information, technical assistance, and training to promote green building to property owners, building, design, and planning professionals, school districts, and special districts.

Policy CON-45: The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of facilities constructed, owned, managed, or financed by the City. All new building projects (projects intended for

human occupancy) involving the use of local public funds should incorporate green building practices. Except as dictated by unique circumstances associated with a given project, the typical standard for green building will be the equivalent of the "LEED Silver Standard."

Action Item CON-45.1: Evaluate and update the City's procurement processes to provide incentives to bidders who propose the use of green building practices in the construction of City buildings and facilities.

Action Item CON-45.2: Require that any building constructed in whole or in part with local, public funding incorporate passive solar design features, such as daylighting and passive solar heating, where feasible.

Policy CON-46: the City will identify and remove regulatory or procedural barriers to implementing green building practices within its jurisdiction, such as updating codes, guidelines, and zoning, and will ensure that all plan review and building inspection staff are trained in green building materials, practices, and techniques.

3.3.3 IMPACT EVALUATION CRITERIA

Methodology

The methodology follows the GAMAQI, which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts. Detailed methodology is described in each of the impact sections below.

The analysis was prepared using a variety of data sources and air quality models. The Traffic Impact Study for the proposed Project, prepared by VRPA Technologies, Inc. was used to obtain Level of Service (LOS) and intersection volumes for the CO Hotspot Analysis and average daily trip generation to model operational motor vehicle emissions. The California Emissions Estimator Model (CalEEMod®) was used to quantify Project-related construction and operational emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model incorporates Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. Further, the model identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

The Health Risk Assessment report summarized in this section and included in its entirety in Appendix C has been prepared based on the analysis procedure provided in the *Guidance for Air Dispersion Modeling*, January 2007 and the *Final Staff Report Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document* both prepared by the SJVAPCD, May 28, 2015. The Health Risk Analysis also analyzes potential health risks associated with criteria pollutants.

Thresholds of Significance

According to Appendix G, Environmental Checklist, of the *CEQA Guidelines*, air quality impacts resulting from the implementation of the proposed Project would be considered significant if the project would:

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

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

While the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b), the SJVAPCD recommends that its quantitative and qualitative air pollution thresholds be used to determine the significance of project emissions. These thresholds are discussed under each impact section.

The SJVAPCD provides a guide intended to be an advisory document for use by other agencies, consultants, and project proponents. The recommended version of this advisory document is the GAMAQI – 2015. This document establishes thresholds of significance for criteria pollutants that the SJVAPCD recommends to be used when evaluating project specific impacts in the SJV. The SJVAPCD has based the criteria thresholds on limits established in their New Source Review (NSR) rule (Rule 2201), which is a major component of their attainment strategy as it relates to growth and applies to new and modified stationary sources of air pollution. Non-compliance with a threshold of significance means the effect will normally be determined to be significant. Compliance with a threshold of significance means the effect normally will be determined to be less than significant.

The following regional significance thresholds have been established by the SJVAPCD to protect air resources within the basin as a whole, as project emissions can potentially contribute to the existing emission burden and possibly affect the attainment and maintenance of ambient air quality standards (Table 3.3-7).

Table 3.3-7
SJVAPCD Regional Thresholds Tons per Year (tpy)

Pollutant	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100	100	100
Nitrogen oxides (NOx)	10	10	10
Reactive Organic Gases (ROG)	10	10	10
Sulfur Oxides (SOx)	27	27	27
Particulate matter (PM10)	15	15	15
Particulate matter (PM2.5)	15	15	15

Source: San Joaquin Valley Air Pollution Control District, 2015.

Projects within the SJVAB with regional construction or operational emissions in excess of any of the thresholds presented in Table 3.3-7 are considered to have a significant regional air quality impact.

The SJVAPCD's thresholds of significance for toxic air contaminant emissions from operations of permitted and non-permitted sources are combined and presented in Table 3.3-8.

Table 3.3-8
Toxic Air Contaminants Thresholds

Carcinogens	Maximally Exposed Individual risk equals or exceeds 20 in one million
Non-Carcinogens	Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual
Note: The 2015 GAMAQI lists the SJVAPCD's current thresholds.	

Source: San Joaquin Valley Air Pollution Control District, 2015.

Carcinogenic (cancer) risk is expressed as cancer cases per one million. Non-carcinogenic (acute and chronic) hazard indices are expressed as a ratio of expected exposure levels to acceptable exposure levels.

3.3.4 IMPACTS AND MITIGATION MEASURES

Impact #3.3-1 – Conflict with or obstruct implementation of any applicable air quality plan:

If implemented, the proposed Project would generate both temporary (construction) and long-term (operational) emissions. The consistency with the Air Quality Attainment Plan (AQAP) is discussed below for construction and operations separately.

Construction

The SJVAPCD's attainment strategy as it relates to growth is directly related to their New Source Review (NSR) rule as implementation of NSR ensures that there is no net increase in emissions above specified thresholds from new and modified stationary sources for all nonattainment pollutants and their precursors. The SJVAPCD thresholds of significance for criteria pollutants are applied to evaluate regional impacts of project-specific emissions of air pollutants and their impact on the SJVAPCD's ability to reach attainment.

Operational

State CEQA Guidelines and the FCAA (Sections 176 and 316) contain specific references on the need to evaluate consistencies between a proposed Project and the applicable AQAP for the project sites. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. Determination that an AQAP is being implemented in the area where the project is being proposed. The SJVAPCD has implemented the current, modified AQAP as approved by CARB. The current AQAP is under review by the EPA.

2. The proposed project must be consistent with the growth assumptions of the applicable AQAP. The growth assumptions used by the SJVAPCD in their attainment demonstration for the 8-hour ozone standard (2007 Ozone Plan) was a 42 percent increase in population in Madera County between 2002 and 2020. For the PM2.5 standard attainment demonstration (2012 PM2.5 Plan), the growth assumptions were a 21 percent growth in Madera County between 2010 and 2020. Since the proposed Project is a commercial project not specifically designed to attract new permanent residents to the County, and does not contain a residential component, the proposed Project would be considered consistent with the growth assumptions of the applicable AQAPs.

3. The project must contain in its design all reasonably available and feasible air quality control measures. The proposed Project incorporates Regulation VIII dust measures and will comply with the ISR Rule (Rule 9510) along with all applicable Air District regulations and/or rules.

Because no significant growth is anticipated by the proposed Project, conclusions may be drawn from the following criteria:

- The proposed emissions from the project are by definition below the SJVAPCD's established emissions impact thresholds; and

- The primary source of emissions from the project would be traffic from vehicles that are licensed through the State of California and whose emissions are already incorporated into CARB's SJV Emissions Inventory.

Conclusion: Operation of the proposed Project would not exceed any established SJVAPCD thresholds; therefore, implementation of the proposed Project would not obstruct implementation

of an air quality plan during operation. The Project would not conflict with, or obstruct implementation of, the applicable air quality plan, and would therefore result in a ***less than significant*** impact.

Mitigation Measures: No mitigation measures are necessary.

Impact #3.3-2 - Violate any air quality standard or contribute substantially to an existing or projected air quality violation:

Construction

Construction of the proposed Project would result in emissions of the air pollutants ROG, NOx, CO, PM10, PM2.5, and SO_X. Emissions from construction would result from fuel combustion and exhaust from construction equipment as well as vehicle traffic, grading, and the use of toxic materials (e.g., paints and lubricants).

Criteria pollutant emissions from off-road construction equipment use were estimated using the CalEEMod Version 2013.2.2 computer model. Since specific construction activity information is not currently available, default length of construction activity and default equipment type and activity levels for each activity phase were used. CalEEMod was designed to assume reasonable default assumptions supported by substantial evidence to the degree available at the time of programming. CalEEMod is based on fully adopted methods and data. CalEEMod estimates that the construction of this site would take 10 days of site preparation, 20 days of grading, 230 days of building construction, 20 days of paving, and 20 days of architectural coating and that construction would occur 5 days per week.

Table 3.3-9 presents annual emissions for construction activities related to the proposed Project. As Table 3.3-9 shows, the SJVAPCD thresholds are not exceeded in either construction year. Detailed emissions calculations are included in Appendix B. The Project is required to comply with SJVAPCD construction emission reduction rules as listed above in section *3.3.2 Regulatory Setting*, as well as applicable SJVAPCD rules and regulations.

CalEEMod was also used to estimate the operational emissions for each Project phase. Operational emissions include emissions from mobile sources associated with the facility, natural gas usage, architectural coatings, consumer products, and landscaping equipment.

In addition, the ISR Rule (Rule 9510) requires developers to reduce construction NOx and PM10 exhaust emissions by 20 percent and 45 percent, respectively, and reduce operational NOx and PM10 emissions by 33.3 percent and 50 percent, respectively, as compared to the unmitigated baseline. The ISR Rule does not require the reduction of ROG, but concentrates on the ozone precursors of NOx and PM10, which have the most effect on the air quality in the San Joaquin Valley.

Table 3.3-9
Estimated Unmitigated Annual Construction Emissions

Year - Construction Phase	Criteria Emissions (tons/year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
2016 - Site Preparation	0.026	0.274	0.211	0.000	0.106	0.063
2016 - Grading	0.037	0.385	0.269	0.000	0.089	0.054
2016 - Building Construction	0.532	3.842	4.040	0.005	0.367	0.257
2016 - Paving	0.001	0.011	0.008	0.000	0.001	0.001
2016 Total	**0.596**	**4.513**	**4.528**	**0.006**	**0.562**	**0.375**
2017 - Paving	0.019	0.193	0.147	0.000	0.012	0.010
2017 - Architectural Coating	1.846	0.023	0.030	0.000	0.004	0.002
2017 Total	**1.964**	**0.216**	**0.177**	**0.000**	**0.016**	**0.013**
SJVAPCD Threshold	10	10	100	27	15	15
Exceed Thresholds any Year?	No	No	No	No	No	No

Note: Some defaults from the California Emissions Estimator Model, 2014 were applied.

Source: OB-1 Air Analyses, 2015.

Operational

Emissions for each category are presented in Table 3.3-10, which shows that the Project's unmitigated operational emissions would not exceed any SJVAPCD thresholds. Detailed emissions calculations are included in Appendix B.

Table 3.3-10
Estimated Unmitigated Operational Criteria Emissions

Emission Category	Criteria Emissions (tons/year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Mobile-Local	1.25	3.50	15.74	0.02	1.14	0.34
Mobile-Diverted	7.21	5.91	80.45	0.01	0.12	0.05
Energy	0.02	0.21	0.18	0.00	0.02	0.02
Area	1.22	0.00	0.00	0.00	0.00	0.00
Operational Total	**9.70**	**9.62**	**96.37**	**.0.03**	**1.28**	**0.41**
SJVAPCD Threshold	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

Note: Some defaults from the California Emissions Estimator Model, 2014 were applied.

Source: OB-1 Air Analyses, 2015.

Design features presented in the Project Description of the EIR are considered to be beneficial to air quality. These features will reduce air pollutant emissions by design and are included as part of the Project. Included is:

> The applicant is proposing to have all proposed outdoor lighting fixtures to be energy efficient LED. In addition, signage for the travel stop, hotel, and restaurant, and the monument sign at Avenue 17 entrance and directional signs throughout the project site is proposed to be internally LED illuminated.

The Project will be subject to SJVAPCD Rule 9510 – Indirect Source Review. Rule 9510 requires development projects to reduce project construction NO_X emissions by 20 percent and PM10 emissions by 45 percent. Rule 9510 requires operational NO_X emissions to be reduced by 33 percent and PM10 emissions to be reduced by 50 percent using onsite measures and offsite mitigation fees. Compliance with this rule will provide additional reductions not accounted for in the modeling results presented in Tables 3.3-9 and 3.3-10.

In summary, construction and operational activities of the proposed Project would have a less-than-significant impact with respect to a violation of air quality standards or contributing substantially to an existing or projected air quality violation.

Conclusion: The proposed Project would not violate air quality standards or contribute to an existing or projected air quality violation, therefore it would result in a ***less-than-significant*** impact.

Impact #3.3-3 – Result in 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.

In accordance with *CEQA Guidelines* 15130(b), this analysis of cumulative impacts incorporates a summary of projections. The following three-tiered approach is to assess cumulative air quality impacts:

- Consistency with the SJVAPCD project specific thresholds for construction and operation;
- Project consistency with existing air quality plans; and
- Assessment of the cumulative health effects of the pollutants.

Project Specific Thresholds

If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant. A Lead Agency should consider the cumulative impact of multiple simultaneously proposed projects, located within the same area. If the combined impacts of such projects cause or worsen an exceedance of the concentration standards, the project would have a cumulatively significant impact under CEQA.

As shown in Table 3.3-9, the criteria pollutants would not cumulatively exceed the thresholds during the construction years. Table 3.3-10 shows that criteria pollutants would not exceed the thresholds during years of operation.

Air Quality Plans

As established previously in Impact #3.3-1, the proposed Project is consistent with the latest ozone, PM10, and PM2.5 attainment plans that were established to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have direct authority over land use decisions, it was recognized that changes in land use and circulation planning were necessary to maintain clean air. As discussed above in Impact #3.3-1, the Project is compliant with the air quality plans and would not result in a significant impact.

Cumulative Health Impacts

The area is in nonattainment for ozone, PM10 and PM2.5, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect the health of sensitive individuals (i.e., elderly, children, and the sick). Therefore, when the concentration of those pollutants exceed the standard, it is likely that some of the sensitive individuals of the population experience adverse health effects.

The significance analysis in Impact #3.3-2 demonstrated that no significance threshold would be exceeded during the construction or operational phases. However, as previously discussed, even if a project is below all such significance thresholds, it can still be determined to be cumulatively significant when combined with multiple simultaneously proposed projects within the vicinity. A select list of past, present, and probable future projects within the vicinity was provided by the City of Madera Planning Department and is shown in Table 5-1 in Section 5 – Cumulative Impacts. Table 5-1 identifies related projects and other possible development in the Project vicinity determined as having the potential to interact with the Project to the extent that a significant cumulative effect might be expected to occur.

The SJVAPCD has recognized that nearly all development projects within the Air Basin have the potential to generate air pollutants, making it more difficult to attain State and Federal ambient air quality standards. However, they also point out that land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project designs that reduce VMT have proven to benefit air quality. The SJVAPCD has developed attainment and maintenance plans that provide specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Since the State Implementation Plan (SIP) which includes State and local efforts, accounts for annual increases in air pollutant emissions resulting from regional growth (including construction-generated emissions) anticipated according to local land use plans (e.g., general plans, regional transportation plans) and still predict necessary reductions that will result in attainment of standards, The SJVAPCD has determined that if a project does not exceed the project-level significance thresholds, their incremental impacts are not considered to have a significantly considerable impact on regional air quality.

Conclusion: The cumulative construction and operational incremental contribution to cumulative air quality impacts of the Project, even together with other foreseeable regional developments shown in Table 5-1, would be ***less than cumulatively considerable***.

Impact #3.3-4 - Expose sensitive receptors to substantial pollutant concentrations:

Sensitive receptors are defined as land uses where sensitive population groups are likely to be located (e.g., children, the elderly, the acutely ill, and the chronically ill). These land uses include residences, schools, childcare centers, retirement homes, convalescent homes, medical care facilities, and recreational facilities. Sensitive receptors that may be adversely affected by the proposed Project include the surrounding residential land uses.

Localized Dust

Impacts to sensitive receptors, particularly from dust, would vary depending on the level and type of activity, the silt content of the soil, and prevailing weather. The Project is located along State Highway 99 on a site that was previously used as a holding facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. Additionally, the Project site is surrounded by Avenue 17, undeveloped land, and an abandoned dairy facility to the north; residential units to the east, undeveloped land to the south; and SR 99, Union Pacific Railroad tracks, and undeveloped land to the west. Other land uses in the area include light industrial parks and the Madera Municipal Airport west of SR 99.

Even though the proposed Project has some residences east of the property boundary, the physical proximity to any construction activity is not adjacent. The development will occur only on the western half of the property, with the eastern half remaining vacant, serving as a buffer between the built project and the existing residences. It is important to note that distances to potential receptors are measured from the exterior boundary of the project and not from the individual construction project areas within the interior of the site. The proposed Project's compliance with Regulation VIII and mitigations required due to the ISR Rule will prevent the residences exposure to substantial pollutant concentrations.

CO Hotspot

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. To provide a worst-case scenario, CO concentrations are estimated at the most project-impacted intersections, where the concentrations would be the greatest. Intersections with the highest potential for CO hotspots were selected based on their average delay, traffic volumes (obtained from the Traffic Impact Study (TIS)). This analysis follows guidelines recommended by the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol)[1].

[1] Transportation Project-Level Carbon Monoxide Protocol (CO Protocol). Garza, V.J., Graney, P., Sperling, D. University of California Davis, Institute of Transportation Studies. 1997.

The TIS for the Project shows that there are three intersections with a level of service (LOS) of E or F in the Project vicinity in the Near Term (Year 2016) Plus Project scenario. The intersections at a LOS of E or worse are (intersection study number in parenthesis):

- (2) – Avenue 17 / SR 99 Southbound Off-ramp;
- (4) – Avenue 17 / SR 99 Northbound Ramps; and
- (5) – Avenue 17 / Walden Drive.

Using the CALINE4 model, potential CO hotspots were analyzed at these three intersections and the results are presented in Table 3.3-11. Traffic volumes from the project-specific Traffic Report were used. CALINE4 printouts are presented in Appendix B of the Air Quality/Greenhouse Gas Technical Report by OB-1 Air Analyses.

Table 3.3-11
CO Concentrations – Near Term (Year 2016) Plus Project Conditions

Intersection	#	Estimated CO Concentration (ppm)		Significant Impact***
		1 Hour *	8 Hour **	
Avenue 17 / SR 99 Southbound Off-ramp	2	1.8	1.3	No
Avenue 17 / SR 99 Northbound Ramps	4	1.9	1.3	No
Avenue 17 / Walden Drive	5	1.7	1.2	No

* Caline4 output (see Appendix B for model output) plus the 1-hour background concentration of 1.49 ppm.
** The 8-hour project increment was calculated by multiplying the 1-hour Caline4 output by 0.7 (persistence factor), then adding the 8 hour background concentration of 1.04 ppm.
*** Comparison of the 1-hour concentration to the state standard of 20 ppm and the 8-hour concentration to the state/national standard of 9 ppm.

As shown in Table 3.3-11, the estimated 1-hour and 8-hour average CO concentrations in combination with background concentrations are below the State and national ambient air quality standards. Therefore, the mobile emissions of CO from the Proposed Project are not anticipated to contribute substantially to an existing or projected air quality violation of CO.

Toxic Air Contaminants

A Health Risk Assessment (HRA) (see Appendix C) has been completed to determine the potential cancer risks from the onsite sources of toxic air contaminants (TACs) associated with the operation of the proposed Project. This analysis has been prepared based on the analysis procedure provided in the *Guidance for Air Dispersion Modeling* (SJVAPCD Guidance), prepared by San Joaquin Valley Air Pollution Control District (SJVAPCD), January 2007.

The following is provided in the HRA report:

- A description of the proposed Project;

- A description of toxic air contaminants (TACs);

- A description of the non-attainment criteria pollutants and current monitored concentrations;
- A description of health risk standards;
- An analysis of the onsite sources of TACs from the proposed Project;
- A comparison of the calculated cancer and acute non-cancer risks from TACs with the SJVAPCD thresholds;
- An analysis of the emissions of non-attainment criteria pollutants in the vicinity of the Project site; and
- A comparison of the calculated local nonattainment criteria pollutant concentrations to the monitored concentrations and an estimate of associated health impacts.

Below is a summary of the HRA and its conclusions. For more information refer to the complete HRA report, contained in Appendix C.

OVERVIEW OF TOXIC AIR CONTAMINANTS

Toxic air contaminants or TACs is a term that is defined under the California Clean Air Act and consists of the same substances that are defined as Hazardous Air Pollutants (HAPs) in the Federal Clean Air Act. There are over 700 hundred different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

TAC EMISSIONS ASSUMPTIONS

The proposed Project would include a Travel Center with a restaurant that includes a drive through, a stand-alone restaurant with drive through, a tire shop, a hotel, and an RV and boat storage area with 307 spaces. The proposed Project is anticipated to be completed and fully operational by the year 2017 and in order to provide a worst-case analysis, all emissions assumptions were based on year 2017 emissions rates. The proposed Project is anticipated to generate TAC emissions from diesel truck operations, gasoline fuel station operations, and from restaurant food cooking activities, which are summarized below.

The Project-related truck emissions have been analyzed separately for truck travel, truck idling, and transport refrigeration unit emissions. Those emissions include PM10, PM 2.5, CO, NOx, and ROG (these acronyms are defined previously in this section of the EIR.)

The HRA analysis also addresses gas station emissions, which would consist primarily of ROG. Benzene is a type of ROG and is also a TAC that was analyzed in the TAC emissions analysis.

The Project-related restaurant cooking emissions would consist of Polycyclic aromatic hydrocarbons without naphthalene and naphthalene, which are both different types of ROGs.

TAC RISK DEFINED

Any project with the potential to expose sensitive receptors or the general public to substantial levels of TACs would be deemed to have a potentially significant impact. A health risk is the probability that exposure to a TAC under a given set of conditions will result in an adverse health effect. The health risk is affected by several factors, such as the amount, toxicity, and concentration of the contaminant; meteorological conditions; distance from the emission sources to people; the distance between emission sources; the age, health, and lifestyle of the people living or working at a location; and the length of exposure to the toxic air contaminant.

The term "risk" usually refers to the chance of contracting cancer as a result of an exposure, and it is expressed as a probability: chances-in-a-million. The values expressed for cancer risk do not predict actual cases that will result from exposure to toxic air contaminants. Rather, they state a probability of contracting cancer over and above the background level and over a given exposure to toxic air contaminants.

According to the APR-1906 Framework for Performing Health Risk Assessments, prepared by SJVAPCD, June 30, 2015 and the GAMAQI, any project that has the potential to expose the public to TACs in excess of the following threshold would be considered to result in a significant impact:

- If the Maximum Exposed Individual Cancer Risk from carcinogens equals or exceeds 20 in one million persons;

- If the Maximum Exposed Individual Acute Hazard Index from non-carcinogens equals or exceeds 1.0; or

- If the Maximum Exposed Individual Chronic Hazard Index from non-carcinogens equals or exceeds 1.0.

ESTIMATION OF HEALTH RISKS ASSOCIATED WITH TAC EMISSIONS

Health risks from TACs are two-fold. First, TACs are carcinogens according to the State of California. Second, short-term acute and long-term chronic exposure to TACs can cause health effects to the respiratory system. Each of these health risks is discussed below.

Cancer Risk

TAC emissions concentrations for two nearby sensitive receptors were found to be above the 20.0 in a million cancer risk threshold. A ***potentially significant impact*** to cancer risk would occur from TAC emissions created from the operation of the proposed Project.

Table 3.3-12 shows the highest concentration of DPM created from the proposed Project is 0.0793 µg per m3 and would occur at Sensitive Receptor 8, which represents the home located near the east side of the Project site and on the west side of Walden Drive. Sensitive Receptors 7 and 8 were found to result in a cancer risk increase in excess of the 20 per million people threshold. This would be considered a significant impact. All TAC emissions concentrations at the other nearby sensitive receptors were found to be below the 20.0-in-one-million cancer risk threshold that has been discussed above.

Table 3.3-12
Diesel Particulate Matter Concentrations and Cancer Risks at Nearby Homes Prior to Mitigation

Sensitive Receptor	Receptor Description	Receptor Location		Annual PM10 Concentration (µg/m^3)				Cancer Risk Per Million People
		X	Y	2017	2018	2021	2034	
1	SFR – Northwest of Project Site	757,480	4,098,686	0.0078	0.0060	0.0026	0.0017	3.6
2	SFR – North of Project Site	757,888	4,098,982	0.0059	0.0045	0.0021	0.0012	2.8
3	SFR – North of Project Site	758,292	4,098,869	0.0057	0.0057	0.0029	0.0020	3.6
4	SFR – Northeast of Project Site	758,782	4,098,850	0.0047	0.0047	0.0024	0.0043	2.9
5	SFR – Northeast of Project Site	758,789	4,098,542	0.0090	0.0090	0.0049	0.0106	5.8
6	SFR – East of Project Site	758,795	4,098,334	0.0258	0.0198	0.0112	0.0160	12.9
7	SFR – East of Project Site	758,787	4,098,187	0.0593	0.0455	0.0243	0.0042	**29.2**
8	SFR – East of Project Site	758,794	4,098,058	0.0793	0.0604	0.0283	0.0038	**37.3**
9	SFR – Southeast of Project Site	759,055	4,097,508	0.0194	0.0147	0.0062	0.0009	8.8
10	SFR – South of Project Site	758,586	4,097,692	0.0185	0.0140	0.0063	0.0010	8.5
		Threshold of Significance						**20**
		Exceed Threshold?						**Yes**

Notes:
Source: Calculated from ISC-AERMOD View Version 9.0.0.

Non-cancer Risk

In addition to the cancer risk from exposure to TACs, there is also the potential for TAC to result in adverse health impacts from acute and chronic illnesses, which are detailed below.

Chronic Health Impacts - Chronic health effects are characterized by prolonged or repeated exposure to a TAC over many days, months, or years. Symptoms from chronic health impacts may not be immediately apparent and are often irreversible. The chronic hazard index is based on the most impacted sensitive receptor from the proposed project and is calculated from the annual average concentrations of PM10.

The criterion for significance is a Chronic Hazard Index increase of 1.0 or greater. The on-going operations of the proposed Project would result in a ***less than significant*** impact due to the non-cancer chronic health risk from TAC emissions created by the proposed Project.

Acute Health Impacts – Acute health effects are characterized by sudden and severe exposure and rapid absorption of a TAC. Normally, a single large exposure is involved. Acute health effects are often treatable and reversible. According to the California Office of Environmental Health Hazard Assessment (OEHHA), no acute risk has been found to be directly created from dimethyl phthalate (DPM). It should also be noted that the TAC pollutants created from operation of the proposed restaurants would be limited to naphthalene and PAH without naphthalene, both of which do not create an acute risk according to the OEHHA. However, the gasoline dispensing facility associated with the proposed Project would emit benzene, which is a TAC that has an acute risk associated with it by the OEHHA.

Benzene is emitted at a rate of 0.44 percent of the rate of DPM in diesel exhaust. Therefore, since benzene would be emitted by both the proposed gas station and from diesel emissions, the acute health impacts from the proposed project have been calculated through use of a benzene equivalent emission factor.

In order to account for the acute health impacts created from diesel emissions, the TAC pollutants that are emitted as part of diesel emissions were converted to a benzene equivalent weighting, through multiplying the percentage of DPM emissions of each TAC to its corresponding acute REL and then dividing by the benzene Acute REL of 27.

The criterion for significance is an Acute Hazard Index increase of 1.0 or greater. The calculation AHIBenzene = 8.805 / 27 (full calculation analysis described in attached Health Risk Assessment) shows that the calculated Acute Hazard Index would be 0.326. Therefore, the on-going operations of the proposed Project would result in a ***less than significant*** impact due to the non-cancer acute health risk from TAC emissions created by the proposed Project.

ESTIMATION OF HEALTH RISKS ASSOCIATED WITH LOCAL CONCENTRATION OF CRITERIA POLLUTANTS

As detailed above, this analysis is limited to the nonattainment criteria pollutants as well as the proposed Project's operational criteria pollutants that would exceed the SJVAPCD thresholds of significance as detailed in the Air Quality Report (see Appendix B). Thus, the analysis considered ROG and NOx, (which are the precursor pollutants of ozone), PM10, PM2.5, and CO.

Ozone Precursors (NOx and ROG) – The NOx and ROG concentrations from operation of the proposed Project have been calculated through use of the AERMOD model and the input parameters detailed above. A summary of the NOx and ROG concentrations at the same nearby sensitive receptors analyzed above in the TAC analysis are shown in Table 3.3-13 of the attached HRA. The AERMOD input and output files for the NOx calculations are provided in Appendix G and for the ROG calculations are provided in Appendix H of the HRA.

Table 3.3-13 shows that the calculated project plus existing ambient level of NOx would be as high as 60.15 ppb at the most impacted sensitive receptor. A concentration of 60.15 ppb would be below the Federal 1-Hour standard of 100 ppb as well as below the State 1-Hour standard of 180 ppb. Table 3.3-13 also shows that operation of the proposed Project would increase NOx emissions by as much as 0.27 percent at most impacted sensitive receptor. Since there is neither state nor federal ambient air quality standard for ROG, the SJVAPCD does not monitor ambient ROG levels and therefore it is not possible to make a similar comparison of the ROG impacts from operation of the proposed Project.

Table 3.3-13
NOx and ROG Concentrations at Nearby Sensitive Receptors

	1-Hour NOx				1-Hour ROG	
Sensitive Receptor	**Project Only (µg/m^3)**	**Project Only[1] (ppb)**	**Project + Ambient (ppb)**	**Percent Increase**	**Project Only (µg/m^3)**	**Project Only[2] (ppm)**
1	174.56	0.097	60.10	0.161%	12.39	0.017
2	84.23	0.047	60.05	0.08%	6.23	0.008
3	142.15	0.079	60.08	0.13%	10.27	0.014
4	76.63	0.042	60.04	0.07%	5.64	0.008
5	214.30	0.119	60.12	0.20%	15.92	0.021
6	295.97	0.164	60.16	0.27%	22.04	0.030
7	264.84	0.146	60.15	0.24%	19.43	0.026
8	272.64	0.151	60.15	0.25%	19.86	0.027
9	140.01	0.077	60.08	0.13%	8.60	0.012
10	243.76	0.135	60.13	0.22%	17.17	0.023
Federal Standard			100			--
State Standard			180			--

Notes:
[1] A conversion factor of 1,808 was used to convert µg/m^3 to ppm and is based on a standard temperature of 25 degrees centigrade and a standard atmospheric pressure of 760 millibars.
[2] A conversion factor of 747 was used to convert µg/m^3 to ppm and was calculated from the ROG conversion factor for #2 Oil provided at http://www.johnsonburners.com/resourceeng/Emission%20Conversion%20Factors.pdf
Source: Calculated from ISC-AERMOD View Version 9.0.0.

The *EPA's Proposal to Update the Air Quality Standards for Ground-Level Ozone by The Numbers,* November 25, 2014 (which became a rule on October 1, 2015), details various health improvements that would occur from reducing ground-level ozone. The same health improvement ratios utilized in this report have been utilized to determine the anticipated health impacts created by the proposed Project's NOx and ROG emissions. Based on the most impacted sensitive receptor that would experience a 0.27 percent increase to ozone emissions, which is based on 100 percent of NOx emissions converting to ozone, this would result in a 0.0000001 percent increase in premature deaths, a 0.0003 percent increase in asthma attached among children, a 0.0001 percent increase in days that children will miss school, a 0.0000003 percent increase in asthma-related emergency room visits, and a 0.0000002 percent increase in acute bronchitis among children. Due to the nominal ozone precursor (NOx and ROG) emissions and associated health impacts anticipated to be created from operation of the proposed Project, it can

be reasonably concluded that the proposed Project would create a ***less than significant*** impact from ozone precursors.

Particulate Matter (PM10 and PM 2.5) The PM10 and PM2.5 concentrations from operation of the proposed Project have been calculated through use of the AERMOD model and the input parameters detailed above. A summary of the PM10 and PM2.5 concentrations at the same nearby sensitive receptors analyzed above in the TAC analysis are shown in Table 3.3-13 for PM10 concentrations and Table 3.3-14 for PM2.5 concentrations. The AERMOD input and output files for the PM10 calculations are provided in Appendix I and for the PM2.5 calculations are provided in Appendix J of the Project's HRA.

Table 3.3-14
PM10 Concentrations at Nearby Sensitive Receptors

	24-Hour PM10 (µg/m^3)			Annual PM10 (µg/m^3)		
Sensitive Receptor	**Project Only**	**Project + Ambient**	**Percent Increase**	**Project Only**	**Project + Ambient**	**Percent Increase**
1	1.84	120.64	1.53%	0.259	37.66	0.69%
2	0.60	119.40	0.50%	0.085	37.49	0.23%
3	0.70	119.50	0.59%	0.091	37.49	0.24%
4	0.44	119.24	0.37%	0.059	37.46	0.16%
5	1.07	119.87	0.89%	0.126	37.53	0.33%
6	1.49	120.29	1.24%	0.266	37.67	0.71%
7	1.30	120.10	1.08%	0.312	37.71	0.83%
8	1.08	119.88	0.90%	0.307	37.71	0.81%
9	1.39	120.19	1.16%	0.325	37.73	0.86%
10	2.36	121.16	1.95%	0.385	37.79	1.02%
Federal Standard		150			50	
State Standard		50			20	

Source: Calculated from ISC-AERMOD View Version 9.0.0.

Table 3.3-14 shows that the calculated ambient plus project levels of PM10 would be as high as 121.16 µg/m3 averaged over 24 hours. This would exceed the state 24-hour ambient air quality standards (AAQS) for PM10 of 50 µg/m3 and would be within the federal AAQS of 150 µg/m3. The Project only contribution to the 24-hour standard at the most impacted sensitive receptor would be 2.36 µg/m3, which is below the 2.5 µg/m3 increase threshold of significance.

Table 3.3-14 also shows that the calculated ambient plus project levels of annual PM10 would be as high as 37.79 µg/m3 averaged over a year. This would exceed the state AAQS for PM10 of 20 µg/m3 and would be within the federal AAQS of 50 µg/m3. The Project only contribution to the annual PM10 standard at the most impacted sensitive receptor would be 0.385 µg/m3, which is below the 1.0 µg/m3 increase threshold of significance.

Table 3.3-15 shows that the calculated ambient plus project levels of PM2.5 would be as high as 88.69 µg/m3 averaged over 24 hours. This would exceed the federal 24-hour AAQS for PM2.5 of 35 µg/m3. The Project contribution to the 24-hour standard at the most impacted sensitive receptor would be 1.19 µg/m3, which is below the 2.5 µg/m3 increase threshold of significance. Table 3.3-15 also shows that the calculated ambient plus project levels of PM2.5 would be as high as 20.59 µg/m3 averaged over a year. This would exceed the state and federal annual AAQS for PM2.5 of 12 µg/m3. The Project contribution to the annual PM2.5 standard at the most impacted home would be 0.193 µg/m3, which is below the 1.0 µg/m3 increase threshold of significance.

Table 3.3-15
PM2.5 Concentrations at Nearby Sensitive Receptors

	24-Hour PM2.5 (µg/m^3)			Annual PM2.5 (µg/m^3)		
Sensitive Receptor	**Project Only**	**Project + Ambient**	**Percent Increase**	**Project Only**	**Project + Ambient**	**Percent Increase**
1	0.95	88.45	1.07%	0.128	20.53	0.62%
2	0.32	87.82	0.37%	0.045	20.44	0.22%
3	0.42	87.92	0.48%	0.049	20.45	0.24%
4	0.25	87.75	0.29%	0.032	20.43	0.16%
5	0.56	88.06	0.64%	0.068	20.47	0.33%
6	0.82	88.32	0.92%	0.145	20.55	0.71%
7	0.76	88.26	0.86%	0.183	20.58	0.89%
8	0.65	88.15	0.74%	0.189	20.59	0.92%
9	0.66	88.16	0.75%	0.164	20.56	0.80%
10	1.19	88.69	1.34%	0.193	20.59	0.94%
Federal Threshold		35			12	
State Threshold		--			12	

Source: Calculated from ISC-AERMOD View Version 9.0.0.

The *Quantitative Health Risk Assessment for Particulate Matter* (EPA PM Report), prepared by EPA, June 2010, quantifies the potential reduction in health impacts from reducing the federal AAQS for PM2.5. The same health improvement ratios utilized in this report have been utilized to determine the anticipated health impacts created by the proposed project's PM10 and PM2.5 emissions. Based on the most impacted sensitive receptor that would experience a 1.34 percent increase of 24-hour PM2.5 concentrations, this would result in a 0.00003 percent increase in mortalities from the long-term exposure to PM2.5 and a 0.00003 percent increase in mortalities from short-term exposure to PM2.5.

Based on the annual concentrations, where the most impacted sensitive receptor would experience a 0.94 percent increase, this would result in a 0.00002 percent increase in mortalities from long-term exposure to PM2.5 and a 0.00001 percent increase in mortalities from short-term exposure to PM2.5. Due to the nominal increase in PM10 and PM2.5 concentrations and associated health impacts anticipated to be created from operation of the proposed Project, it can

be reasonably concluded that the proposed Project would create a ***less than significant*** impact from PM10 and PM2.5 concentrations.

Carbon Monoxide (CO) - The CO concentrations from operation of the proposed Project have been calculated through use of the AERMOD model and the input parameters detailed in Section 4.3 of the HRA. A summary of the CO concentrations at the same nearby sensitive receptors analyzed above in the TAC analysis are shown in **Error! Reference source not found.**6. The AERMOD input and output files for the CO calculations are provided in Appendix K of the HRA.

Table 3.3-16
CO Concentrations at Nearby Sensitive Receptors

	1-Hour CO				8-Hour CO			
Sensitive Receptor	**Project Only (µg/m^3)**	**Project Only[1] (ppm)**	**Project + Ambient (ppm)**	**Percent Increase**	**Project Only (µg/m^3)**	**Project Only[1] (ppm)**	**Project + Ambient (ppm)**	**Percent Increase**
1	202.49	0.1772	2.28	7.78%	56.712	0.0496	1.63	3.05%
2	86.64	0.0758	2.18	3.48%	22.103	0.0193	1.60	1.21%
3	101.53	0.0889	2.19	4.06%	24.677	0.0216	1.60	1.35%
4	78.02	0.0683	2.17	3.15%	16.766	0.0147	1.59	0.92%
5	262.95	0.2301	2.33	9.88%	51.015	0.0446	1.62	2.75%
6	299.16	0.2618	2.36	11.09%	61.043	0.0534	1.63	3.27%
7	211.16	0.1848	2.28	8.09%	56.208	0.0492	1.63	3.02%
8	191.34	0.1675	2.27	7.39%	47.134	0.0413	1.62	2.54%
9	180.42	0.1579	2.26	6.99%	49.935	0.0437	1.62	2.69%
10	171.01	0.1497	2.25	6.65%	57.061	0.0499	1.63	3.06%
Federal Threshold			20				9	
State Threshold			20				9	

Notes:
[1] A conversion factor of 1,143 was used to convert µg/m^3 to ppm and was calculated from the CO conversion factors utilized by CARB for calculating the AAQS at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf
Source: Calculated from ISC-AERMOD View Version 9.0.0.

Table 3.3-15 shows that ambient plus Project levels of CO would be as high as 2.36 µg/m^3 averaged over 1 hour. This would be within both the federal and state 1-hour AAQS for CO of 20 ppm. The calculated ambient plus Project levels of CO would be as high as 1.634 µg/m^3 averaged over 8 hours. This would be within both the federal and State 8-hour AAQS for CO of 9 ppm. Since the proposed Project's CO emissions would not result in an exceedance of the AAQS for CO, a ***less than significant*** impact would occur from CO concentrations.

Conclusion: Sensitive Receptors 7 and 8 were found to result in a cancer risk increase in excess of the 20 per million people threshold as seen in Table 3.3-13. Therefore, impacts would be ***potentially significant*** *without mitigation*.

Mitigation Measures #3.3-1: The Project Applicant shall install auxiliary power hookups in the truck parking area that are capable of providing power to a minimum of 12 trucks TRUs or

auxiliary cab power. The Project Applicant shall also install signage in the truck parking areas that restrict the use of diesel powered auxiliary power units (APU).

Mitigation Measure #3.3-2: The Project Applicant shall install an approximately 2'x3' sign near the diesel parking area on the property stating that no truck idling is allowed on the premises.

Mitigation Measure #3.3-3: The Project Applicant shall plant a row of trees along the eastern and southern edges of the travel stop. The tree species utilized shall be chosen from several that have been studied by Caltrans and the Sacramento Air District to be effective at removing very fine particulate matter, which may include but is not limited to deodar cedar, Italian stone pine, or Digger/Foothill/Gray pine.

Effectiveness of Mitigation: Incorporation of the above mitigation measures would result in Sensitive Receptors 7 and 8 falling below the Cancer Risk threshold. With mitigation, the cancer risk would decrease to 19.3 and 18.9 per million persons, respectively, for Sensitive Receptor 7 and 8 (see Table M in the attached HRA). Therefore, with implementation of the above-described mitigation measures, the proposed Project would result in a ***less than significant*** impact on health risks associated with TEC emissions.

Impact #3.3-5 – Create objectionable odors affecting a substantial number of people:

The *CEQA Guidelines* indicate that a significant impact would occur if a project would create objectionable odors affecting a substantial number of people. 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. Because offensive odors rarely cause any physical harm and no requirements for their control are included in State or federal air quality regulations, the SJVAPCD has no rules or standards related to odor emissions, other than its nuisance rule.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine the presence of a significant odor impact. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The proposed Project is not one of the common facilities that have been known to produce odors listed in the GAMAQI. However, the SJVAPCD suggests that evaluation of facilities not included in their list of common facilities may be warranted by local conditions or special circumstances, and recommends that "odor analyses strive to fully disclose all pertinent information." (GAMAQI) Such unlisted facilities could logically include a truck stop with a significant quantity of diesel traffic, numerous fueling stations, and fast food restaurants which occasionally have charbroiling emissions. But, the proposed Project is designed to provide an approximate 500-foot buffer between the Project and the nearest residence, and any odors are not expected to reach nearby sensitive receptors because of this distance.

The GAMAQI also suggests contacting the SJVAPCD for information regarding specific facilities and associated complaint records. A review of the complaints database in the

SJVAPCD Northern Office revealed[2] that no complaints were filed related to the Love's Travel Center in Ripon. This was considered to be a comparable project, as there are sensitive receptors in the form of single-family residences located north of that project, and east of this proposed Project site. The Ripon travel center was selected as representative of the air emissions due to the similar types of activities at this site, including similar odor types. However, it should be noted that there will be an approximately 500-foot buffer between the proposed Project and the nearest residence. Therefore, the proposed Project would not result in a significant odor impact.

Conclusion: The proposed Project would not create objectionable odors affecting a substantial number of people. Therefore, impacts would be ***less than significant.***

Mitigation Measures: No mitigation measures are necessary.

[2] Personal communication. San Joaquin Valley Air Pollution Control District. April 21, 2015.

3.4 Biological Resources

This section provides an evaluation of the potential impacts to biological resources that would result from Project implementation. An overview of the regulatory framework of applicable laws, ordinances, and other regulations that protect biological resources is presented. The affected environment, including a site-specific overview of local vegetation, flora, sensitive plant communities, wetlands, wildlife, and special-status species is discussed. An analysis of impacts is provided, along with recommended mitigation measures when warranted.

Quad Knopf biologists initially completed a database search for historical records of special-status species and sensitive habitats occurring on the Project site. On-site reconnaissance-level surveys of the Project site were conducted by a Quad Knopf on February 4 and 5 and March 25, 2015. The surveys consisted of completing pedestrian transects throughout the Project site and its vicinity to map habitats, complete a species inventory, and evaluate the potential for special-status species to occur. General tasks completed during these efforts included:

- Characterizing vegetation associations and habitat conditions present on the Project site;
- Inventorying plant and wildlife species, including conducting a raptor survey on and near the Project site;
- Assessing the potential for special-status species to occur on and near the Project site; and
- Identifying potential wetlands and waters of the U.S. occurring on the Project site and delineating those features with a Trimble GeoXH global positioning system (GPS).

Quad Knopf biologists conducted a visual pedestrian survey of the Project site, sewer line corridor, and water line corridor on April 20, 2015 to locate burrow complexes and other small mammal sign. Quad Knopf biologists conducted small mammal trapping at 11 locations (trap stations) within the Project site between April 20 and 24, 2015. The trapping locations corresponded to specific areas where small mammal burrows were found during the reconnaissance survey conducted on April 20, 2015. A total of 41 traps were set at the 11 locations for four consecutive nights, resulting in a total of 164 trap-nights of effort. A fifth night of trapping was planned, as is required by the trapping protocols (USFWS 2013), but a greater than 40 percent prediction of rain and vandalism of 23 traps occurred on the night of April 23, 2015, precluding the final night of trapping.

3.4.1 ENVIRONMENTAL SETTING

Geography and Land Use

The Project site is located in the Central California Valley ecoregion (U.S. EPA Western Ecology Division 2013). This ecoregion is characterized by flat, intensively farmed plains, fertile soils with long, hot dry summers and mild winters. It includes the flat valley basins of deep sediments adjacent to the two main rivers in the valley, the Sacramento and San Joaquin Rivers, and fans and terraces around the edge of the valley. The Central California Valley ecoregion is

one of the most important agricultural regions in the country. The ecoregion historically contained extensive prairies, oak savannas, desert shrublands and grasslands in the south, riparian woodlands, freshwater marshes, and vernal pools. More than half of the region is now in cropland, about three fourths of which is irrigated (U.S. EPA Western Ecology Division 2013).

The Project site is relatively flat, but several large mounds of dirt, a berm, and two disused ponding basins provide minor topographic relief near its central polygonal portion. The polygonal portion of the Project site is bounded by a chain-link fence and is currently fallow, but indications of past development that are present include two small storage buildings, two above ground storage tanks, concrete headwalls, chain-link and wooden fencing, reinforced concrete pipes, and metal pipes of various sizes. The remnants of a previously-extensive gravel and asphalt substrate, as well as several unimproved dirt and gravel roads, are prevalent throughout this portion of the Project site. The north linear portion of the Project site (i.e. proposed sewer line) is also fallow. The southern linear portion of the Project site (i.e. proposed water line) is disturbed by both agricultural and residential land uses. During the time of the field survey in April 2015, large amounts of construction debris, refuse, fill dirt, storage containers, and wood were located at the site.

The central polygonal portion of the Project site is bounded by Avenue 17 to the north, the Southern Pacific Railroad to the west, residential development to the east, and agricultural development to the south. The northern linear portion of the Project site is bounded to the west by the Southern Pacific Railroad and to the east by fallow land. The southern linear portion of the Project site is bounded to the west by the Southern Pacific Railroad and to the east by agricultural and residential developments.

Climate and Soils

Climate of the SJVAB is classified as "inland Mediterranean." During the summer average temperatures in the basin are around 95º Fahrenheit (F), with highs exceeding 100º F. The summers are characterized as hot and dry. Winter temperatures can fluctuate between 35º F to 55º F. Average temperatures in January are about 44º F. At times the valley floor drops below freezing.

Annual precipitation in the SJVAB averages around 10 inches, with approximately 90 percent occurring between November and April. Most of the rainfall occurs in northern and eastern parts of the SJVAB. The weather pattern is controlled by the "Pacific High" which consists of a semi-permanent subtropical high-pressure belt (2003).

There is relatively little soil type diversity on the Project site; only four soil types occur. These soils include Atwater loamy sand and Cometa, Hanford, and San Joaquin sandy loams (Figure 3.2-1). A description of the soil types and classifications is provided in Section 3.2 of this EIR.

Biological Resources

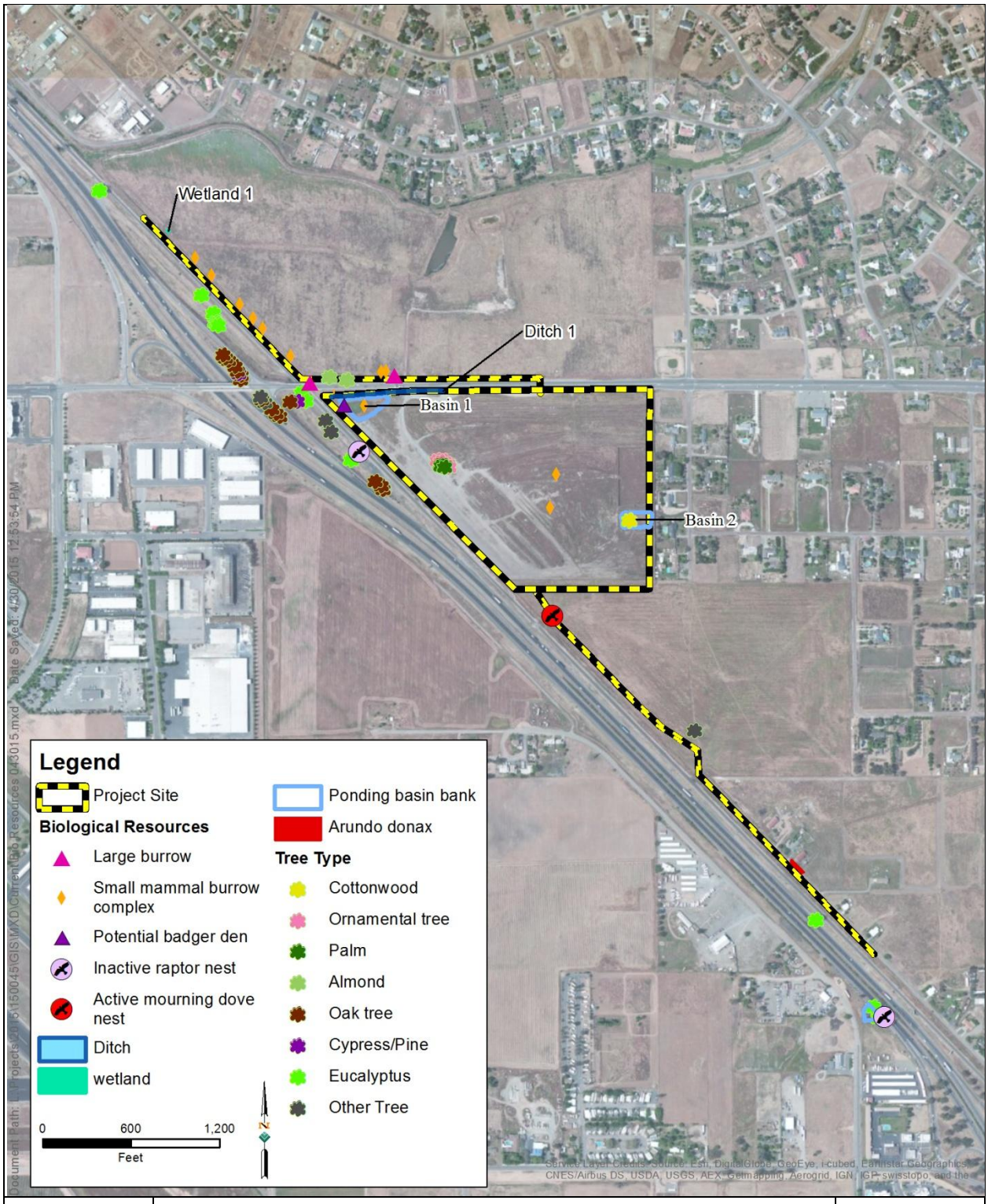
NATURAL COMMUNITIES AND PLANT SPECIES

Vegetation on the Project site primarily consists of non-native annual grassland (Holland Code 42200, Holland, 1986) and ruderal species. The dominant vegetation on the Project site includes red-stem filaree (*Erodium cicutarium*), common fiddleneck (*Amsinckia intermedia*), brome (*Bromus* sp.), and mustard (*Brassica* sp.). Other herbs and forbs that are present include common rye (*Lolium multiflorum*), red maids (*Calandrinia ciliate*), knapweed (*Centaurea* sp.), thistle (*Cirsium* sp.), cryptantha (*Cryptantha* sp.), radish (*Raphanus sativus*), wild mustard (*Hirschfeldia incana*), common sunflower (*Helianthus annuus*), and lambsquarters (*Chenopodium* sp.). Tall flatsedge (*Cyperus eragrostis*) and curly dock (*Rumex crispus*) occur sparsely within one roadside ditch on the Project site. Two desert fan palms (*Washingtonia filifera*), one Fremont's cottonwood (*Populus fremontii*), one almond (*Prunus dulcis*), and three ornamentals occur on the Project site. Other tree species including ornamentals, conifers (*Pinus* sp.) and eucalyptus (*Eucalyptus* sp.) occur outside the Project site in nearby residential areas. A small (approximately 25 square feet) isolated freshwater emergent wetland that supports common cattail (*Typha latifolia*) is located near the northern linear portion of the Project site (Figure 3.4-1). That wetland area appears to be the result of a leaking underground water pipe.

WILDLIFE SPECIES

The richness and abundance of wildlife populations that occur in an area are generally driven by the richness and abundance of the plant communities that are present. Wildlife activity observed on the Project site was very minimal, which is likely reflective of the highly disturbed plant communities present. A total of four avian species and four mammal species were observed on the Project site. These species included the red-tailed hawk (*Buteo jamaicensis*), American kestrel *(Falco sparverius*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), cottontail rabbit (*Sylvilagus* sp.), California ground squirrel (*Spermophilus beecheyi*), pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*). The California ground squirrel was by far the most abundant of all species encountered.

Diagnostic signs of several other wildlife species were observed on and adjacent to the Project site. One den that exhibited signs of American badger (*Taxidea taxus*) and domestic dog (*Canis lupus familiaris*) at its entrance was located in the northwest portion of the Project site, along the perimeter of Ponding Basin 1. California ground squirrel burrows were abundant on the Project site, predominantly along fence lines and dirt berms and mounds. Signs of smaller mammal species such as burrows, footprints, dust baths, and runways, were identified at 11 locations on the Project site. One inactive raptor nest was located in a eucalyptus tree approximately 100 feet west of the Project site beyond the Southern Pacific Railroad. A second inactive raptor nest was located in a eucalyptus tree approximately 430 feet southwest of the southern linear portion of the Project site (Figure 3.4-1).



Quad Knopf	Biological Resources	Figure 3.4 - 1

WETLANDS AND WATERS

Ditch 1 is located along the north perimeter of the Project site. This roadside stormwater ditch extends approximately 775 linear feet along the Project site perimeter and encompasses approximately 0.03 acre within its Ordinary High Water Mark (OHWM). Wetland 1 is located approximately 50 feet east of the northern linear portion of the Project site. This small isolated wetland encompasses approximately 25 square feet, and supports emergent wetland vegetation including common cattail. Its hydrology is artificially derived from a leaking water pipe. Two disused stormwater ponding basins occur on the Project site. Ponding Basin 1 is located in the northwest portion of the Project site, and Ponding Basin 2 is located in the southeast portion of the Project site. Ponding Basin 1 and Ponding Basin 2 encompass approximately 0.37 acre and 0.16 acre, respectively, within their banks. Neither basin has an OHWM, indicating that they do not support surface waters. One Fremont's cottonwood sapling and one almond tree are located in Basin 2 (Figure 3.4-1).

National Wetlands Inventory (NWI) Features or USGS Blue-line Drainages

The National Wetlands Inventory (NWI) is a digital mapping database established by the USFWS to provide geospatial information on historically known wetland occurrences. The NWI generally relies upon aerial imagery rather than upon ground truth data, and only approximately 1% of its database is updated annually. Although it serves as a useful reference source for wetland distribution, its results should always be verified through field surveys to identify land use conversions and confirm wetland presence or absence. No National Wetlands Inventory (NWI) features are located on the Project site. The nearest NWI feature is located approximately 0.1 mile north of the Project site. This feature is classified as a Freshwater Emergent Wetland (PEMCx).

Many waters appear as broken or solid blue lines on USGS topographic maps. These "blue-line" drainages correspond to historically known occurrences of intermittent or permanent streams. As with the NWI, USGS topographic maps should be verified in the field to verify that they accurately reflect current conditions. No USGS blue-line drainages are located on the Project site. The nearest USGS blue-line drainage is Schmidt Creek, which is located approximately 0.1 mile north of the Project site (Figure 3.4-2).

SPECIAL-STATUS SPECIES

No USFWS-designated Critical Habitat Units occur on the Project site, but five Critical Habitat Units are located within 10 miles of the Project site (Figure 3.4-3). The federally-listed species associated with these Critical Habitat Units include the Green's tuctoria (*Tuctoria greenei*), San Joaquin orcutt grass (*Orcuttia inaequalis*), succulent owl's clover (*Castilleja campestris* ssp. *succulent*), hairy orcutt grass (*Orcuttia pilosa*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The nearest Critical Habitat Unit is SJVAL 3A, which is designated for the San Joaquin orcutt grass. This unit is located approximately 4.7 miles northeast of the Project site.

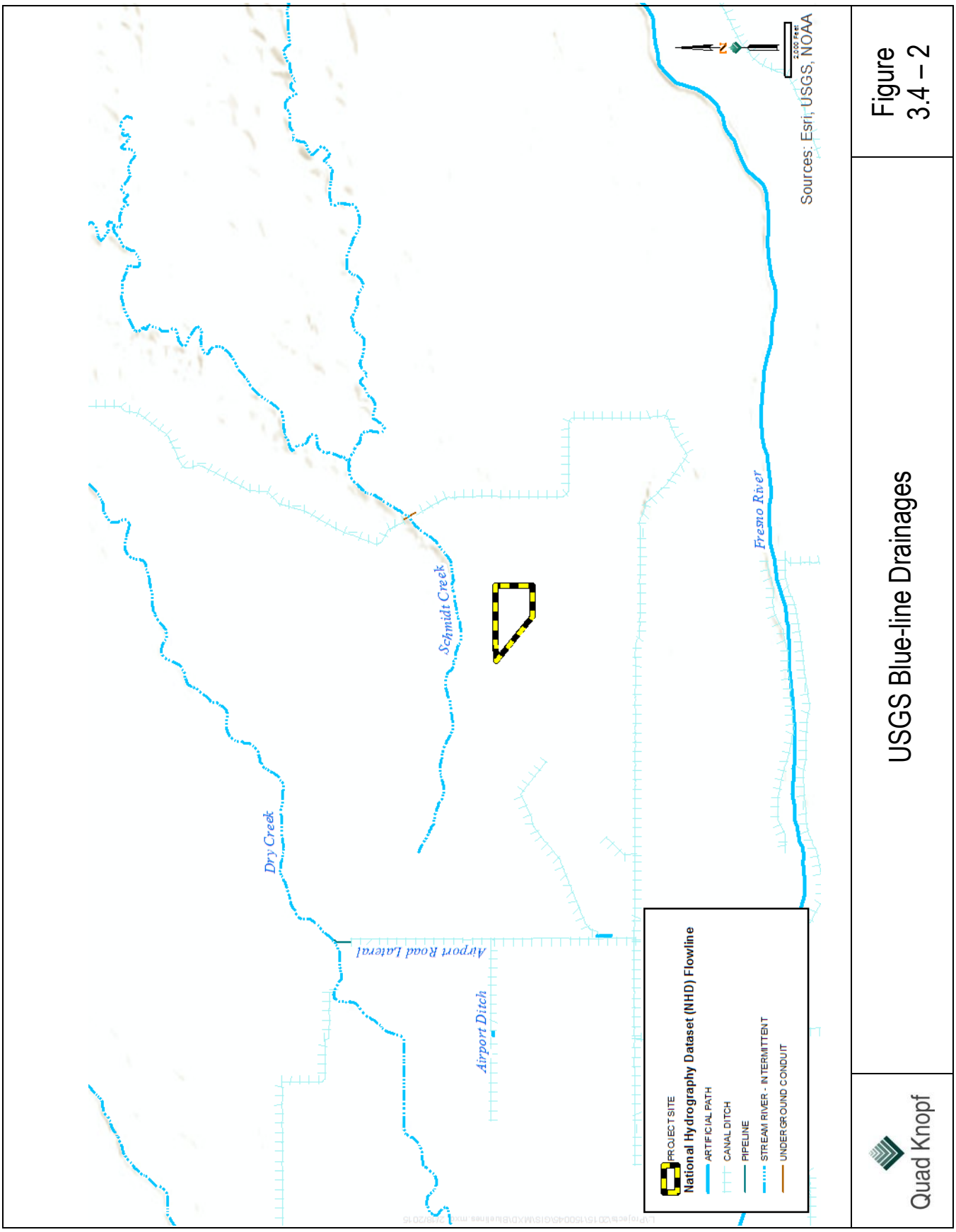
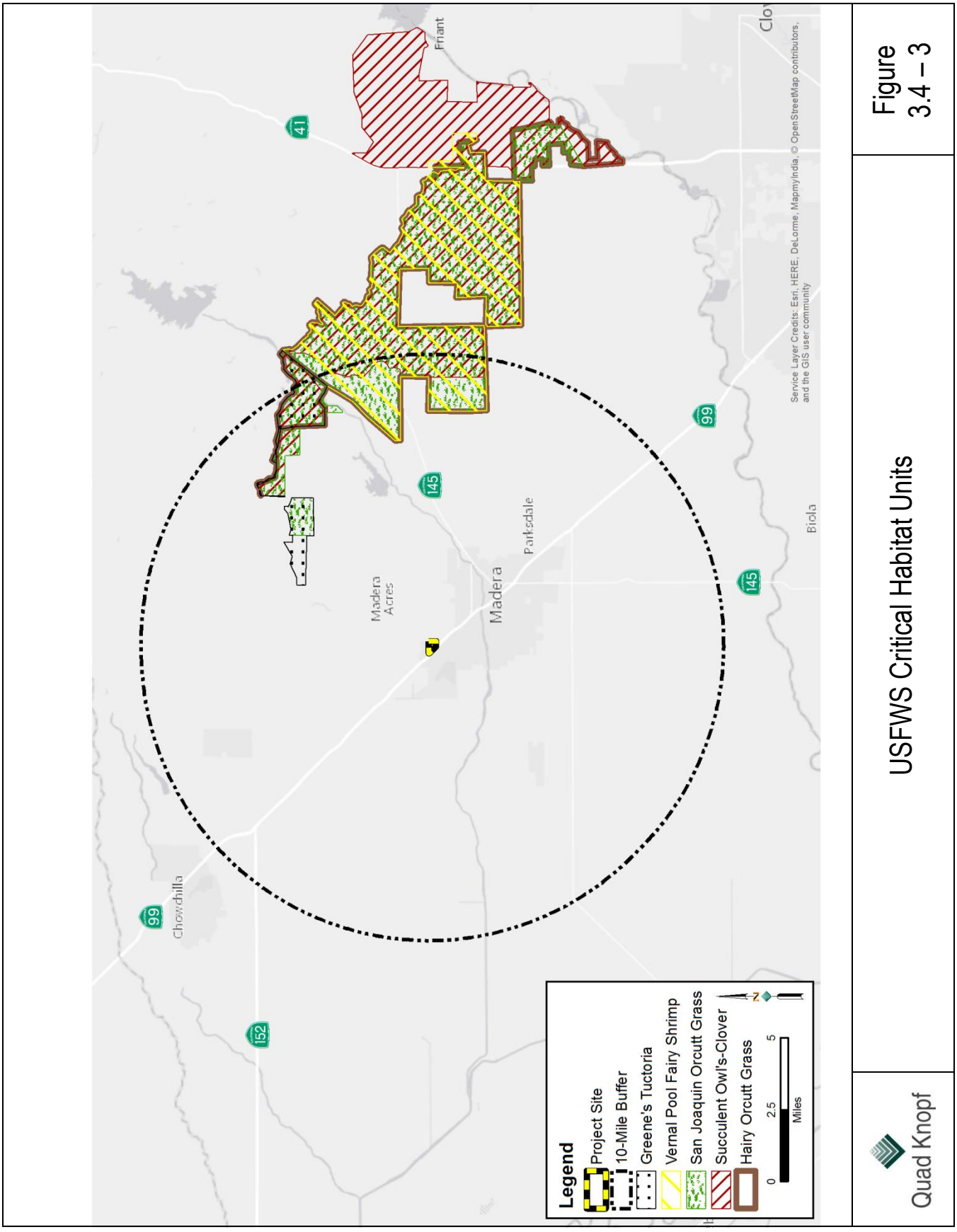


Figure
3.4 – 2
USGS Blue-line Drainages
Quad Knopf
Sources: Esri, USGS, NOAA
2000 Feet
N
Fresno River
Schmidt Creek
Dry Creek
Airport Road Lateral
Airport Ditch
PROJECT SITE
National Hydrography Dataset (NHD) Flowline
ARTIFICIAL PATH
CANAL DITCH
PIPELINE
STREAM RIVER - INTERMITTENT
UNDERGROUND CONDUIT


Friant
Madera Acres
Madera
Parksdale
Biola
Chowchilla
41
99
145
152
Service Layer Credits: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Legend
Project Site
10-Mile Buffer
Greene's Tuctoria
Vernal Pool Fairy Shrimp
San Joaquin Orcutt Grass
Succulent Owl's-Clover
Hairy Orcutt Grass
0
2.5
5
Miles
N
USFWS Critical Habitat Units
Quad Knopf
Figure 3.4 – 3

A query of the California Natural Diversity Database (CNDDB) (February 2015), California Native Plant Society (CNPS) database (February 2015), and USFWS Threatened and Endangered Species List (February 2015a) was conducted to assess whether occurrences of special-status species have been documented within the Madera 7.5-minute topographical U.S. Geological Survey (USGS) quadrangle, which encompasses the Project site, or within the surrounding eight 7.5-minute USGS quadrangles. The surrounding eight USGS quadrangles include the Biola, Daulton, Berenda, Kismet, Herndon, Gregg, Bonita Ranch, and Gravelly Ford quadrangles. The CNDDB was also queried for records within 10 miles of the Project site to satisfy California Department of Fish and Wildlife (CDFW) recommendations. The CNDDB provides element-specific spatial information on individual documented occurrences of special-status species and sensitive natural communities. Wildlife species designated as "Fully Protected" by the California Fish and Game Code Sections 5050 (Fully Protected reptiles and amphibians), 3511 (Fully Protected birds), 5515 (Fully Protected Fish), and 4700 (Fully Protected mammals) were included in the final list. The CNPS database provides similar information, but at a much lower spatial resolution, for additional sensitive plant species tracked by the CNPS. The U.S. Fish and Wildlife Service (USFWS) query generates a list of federally protected species known to potentially occur within individual USGS quadrangles.

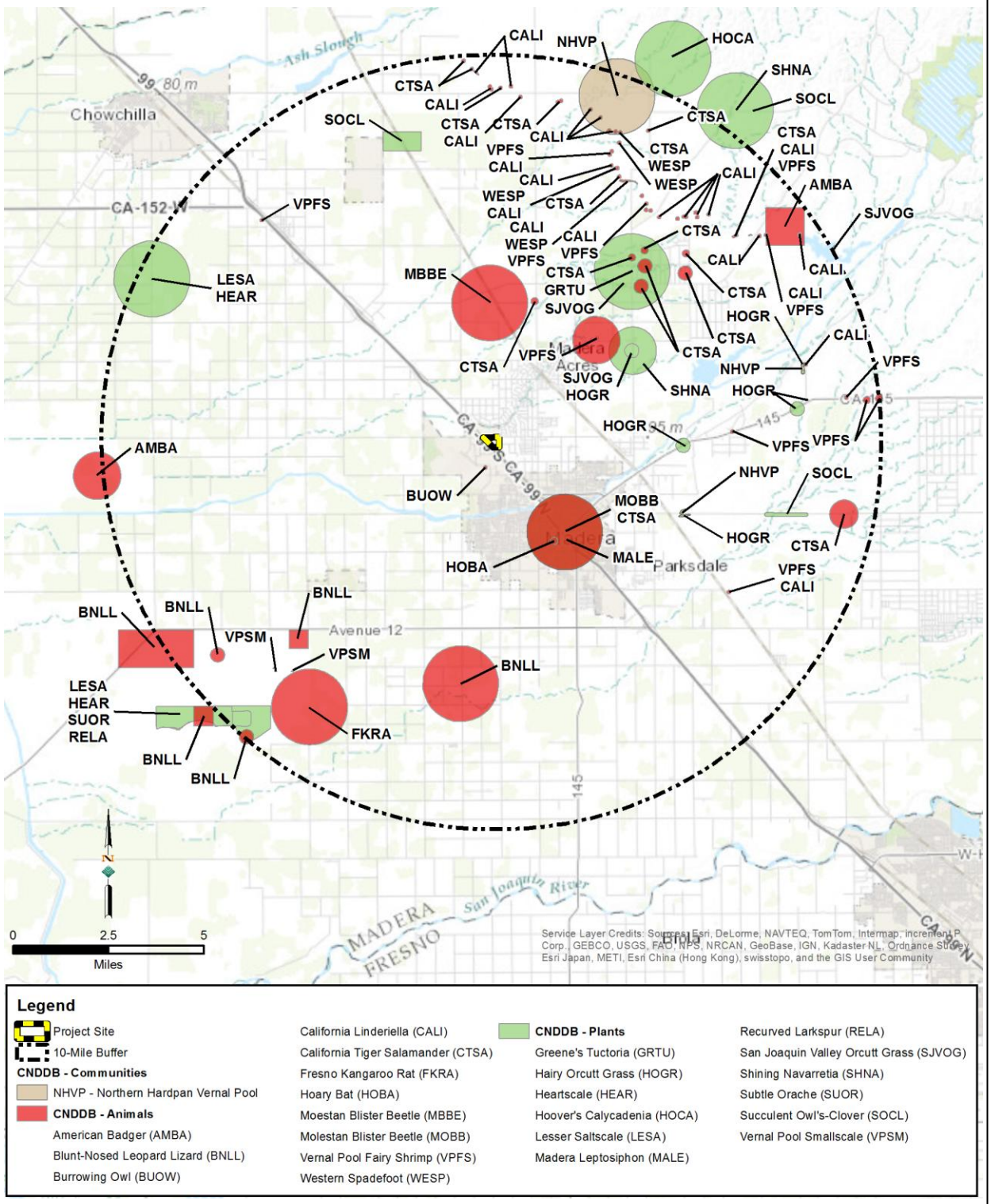
The cumulative database search listed historical occurrences of two sensitive natural communities, 13 special-status plant species, and 26 special-status wildlife species within the search radius queried (Appendix D). There are no historical records of sensitive natural communities or special-status species occurring on the Project site. The nearest CNDDB record was of the burrowing owl (*Athene cunicularia*) located approximately 0.53 miles south of the Project site. Other nearby CNDDB records included the California tiger salamander (*Ambystoma californiense*), hoary bat (*Lasiurus cinereus*), molestan blister beetle (*Lytta molesta*), and Madera leptosiphon (*Leptosiphon serrulatus*) located approximately 1.9 miles southeast of the Project site (Figure 3.4-4). Some of these special-status species, as well as other sensitive species, have the potential to occur on or adjacent to the Project site as described below.

Burrowing Owl

There are no known historical records of the burrowing owl occurring on the Project site, but there is one historical record occurring within 10 miles of the Project site (Figure 3.4-4). Burrowing owls typically utilize a variety of arid and semi-arid environments with well-drained, level to gently sloping areas characterized by grassland or fallow land with a sparse herbaceous layer and friable soils. Because the Project site supports fallow non-native annual grassland habitat with numerous small mammal burrows, the burrowing owl could potentially breed or winter there. No burrowing owls were observed on the Project site during the surveys, but the potential exists for them to become present prior to Project development.

Swainson's Hawk

There are no known historical records of the Swainson's hawk occurring on the Project site or within 10 miles of the Project site (Figure 3.4-4). The Swainson's hawk generally breeds within riparian forests and other forested areas. It roosts in a variety of trees and forages widely over forests, grasslands, and shrublands.



Quad Knopf

CNDDB Records

Figure 3.4 - 4

It is easily disturbed by human activities, but is known to forage in agricultural fields and nest in trees adjacent to busy highways. Trees on the Project site are likely too immature to support raptor nests, but one inactive raptor nest was observed in a tree adjacent to the Project site (Figure 3.4-1). The Swainson's hawk could potentially nest in trees adjacent to the Project site or within 0.5 miles of the Project site.

If Swainson's hawks nest within 10 miles of the Project site, they could potentially forage on the site. This species historically foraged for small mammals and insects in natural habitats such as grasslands, woodlands, and riparian corridors, but it has begun to adapt to some anthropogenic land use conversions. The Swainson's hawk is known to forage in agricultural developments that include alfalfa fields, fallow fields, row crops, dry-land and irrigated pastures, rice lands, and cereal grain crops. The Project site has non-native ruderal vegetation that supports potential prey for the Swainson's hawk, including insects and small mammals. The California ground squirrel, a common prey item for the Swainson's hawk, is particularly abundant around the perimeter of the Project site.

White-tailed Kite

There are no known historical records of the white-tailed kite occurring on the Project site or within 10 miles of the Project site (Figure 3.4-4). This raptor species uses scattered trees for breeding, and open woodlands, open grasslands, cultivated fields, and marshes for foraging. White-tailed kites have been reported to use a variety of trees that are of moderate height, such as eucalyptus, cottonwood, toyon (*Heteromeles arbutifolia*), and some coyote brush (*Baccharis* sp.). It forages primarily in open areas for rodents. Although no white-tailed kites were observed during the surveys of the Project site, this species could potentially nest in the trees on or adjacent to the Project site.

Raptors and Other Migratory Birds

Various species of migratory birds and raptors, which are protected by the Migratory Bird Treaty Act and various provisions of the California Fish and Game Code, have the potential to nest on the Project site. These species would generally be restricted to ground-nesting birds such as the northern harrier (*Circus cyaneus*), western meadowlark (*Sturnella neglecta*), and mourning dove (*Zenaida macroura*), but raptors and migratory birds could also nest in the trees located on and adjacent to the Project site. One inactive raptor nest was located approximately 100 feet west of the central polygonal portion of the Project site, and a second inactive raptor nest was located approximately 430 feet southwest of the southern linear portion of the Project site. One active mourning dove nest was located within the herbaceous ground layer on the southern linear portion of the Project site (Figure 3.4-1).

American Badger

There are no known historical records of the American badger occurring on the Project site, but there are two historical records occurring within 10 miles of the Project site (Figure 3.4-4). The American badger is known to occur in low densities scattered throughout the San Joaquin

Valley. It is most abundant in drier, open stages of shrub, forest, and herbaceous habitats with friable soils (CDFW 1990). This species is primarily nocturnal, remaining underground during the daylight hours and foraging for prey at night. One den with diagnostic signs (i.e., horizontal scratch marks in the den entrance) was observed on the northwest portion of the Project site near Ponding Basin 1 (Figure 3.4-1). Claw marks attributed to the domestic dog were also present along the upper portion of the den entrance. The den was not determined to be actively used by the American badger. Due to the mobility of this species and its preferred foraging habitat, it could potentially modify burrows on the Project site for occupancy or occur on the Project site as an occasional transient or forager.

San Joaquin Kit Fox

There are no known historical records of the San Joaquin kit fox occurring on the Project site or within 10 miles of the Project site (Figure 3.4-4). The San Joaquin kit fox lives in annual grasslands or grassy open stages of vegetation dominated by scattered brush, shrubs, and scrub in arid regions in the southern half of California (CDFW 1990). This species is primarily nocturnal, and uses dens that have been excavated in loose soil. Man-made structures such as culverts and pipes may also be utilized as dens. San Joaquin kit foxes are known to utilize agricultural fields for foraging. A red fox, known as a competitor and predator of the San Joaquin kit fox, was observed several years ago on the parcel north of the Project site, to the north of Avenue 17 and to the east of where the water line is located. No San Joaquin kit foxes or sign of San Joaquin kit foxes (e.g., dens, tracks, scat, characteristic scratch marks) were observed on the Project site. Due to the mobility of this species and its preferred foraging habitat, it could potentially modify burrows on the Project site for occupancy or occur on the Project site as an occasional transient or forager.

3.4.2 REGULATORY SETTING

Federal

FEDERAL ENDANGERED SPECIES ACT

The Federal Endangered Species Act (FESA) protects threatened and endangered species from "*take*" unless the taking is incidental to an otherwise lawful activity and unless a permit is acquired through the United States Fish and Wildlife Service (USFWS) or the National Oceanographic Administration Agency (NOAA). Permits for *take* are issued pursuant to Section 7 of FESA (for a federal action) or Section 10 of the FESA (for a non-federal action). FESA 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." *Take* is defined as "the killing, capturing, trapping, or harassing of a species." 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

The Migratory Bird Treaty Act (MBTA) is an international treaty among the United States, Canada, Mexico, Japan, and Russia for the conservation and management of bird species that may migrate through more than one country. The MBTA (50 CFR Section 10) is enforced in the United States by the USFWS and covers 972 bird species. According to the provisions of the MBTA, it is unlawful to pursue, hunt, take, capture, or kill or attempt to do the same to any species covered by the MBTA, including their nests, eggs, or young. Any disturbance that causes nest abandonment or loss of reproductive effort is considered take and is potentially punishable by fines or imprisonment. Birds covered under this act include all waterfowl, shorebirds, gulls, wading birds, raptors, owls, hummingbirds, warblers, flycatchers, and most perching bird species.

CLEAN WATER ACT – SECTION 404

The goal of Section 404 of the Clean Water Act (CWA) of 1972 is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation's waters. Under Section 404 of the Clean Water Act, the U.S. Environmental Protection Agency (USEPA) has authority for the implementation of CWA, but the U.S. Army Corps of Engineers (USACE) regulates discharges of dredged and fill materials into "waters of the United States" (jurisdictional waters) with guidance from the USEPA. Waters of the U.S. include a wide variety of types including waters used for interstate commerce and tributaries to those waters, intrastate lakes, rivers, streams, sandflats, mudflats, playa lakes, sloughs, wet meadows, wetlands, natural ponds, and wetlands adjacent to any waters of the U.S. (33 CFR Part 328, Section 328.3). Impacts to jurisdictional waters, including wetlands (a special category of waters of the U.S.), require a permit from USACE and typically require mitigation. Impacts to wetlands often require "in kind" compensation to ensure no net loss of wetland function and value.

CLEAN WATER ACT – SECTION 401

Under Section 401 of the CWA, applicants for federal permits for activities that could results in discharges to water bodies must also obtain a State Water Quality Certification (WQC). The local Regional Water Quality Control Board (RWQCB) has jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA, and also regulates water quality for all waters of the State. State waters outside federal jurisdiction include isolated wetlands as defined under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 *et seq*.). A Waste Discharge Permit (WDP) may be required to comply with the Porter-Cologne Water Quality Control Act even if the CWA would not apply. To obtain a WQC or WDP, the applicant must demonstrate that the proposed discharge would be consistent with the standards set forth by the State.

State

FISH AND GAME CODE SECTIONS 2050-2097 - CALIFORNIA ENDANGERED SPECIES ACT

Section 2080 of the California Endangered Species Act (CESA) prohibits the "*take*" of any State-listed threatened and endangered species. CESA defines *take* as "any action or attempt to hunt, pursue, catch, capture, or kill any listed species." If the proposed Project results in a *take* of a listed species, a permit pursuant to Section 2081(b) of CESA is required from CDFW.

FISH AND GAME CODE SECTIONS 3511, 4700, 5050, 5515 - CALIFORNIA FULLY PROTECTED SPECIES

Sections 3511, 4700, 5050, and 5515 of Fish and Game Code prohibit the "*take*" of any fully protected bird, mammal, reptile and amphibian, or fish species, respectively. Except as provided in Sections 2081.7 or 2835, fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the species for the protection of livestock.

FISH AND GAME CODE SECTIONS 1900-1913 - CALIFORNIA NATIVE PLANT PROTECTION ACT

The California Native Plant Protection Act (CNPPA) protects endangered and rare species, subspecies, and varieties of wild plants native to California. A "native plant" is defined as a plant growing in a wild, uncultivated state normally found native to the vegetation of California. The CNPPA affords the California Fish and Game Commission the authority to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.

PUBLIC RESOURCES CODE SECTION 15380 - CALIFORNIA ENVIRONMENTAL QUALITY ACT

It is the policy of the CEQA to regulate Projects to prevent significant environmental impacts. The typical mechanism to ensure environmental protection is the preparation and public review of an EIR, which is used to disclose potential environmental impacts and information relevant to the Project. Various responsible and trustee agencies and the public provide review, comments, and input into the final document.

Under Appendix G of the CEQA guidelines, significant impacts to sensitive natural communities or species identified as candidate, sensitive, or special-status by local or regional plans, policies, or regulations, or by the USFWS or CDFW, must be fully considered. Special-status species including plants designated by the CNPS as California Rare Plant Rank 1A, 1B, 2A, and 2B meet the definition of Rare or Endangered under CEQA Guidelines §15125; (c) and/or §15380. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA. Avoidance and minimization measures and/or mitigation must be implemented where feasible to reduce impacts to a less-than-significant level.

FISH AND GAME CODE SECTIONS 3503, 3503.5, 3800 – BIRDS OF PREY

Under the California Fish and Game Code (Section 3503.5), all birds of prey (orders *Falconiformes* and *Strigiformes*) are protected. The code states that it is unlawful to take, possess, or destroy the nest or eggs of any such bird except 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.

FISH AND GAME CODE SECTIONS 1600-1607 – LAKE OR STREAMBED ALTERATION

The CDFW is authorized under State Fish and Game Code Sections 1600-1607 to develop mitigation measures and enter into Lake or Streambed Alteration Agreements with applicants (both public and private) that propose a project that would divert or obstruct the natural flow of or change the bed, channel, or bank of any lake or stream in which there is a fish or wildlife resource. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.

Local

CITY OF MADERA GENERAL PLAN

Pursuant to California Code Title 14, Section 65300, the City of Madera General Plan (City of Madera 2009) addresses biological resources in its Conservation Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. The City of Madera General Plan sets forth the following goals and policies relevant to biological resources:

CON-24.1: Developments in areas that contain wetlands will be restricted or modified. Such projects will be modified to avoid or mitigate impacts by providing on-site or off-site replacement.

CON-26.1: A biological resource evaluation will be required for projects that occur in areas that contain or potentially contain special-status plant and/or wildlife species.

CON-26.2: Feasible mitigation will be required for projects with impacts that actually or potentially contribute to the decline and/or viability of a special-status species. Mitigation shall be determined by the City after the USFWS and the CDFW are provided an opportunity to comment.

CON-31.1: The City of Madera will develop and adopt a tree ordinance that protects existing trees in the public right of way and promotes the establishment of new tree resources in public areas, including the placement of trees in parkway strips to allow shading of streets.

3.4.3 IMPACT EVALUATION CRITERIA

Analysis Methodology

During the Notice of Preparation review period, no comments were received regarding potential impacts to biological resources. Potential impacts to biological resources were determined by analyzing the change(s) to the existing setting, as described above, and associated disturbances to biological resources as they relate to the current environmental regulatory framework. Potential impacts were assessed with reference to sensitive biological resources of concern, which included:

- Each potentially affected special-status species, considered individually;
- Each potentially affected plant community;
- Each potentially affected water, wetland, or riparian resource; and
- Breeding migratory birds.

Thresholds of Significance

Significance thresholds are based upon Appendix G of the State CEQA Guidelines and on section 15065 of the *CEQA Guidelines.* Using these sources, the Project would have a significant impact on biological resources if it would:

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

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

c) 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;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

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

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;

g) substantially reduce the habitat of a fish or wildlife species;

h) cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal; or community; or

i) substantially reduce the number or restrict the range of an endangered, rare or threatened species.

3.4.4 IMPACTS AND MITIGATION MEASURES

Impact #3.4-1 – 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:

Some special-status species could potentially be present on the Project site and be impacted by the Project. Each species is discussed below and appropriate measures to reduce impacts to below significant levels are provided where appropriate. With implementation of appropriate mitigation measures, Project activities will not contribute to significant impacts to special-status species.

Special-status Plant Species

No special-status plant species were observed on the Project site during the reconnaissance-level survey. The Project site does not contain habitat that would support special-status plant species. The Project site is heavily disturbed, much of it with a modified substrate of gravel or asphalt, and primarily supports non-native grasses and ruderal vegetation. ***No impacts*** to special-status plant species would occur.

Special-status Wildlife Species

No special-status wildlife species were observed on the Project site during the reconnaissance-level survey, but some special-status species could occur on the Project site. Ground-nesting migratory birds could nest in herbaceous ground cover on the Project site. The Swainson's hawk and white-tailed kite could nest in the trees adjacent to the Project site. The burrowing owl, San Joaquin kit fox, and American badger could potentially modify and occupy burrows on the Project site or transiently forage on the Project site.

A preliminary search of existing biological data and a reconnaissance-level site evaluation that was conducted on February 4th and 5th, 2015 revealed that there was the potential for the State- and federally- listed endangered Fresno kangaroo rat (*Dipodomys nitratoides exilis*) to occur on the Project site. There are no known extant populations of the Fresno kangaroo rat, but the Project site is within the historical range of this species and at least three historical occurrences of this species have been documented within 10 miles of the Project site (CNDDB 2015). Diagnostic signs of small mammal, including small mammal burrows, footprints, dust baths, and runways, were found on the Project site during the site evaluation. Although none of these signs

could be positively identified as belonging to kangaroo rats, there was a potential for kangaroo rats to occur on the Project site. Verification trapping was deemed to be appropriate to evaluate the potential of the Project to impact the Fresno kangaroo rat.

A visual pedestrian survey of the Project site, sewer line corridor, and water line corridor was conducted on April 20th, 2015 to locate burrow complexes and other small mammal sign. Small mammal trapping was then conducted at 11 locations (trap stations) on the Project site during the week of April 20th through 24th, 2015. The trapping locations corresponded to those specific areas where small mammal burrows were found during the initial pedestrian survey.

There were no Fresno kangaroo rats captured during the trapping effort. Only a single small mammal species was captured, the deer mouse (*Peromyscus maniculatus*). Four individual deer mice were captured a total of seven times.

The Project site once was used as a storage area for heavy equipment, and was maintained free of vegetation and its surface was covered with asphalt, gravel, and decomposed granite. Although the site shows substantial recovery of vegetation, soil conditions are such that small mammals are just now beginning to invade. No diagnostic signs of kangaroo rats were observed on the Project site or on the associated water and sewer lines, and no kangaroo rats were captured. The Project site including the water and sewer lines appeared to have adequate forage to support kangaroo rats, but extensive past disturbances to these areas have likely eradicated them from the area. There are no known populations nearby that would provide opportunities for the site to become re-invaded by the Fresno kangaroo rat. Because the Fresno kangaroo rat was determined to not occupy the Project site, there would be no Project impacts to the species.

The report describing the results of the small mammal trapping is contained in Appendix E.

Conclusion: Unless mitigated, Project-related impacts to special-status wildlife species will be ***potentially significant.***

Mitigation Measure #3.4-1a: The following measures shall be implemented to reduce potential impacts to burrowing owl: Standard measures for the protection of burrowing owls provided in the CDFW's *Staff Report on Burrowing Owl Mitigation* (2012) shall be implemented except where determined to be unnecessary by the City after consultation with a qualified biologist. Active burrows should be avoided, compensation should be provided for the displacement of burrowing owls, and habitat acquisition and the creation of artificial dens for any burrowing owls removed from construction areas should be provided. These measures are generally outlined as follows:

1. Pre-construction surveys for western burrowing owls shall be conducted. Pre-construction surveys of construction areas, including a 150-meter buffer, should be conducted no less than 14 days and no more than 30 days prior to ground disturbing activities. If more than 30 days lapse between the time of the preconstruction survey and the start of ground-disturbing activities, another preconstruction survey shall be completed, including but not limited to a final survey conducted within 24 hours prior to ground disturbance.

2. If western burrowing owls are present on the construction site (or within 150 meters of the construction site), exclusion fencing shall be installed between the nest site or active burrow and any earth-moving activity or other disturbance. *The California Burrowing Owl Consortium's Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993) recommends that exclusion areas extend 160 feet around occupied burrows during the non-breeding season (September 1 through January 31) and extend 250 feet around occupied burrows during the breeding season (February 1 through August 31). This 250-foot buffer could be removed once it is determined by a qualified biologist that the young have fledged. Typically, the young fledge by August 31st. This date may be earlier than August 31st, or later, and would have to be determined by a qualified biologist.

3. If western burrowing owls are present in the non-breeding season (September 1 through January 31) and must be passively relocated from the Project site, passive relocation shall not commence until October 1st and must be completed by February 1st. Passive relocation may only be conducted by a qualified biologist or ornithologist and with approval by CDFW. After passive relocation, the area where owls occurred and its immediate vicinity will be monitored by a qualified biologist daily for one week and once per week for an additional two weeks to document that owls are not reoccupying the site.

4. If western burrowing owls are documented on the Project site and require relocation, compensation for the loss of foraging and burrowing owl habitat shall be required and follow the CDFW's Staff Report on Burrowing Owl Mitigation (2012) and the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (1993). The size of the mitigation site shall be based upon the number of owls or pairs of owls located on the construction area during pre-construction surveys. Compensatory mitigation lands shall encompass a minimum of 6.5 acres of habitat per burrowing owl pair (or unpaired resident single bird) found on-site, and those lands shall contain burrows that have been occupied by owls within the last three years. The mitigation site must be determined to be suitable by a qualified biologist and may be located off site. The mitigation site must consist of grassland habitat that contains small mammals (or other prey) and ground squirrel burrows. Two natural or artificial nest burrows shall be provided on the mitigation site for each burrow in the Project area. The mitigation site must be approved by the CDFW. The area shall be preserved in perpetuity as wildlife habitat through a conservation easement that designates the CDFW, or any other qualified conservation organization, as the Grantee of the easement.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.4-1a will prevent Project-related disruption of burrowing owl activity. Implementation of this measure will reduce potential impacts to the burrowing owl to a level that is ***less than significant.***

Mitigation Measure #3.4-1b: The following measures shall be implemented to reduce potential impacts to Swainson's hawk: Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's

Hawk Technical Advisory Committee 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 mile of the Project site, then those nests or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit during January 1-March 20 to identify potential nest sites, three visits during March 20-April 5, three visits during April 5-April 20, and three visits during June 10-July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. If Swainson's hawks are not found to nest within the survey area, then no further action is warranted.

If Swainson's hawks are found to nest within the survey area, active Swainson's hawk nests shall be avoided by 0.5 mile during the nesting period, unless this avoidance buffer is reduced through consultation with the CDFW and/or a qualified biologist with expertise in Swainson's hawk issues. If a construction area falls within this nesting site, construction must be delayed until the young have fledged (left the nest). The 2,500- foot-radius no-construction zone may be reduced in size but in no case shall be reduced to less than 500 feet except where a qualified biologist concludes that a smaller buffer area is sufficiently protective. A qualified biologist must conduct construction monitoring on a daily basis, inspect the nest on a daily basis, and ensure that construction activities do not disrupt breeding behaviors.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.4-1b will prevent Project-related disruption of Swainson's hawk nesting activity. Implementation of this measure will reduce potential impacts to the Swainson's hawk to a level that is ***less than significant.***

Mitigation Measure #3.4-1c: The following measures shall be implemented to reduce potential impacts to nesting raptors (other than Swainson's hawk) and other migratory birds: A pre-construction survey shall be performed on the Project site, and within 500 feet of its perimeter, in areas where there is a potential for nesting raptors and other migratory birds to occur if construction occurs during the breeding season (generally defined from February 1 to August 31). These areas include power poles or trees that are suitable for the establishment of nests. Areas also include non-native annual grassland habitat and agriculturally developed land, which provide potential breeding habitat for ground-nesting birds such as the western meadowlark and northern harrier. The pre-construction survey shall be performed during the period 3 to 14 days prior to construction to identify active nests and mark those nests for avoidance. These surveys can be completed in conjunction with surveys that may be required for other species.

If nesting raptors other than Swainson's hawk are identified during the surveys, active raptor nests shall be avoided with a buffer of 500 feet and all other migratory bird nests shall be avoided with a buffer of 250 feet. Avoidance buffers may be reduced through consultation with the CDFW and/or a qualified biologist.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by early July, but September 1st is considered the end of the nesting period unless otherwise determined by a qualified biologist. Once raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can be terminated.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.4-1c will prevent Project-related disruption of raptor and migratory bird nesting activities. Implementation of this measure will reduce Project impacts to nesting raptors and other migratory birds to a level that is ***less than significant.***

Mitigation Measure #3.4-1d: The following measures shall be implemented to reduce potential impacts to San Joaquin kit fox and American badger: Because one American badger den with a species diagnostic sign, a horizontal scratch mark, was found on the Project site and up to 10 potential dens and/ or burrows that could be modified and inhabited by the San Joaquin kit fox and American badger were located throughout Ponding Basins 1 and 2, there is the potential for the San Joaquin kit fox and American badger to occur on the Project site. Therefore, the *USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or during Ground Disturbance* (USFWS 2011) shall be followed. The measures that are listed below have been excerpted from those guidelines and would protect San Joaquin kit foxes and American badgers from direct mortality and from destruction of active dens and natal or pupping dens. The Lead Agency or Designee shall determine the applicability of the following measures depending on specific construction activities and shall implement such measures when required, as explained below.

1. Pre-construction surveys shall be conducted no fewer than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, or any Project activity likely to impact the San Joaquin kit fox or American badger. If such surveys find active or natal or pupping dens for either San Joaquin kit fox or American badger, exclusion zones shall be placed in accordance with USFWS Recommendations using the following:

Potential Den	50-foot radius
Known Den	100-foot radius
Natal/Pupping Den (Occupied and Unoccupied)	Contact U.S. Fish and Wildlife Service for guidance
Atypical Den	50-foot radius

If any den is found within the construction area and must be removed, it must be appropriately monitored and excavated by a trained wildlife biologist. Destruction of natal dens and other "known" kit fox dens must not occur until authorized by USFWS. Replacement dens will be required if such dens are removed. Potential dens that are removed do not need to be replaced if they are determined to be inactive after monitoring.

2. Project construction-related vehicles shall observe a daytime speed limit of 20-mph throughout the site in all Project areas, except on County roads and State and federal highways; this is particularly important at night when kit foxes and American badgers are most active. Night-time construction shall be minimized to the extent possible. However if it does occur, then the speed limit shall be reduced to 10-mph. Project construction-related vehicles shall be prohibited from going off-road outside of designated Project areas.

3. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a Project, all excavated, steep-walled holes or trenches more than 2-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the USFWS and the CDFW shall be contacted at the addresses provided below.

4. Kit foxes and American badgers are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

5. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or Project site.

6. Use of firearms on the site shall adhere to USFWS protocols.

7. No pets, such as dogs or cats, shall be permitted on the Project site to prevent harassment, mortality of kit foxes, or destruction of dens.

8. Use of rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. EPA, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of a proven lower risk to kit fox.

9. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or

who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

10. An employee education program shall be conducted. The program shall consist of a brief presentation by persons knowledgeable in San Joaquin kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the Project. The program shall include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.

11. Upon completion of the Project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the Project, but after Project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas shall be determined on a site-specific basis in consultation with the USFWS, CDFW, and revegetation experts.

12. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be contacted for guidance.

13. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hofmann, the wildlife biologist, at (530)934-9309. The USFWS shall be contacted at the numbers below.

14. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hofmann at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

15. All sightings of the San Joaquin kit fox shall be reported to the CCNDDB. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.

Any Project-related information required by the USFWS or questions concerning the above conditions or their implementation may be directed in writing to the USFWS at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.4-1d would reduce potential impacts to the San Joaquin kit fox and American badger to a level that is ***less than significant.***

Mitigation Measure #3.4-1e: An environmental awareness training program shall be presented to construction personnel prior to the start of construction. The presentation shall include the life history information for all special-status species that could potentially occur on the Project site. The presentation shall discuss the legal protection status of each species, the definition of "take" under existing environmental laws, specific measures that workers would employ to avoid take of wildlife species, and the penalties for violations. An attendance sheet shall be circulated at all training sessions to document worker attendance. All personnel who are unable to attend the initial training program due to scheduling or other factors will review the training program materials and sign the training attendance sheet.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.4-1e would reduce potential impacts to special-status species to a level that is ***less than significant.***

Impact #3.4-2 - 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:

The two ponding basins located on the Project site do not support riparian vegetation; one small Fremont's cottonwood sapling was located in Basin 2. No riparian habitat or sensitive natural communities occur on the Project site.

Conclusion: The Project will have ***no impacts*** to riparian habitats or sensitive natural communities.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-3 - 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:

There are no wetlands or waters on the Project site that would be regulated by the USACE through Section 404 of the Clean Water Act (CWA). Two historical artificial ponding basins are located on the Project site, but they are both disused and lack OHWMs. Ditch 1 is located along the north perimeter of the Project site, between Basin 1 and Avenue 17. This is a roadside ditch

that drains uplands and does not establish connectivity with traditionally navigable waters. Wetland 1 is also isolated. Its hydrology is derived from a leaking water pipe.

The Project would result in ***no impacts*** to wetlands or other waters protected under Section 404 of the Clean Water Act. Although Ditch 1 and Wetland 1 are not regulated by the USACE, they are likely waters of the State under the jurisdiction of the RWQCB. In accordance with the Porter-Cologne Act, the RWQCB typically claims jurisdiction of all surface waters.

Conclusion: The Project would have ***no impacts*** to federally protected wetlands or waters as defined by Section 404 of the CWA. The Project may impact State waters, and appropriate water quality certification permits may be necessary from the RWQCB if impacts to those waters occur. The Project's potential impacts to water quality are addressed in Section 3.9 of this EIR.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-4 - 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:

Wildlife movement corridors are routes that provide shelter and sufficient food supplies to support wildlife species during migration movement across home ranges. Movement corridors generally consist of riparian, woodland, or forested habitats that span contiguous acres of undisturbed habitat, and are important elements of resident species' home ranges. The Project site does not serve as a vital linkage between wildlife habitats, although some wildlife species, including migratory birds, may pass through it. The Project site does not occur within California Essential Habitat Connectivity Areas identified by the CDFW (CDFW Biogeographic Information and Observation System 2015). The Project site supports disturbed habitat that is surrounded by agricultural, commercial, and residential developments. The reconnaissance-level survey found no evidence of wildlife nursery sites on the Project site. Because the Project site does not serve as a wildlife movement corridor or as a wildlife nursery site, Project implementation would not impede wildlife movement or the use of a wildlife nursery site.

Conclusion: The Project will have ***no impacts*** to wildlife corridors or wildlife nursery sites.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-5 - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance:

The City of Madera General Plan stipulates that proposed developments in areas that contain wetlands should be restricted or modified. Although Wetland 1 is classified as a wetland, it is supported entirely by a leaking water pipe and does not constitute "wetland habitat" as likely intended by the General Plan. It is isolated, is only 25 square feet in surface are, and is regularly impacted by water utility line maintenance activities. Wetland 1 located approximately 50 feet away from the Project site, and is unlikely to be impacted.

The Madera General Plan also requires that feasible mitigation measures be implemented for projects to ensure that they do not contribute to the decline of plant or wildlife populations in a manner that would compromise the viability of the species. The General Plan also requires the development of a tree ordinance, but this policy is still under development. With the above mitigation measures incorporated, the Project would not conflict with any local policies or ordinances.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-6 - Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan:

The proposed Project is not within a Habitat Conservation Plan (HCP) area or any other approved HCP and does not conflict with any plans.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-7 – Substantially reduce the habitat of a fish or wildlife species:

The Project site does not contain any aquatic habitats that would support fish species. It has been heavily degraded by previous land uses and on-site activities, and supports little habitat for native wildlife species, other than the most generalist and widespread species. Most species are precluded by the prevalence of remnant gravel and asphalt substrates and unimproved, compacted dirt and gravel roads throughout the Project site. The California ground squirrel is the most common wildlife species present, but it is primarily limited to burrows and associated small foraging areas along the perimeter fence line. The Project would not substantially reduce habitat of fish or wildlife species.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-8 – Cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community:

The Project site does not support any fish populations. It has been heavily degraded by previous land uses and on-site activities, and supports little habitat for native wildlife species, other than the most generalist and widespread species. The California ground squirrel is the primary wildlife species present. It occurs along the perimeter fence line. This species is opportunistic and adapts relatively well to anthropogenic disturbances compared to other species. The vegetation on the Project site is dominated by non-native ruderal grasses and forbs that become

readily established in disturbed habitats. The Project would not cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or wildlife community.

Mitigation Measures: No mitigation measures are required.

Impact #3.4-9 – Substantially reduce the number or restrict the range of an endangered, threatened, or rare species:

The Project site does not support any endangered, threatened, or rare plant species. It does not currently support any endangered, threatened, or rare wildlife species, but some special-status wildlife species could potentially occur there. The burrowing owl (Species of Special Concern), San Joaquin kit fox, and American badger (Species of Special Concern) could potentially modify and occupy burrows or be present from time to time as transient foragers on the Project site. Ground-nesting migratory birds could nest in the herbaceous groundcover on the Project site, and the Swainson's hawk and white-tailed kite (Fully Protected Species) could nest in trees adjacent to the Project site. Potential impacts to these species would be avoided or minimized through implementation of Mitigation Measures #3.4-1a through #3.4-1e, as described above. However, even without implementation of those measures, potential impacts to special-status wildlife species would not be substantial enough to reduce their numbers or ranges.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

3.5 Cultural Resources

This section of the EIR is based on a Cultural Resources Assessment prepared for the proposed Project and describes cultural resources that potentially exist in the proposed Project area or in its vicinity that may be adversely affected by Project implementation. The full text of the report is contained in Appendix F. Cultural resources are defined as prehistoric and historic archeological sites, architectural properties (e.g., buildings, bridges, and structures), and traditional properties with significance to Native Americans. This definition includes historic properties as defined by the National Historic Preservation Act (NHPA).

3.5.1 ENVIRONMENTAL SETTING

Prehistory

Archaeology of the early to mid-Holocene period following the last Ice Age is poorly known in California's Central Valley. Several earlier studies suggested that California was inhabited primarily by Hokan speaking people between 10,000 and 6000 B.C. Artifacts diagnostic of the Western Pluvial Lakes Tradition are thought by archaeologists to represent the ancient Hokan populations.

Utian peoples (including proto-Miwokan and, later, Yokutsan-speaking people) entered the lower Sacramento Valley probably from the northwest Great Basin and Columbian Plateau region during the mid-Altithermal around 2500 B.C. Between 1000 and 500 B.C., coinciding with Medithermal climatic changes, Yokutsan groups moved into the San Joaquin Valley and Central Sierra foothills from the Sacramento Delta region. *Circa* 500 to 100 B.C., Plains Miwok populations expanded eastward into an older Utian/Yokutsan domain in the mid-Central Valley. By the time of Christ, the Sierra Miwok moved south, also displacing Yokuts groups.

Various archaeologists claimed that Yokutsan groups could be identified archaeologically by comparison of skeletal remains and artifacts that included extended burials, red ochre in graves, large stemmed and concave base projectile points, pestles, manos and metates as well as other hallmarks.

The Windmiller Pattern in the Central Valley and the Crane Flat Complex in the Sierra were seen as evidence of the Yokutsan expansion *circa* 2500 to 1000 B.C. (Later thought to be 1000 to 500 B.C.). The Pacheco A and B temporal phases identified at sites on the west side of the San Joaquin Valley may also represent this expansion. However, the characteristic Pacheco projectile points are rare for the east side of the San Joaquin Valley.

In the Sierra foothills, the later displacement of Yokuts by Sierra Miwok groups could be represented in Moratto's Madera Phase and in Yosemite by the Mariposa Phase. These late Miwokan complexes are distinguished by light projectile points from which archaeologists inferred use of the bow and arrow as opposed to the earlier dart and thrower (*atlatl*), bedrock mortars, cobble pestles, steatite vessels and clam shell disk beads, which marked the advent of a money economy.

The northern San Joaquin Valley is little known archaeologically and ethnographically because of the early historic decimation of native people in this region by disease, missionization and the effects of the Gold Rush. A recent updated synthesis notes little new information in areas such as parts of the Central Valley due to few new investigations and the inadequacy of older collections in meeting the needs of current research objectives. However, researchers have taken the generally recognized cultural periods and updated the time span of each period based on new radiocarbon determinations adjusted with modern calibration curves:

- Paleo-Indian (11,550-8550 cal B.C.);
- Lower Archaic (8550-5550 cal B.C.);
- Middle Archaic (5550-550 cal B.C.);
- Upper Archaic (550 cal B.C.-cal A.D. 1100); and
- Emergent (cal A.D. 1100-Historic).

Ethnography/Ethnohistory

European-American trappers of the 1820s encountered Yokutsan-speaking peoples living in the Sacramento-San Joaquin Delta, along the San Joaquin River and along the main tributary rivers such as the Fresno, Chowchilla, Merced, Tuolumne, Stanislaus and Calaveras. In those days, the sluggish San Joaquin River, its maze of channels and sloughs, made up the heartland of what anthropologists have come to identify as the Northern Valley Yokuts.

Though ethnohistorical information is sparse, Wallace, in his 1978 synopsis of sources pertaining to the Northern Valley Yokuts, concluded that the people were not organized into tribelets, as with other Northern California aboriginal groups, but into true tribes. Wallace suggested that Yokuts tribes averaged about 300 persons. In the vicinity of what is now Madera, the *Hewchi* tribelet held the north side of the lower Fresno River, or perhaps both sides of the river, while the *Chawchila* occupied the plains along the several channels of the Chowchilla River to the north. The *Hoyima* tribelet was settled along the San Joaquin where it crosses the plains from the Sierra to where the river turns north in the middle of the Central Valley.

Frank Latta, an avocational anthropologist who spent years gathering shreds of information from Yokuts informants, places the above tribes in the same general areas as Wallace. Latta indicated that the *Heuchi* (also known as the *Heuche* or *Heutsi*, depending on the orthography used by various writers) had a large settlement on the Fresno River four miles south of Madera. The village, *Che'kayu*, was apparently located on the north side of the Fresno River. According to Latta's informant, practically nothing else is known of the *Heuche*, except that they were a typical Yokuts group that hunted elk, antelope, jackrabbits and all kinds of waterfowl. Their pre-contact population was estimated at 450 individuals.

East of the *Heuche* were the *Chukchanse*, a Sierra foothill tribe that held Coarse Gold Creek, a tributary to the Fresno River. The *Chukchanse* occupied the easternmost territory of Yokutsan-speaking people and separated *Heuche* territory from that of the Central Sierra Miwok. In each Yokuts tribe, a separate dialect of the language was spoken. Each tribe resided, hunted and gathered in a specific territory. While most native California groups identified themselves in

relation to the place they inhabited, Yokuts tribes had specific group names for the people themselves, such as the *Heuche*.

Most Yokuts settlements were perched on low mounds along permanent water courses. The elevated position of these sites insured against flooding during high water each spring. The abundant natural resources of the riverine environment were no doubt an influential factor in the sedentary lifestyle of these hunter-gatherer-fisher people.

Yokuts houses were oval in plan, constructed of light pole frames pulled together at the top and covered with tule mats. Archaeological investigations indicate that the structures were built over round-to-oval depressions excavated two feet into the ground, and 25 to 40 feet across. Excavations at a Spanish contact-period Yokuts village on the west side of the Central Valley revealed the ruins of a large circular semi-subterranean assembly house. It is likely that an important village on the east side of the valley would have also had an assembly house.

Unfortunately, cultural disintegration among Yokuts tribes began on a large scale around 1805, when Franciscan missionaries extended their efforts to convert native populations beyond the initial coastal European settlements. Converts were then gathered among the lower San Joaquin tribes into the 1820s. Many were taken to the missions at San Jose, Santa Clara, Soledad, San Juan Bautiwsta and San Antonio. Many escaped the missions to return to their homes in the Central Valley. Thus began the period of Yokuts militarism. Spanish and later, Mexican soldiers pursued the runaway neophytes to head off the possibility of their alliance with other tribesmen who preyed on the mission herds. Horse meat became a favored resource, perhaps largely because of the ease by which the animals could be driven away from the missions.

The 1833 epidemic, brought south from Oregon by a party of trappers, decimated an estimated 75 percent of California's native people. The effect among Yokutsan-speaking people was catastrophic. Entire communities were literally wiped out, leaving few native people to consult during the early 1900s when anthropologists were recording the recollections of elderly survivors in a last attempt to reconstruct lifeways of the Indian people before European contact.

Historic Period

It is unlikely that Madera County was visited by the earliest Spanish expeditions into California's Central Valley. The county's isolation was due principally to the impenetrable marshes and sloughs that covered much of the San Joaquin Valley at high water. For a distance of approximately 250 miles north to south, there were only two places where the San Joaquin Valley could be crossed, except at low water during the summer dry season, until the 1880s.

Jedediah Strong Smith was probably the first non-native to cross what is now Madera County. Smith entered the region in 1827 and again in 1828. Hudson's Bay Company trappers and later Ewing Young, Kit Carson and others followed numerous streams in the county in search of beaver. However, the first historic record of a trail across Madera County is that of John C. Fremont in 1844. Fremont's description of the region was that of numerous sloughs and prairies with bands of elk and herds of wild horses. During the 1850s and 1860s, the Millerton or Stockton-Los Angeles Road was the only north-south route that passed through Madera County.

During the Gold Rush, most of the miners who sought the Mother Lode in Madera County originated from camps in Mariposa County to the north, or came from Gilroy via Pacheco Pass, crossing the San Joaquin River on the south side of its confluence with the Fresno River.

As early as 1849, mining camps were erected on flats, at ravines and along bars of the San Joaquin and Fresno rivers. Only small amounts of placer gold were apparently recovered from the lower Fresno and Chowchilla rivers. Higher in the Sierra foothills, mining was much more profitable. Among the best known early mining camps was Coarse Gold, which was located about 32 miles northeast of Madera. Other camps were also established along the Mother Lode to the northwest and southeast of Coarse Gold. Placer mining was the principal attraction of these locations. There was a brief copper mining boom during the 1860s. A few copper mines were developed in the Sierra foothills about 20 miles northeast of Madera during this period. By the 1870s and 1880s, however, quartz mining dominated the principal mining districts of Madera County.

In 1870, the Central Pacific Railroad had constructed its line to the location that is now Madera. Coincidentally, increased demand in the East for lumber prompted the California Lumber Company to construct a 63 mile long flume from the Soquel Basin in the east to the railroad. The V-shaped flume was completed in 1874. In 1876, the lumber company laid out the town of Madera (Spanish term for "wood" or "timber"). In 1893, when the County of Madera was created, the City of Madera became the seat of county government.

3.5.2 REGULATORY SETTING

Federal, state, and local governments have developed laws and regulations which are designed to protect significant cultural resources that may be affected by proposed projects. The NHPA and CEQA are the basic federal and state laws governing the preservation of historic and archaeological resources national, regional, state, and local significance.

Federal

NATIONAL REGISTER OF HISTORIC PLACES

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by Federal, State, and local governments; private groups; and citizens to identify the nation's historic resources and indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, State, and local levels. In the context of the Project, which does not involve any historical-period structures, the NRHP criteria below are given as the basis for evaluating archaeological resources.

- To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior 1995):

- The resource is associated with events that have made a significant contribution to the broad patterns of our history;
- The resource is associated with the lives of persons significant in our past;
- The resource embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master or possesses high artistic values or represents a significant and distinguishable entity whose components may lack individual distinction; and
- The resource has yielded, or may be likely to yield, information important to prehistory or history.

- Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP.

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance." The NRHP recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

Created in 1992 and implemented in 1998, the California Register of Historical Resources (CRHR) is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHLs) (Nos. 770 and higher), are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- **Criterion 1.** The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- **Criterion 2.** The resource is associated with the lives of persons important in our past;

- **Criterion 3.** The resource 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; and

- **Criterion 4.** The resource has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as grazing and off-road vehicle use (both of which have occurred within the Project site), often lack integrity because they have been damaged. Typically, a prehistoric archaeological site in California is recommended eligible for listing in the CRHR according to its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

CALIFORNIA HISTORICAL LANDMARKS (CHL)

CHLs are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council whose jurisdiction it is located), be recommended by the State Historical Resources Commission, and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL No. 770. CHLs Nos. 770 and above are automatically listed in the CRHR.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California); and

- It is associated with an individual or group having a profound influence on the history of California.

It is a prototype of, or an outstanding example of, a period, style, architectural movement, or type of construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

CALIFORNIA PUBLIC RECORDS ACT

Sections 6254(r) and 6254.10 of the California Government Code (within the Public Records Act) were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the

Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission (NAHC), another State agency, or a local agency, including records that the agency obtains through a consultation process between a Native American tribe and a State or local agency."

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 15064.5 of the CEQA Guidelines 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. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant (Public Resources Code Section 5020.1). Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the importance of cultural resources, including:

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

NATIVE AMERICAN HERITAGE COMMISSION

Section 5097.91 of the California Public Resources Code established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the Public Resources Code (PRC) specifies the protocol to be followed when the NAHC receives notification of the discovery of Native American human remains from a county coroner.

CALIFORNIA ASSEMBLY BILL (AB) 52

Assembly Bill 52, signed by Governor Edmund G. Brown, Jr., in September of 2014, seeks to protect a new class of resources under CEQA: "tribal cultural resources." It requires that lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation prior to the release of a negative declaration, mitigated negative declaration or environmental impact report for a project.

The proposed project is not subject to the requirements of AB 52, which only applies to projects for which lead agencies issue notices of preparation of an environmental impact report or notices of intent to adopt negative declarations on or after July 1, 2015. The NOP for this proposed Project was issued on February 19, 2015.

CALIFORNIA HEALTH AND SAFETY CODE, SECTION 7050.5 (B)

California Health and Safety Code, Section 7050.5 (B) requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are identified as Native American, the coroner must contact the California Native American Heritage Commission.

CALIFORNIA HEALTH AND SAFETY CODE, SECTION 7052

This section of the California Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

PUBLIC RESOURCES CODE, SECTION 5024 AND 5024.5

Public Resources Code, Section 5024 and 5024.5 requires state agencies to inventory and protect historical structures and artifacts under their jurisdiction.

PUBLIC RESOURCES CODE, SECTION 5097.9

This section of the Public Resources Code states that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe or irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site or sacred shrine.

PUBLIC RESOURCES CODE 21083.2

If an archaeological resource does not meet the definition of a "historical resource" as defined by CEQA's criterion of significance, it may meet the definition of a "unique archaeological resource." An archaeological resource is "unique" if it: a) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; b) has a special and particular quality as being the oldest of its type or the best available example of its type; or c) is directly associated with a scientifically recognized important prehistoric or historical event or person.

Local

CITY OF MADERA GENERAL PLAN

The *City of Madera General Plan* (City of Madera 2009) sets forth the following goals and policies relevant to cultural and paleontological resources:

Goal HC-1: Protection and preservation of Madera's significant historical, archaeological, cultural, and fossil resources.

Historic Resources Policies

Policy HC-1: The City encourages the preservation and enhancement of existing historical and archaeological resources in the City.

Policy HC-2: The City supports the goals and objectives for the Comprehensive Statewide Historic Preservation Plan for California 2000-2005.

Policy HC-3: The City encourages restoration, renovations, and /or rehabilitation of building which retain their historic integrity.

Policy HC-4: Support use of federal financial incentive programs to encourage preservation of historical structures.

Policy HC-5: Maintain and improve buildings which help to contribute to the downtown's historic character.

Policy HC-6: The preservation, restoration, rehabilitation, reuse and maintenance of existing downtown buildings which have historic value (that is, buildings which are on a local, state, or federal register) is encouraged.

Policy HC-7: City shall require quality architecture that preserves the Downtown's historic integrity. "Franchise architecture" that detracts from the unique and distinctive setting of the Downtown shall not be allowed.

Policy HC-8: Building renovations in the Downtown shall be complementary to the character of historic Downtown architecture.

Archaeological and Fossil Policies

Policy HC-9: The City will endeavor to protect and preserve prehistoric and historic archaeological resources, cultural resources (particularly those of importance to existing tribes), and fossils

3.5.3 IMPACT EVALUATION CRITERIA

Methodology

DATABASE AND RECORDS SEARCH RESULTS

Investigations into potential cultural resources issues for the Project included a review of materials provided by a record search conducted by the SSJVIC of the California Historical Resources Information System. Other referenced materials included site documents, maps, and survey and evaluation reports archived at the facility's office (Appendix F).

NATIVE AMERICAN AND HISTORICAL SOCIETY COORDINATION

The Native American Heritage Commission responded to a request from the sub-consultant for a search of its sacred lands file. The commission's representative indicated in a written letter report that the file search failed to indicate the presence of Native American cultural resources in the immediate Project area. However, the commission's representative did recommend contacting other potential sources of information. A list of Native American contacts was provided. The list included:

- Mr. Tex McDonald, Chairperson, Picayune Rancheria of Chukchansi;
- Ms. Katherine Erolinda Perez, Chairperson, North Valley Yokuts Tribe;
- Ms. Lois Martin, Chairperson, Southern Sierra Miwuk Nation;
- Environmental Director, Picayune Rancheria of Chukchansi;
- Cultural Specialist, Picayune Rancheria of Chuckchansi;
- Mr. Les James, Spiritual Leader, Southern Sierra Miwuk Nation; and
- Mr. Jerry Brown, Chowchilla Tribe of Yokuts.

The identified tribal representatives were contacted regarding the proposed Project. To date (May 1, 2015), no responses have been received. In addition, the Madera County Historical Society and Museum were also contacted. To date, no response from the historical society has been received (see Appendix F for a record of Native American and museum/historical society contacts).

FIELD SURVEYS

Several field surveys of the proposed site have been completed. In November 2005, an intensive archaeological survey of the approximately 50-acre Madera Travel Center Project site was completed. At that time most of the property was bare ground. However, an area of dense annuals and introduced grasses of several acres was located in the southeast portion of the property. In addition, a small, but deep borrow pit was located near the east boundary of the Project area. Rows of equipment and parts covered the west half of the Project area.

Because most of the property was bare ground, visibility of the ground surface was good. The aforementioned weedy area was heavily disturbed probably from earth-moving equipment demonstrations of the past. Chunks of asphalt pavement were also found in the weedy area suggesting that at least a portion of this area may have been paved at one time. Nonetheless, the field team examined the entire Project area along transects 15-25 meters apart. In the western portion of the property, placement of the transects was often dictated by the location of avenues between rows of equipment and parts.

On February 25, 2015, a second field team revisited the travel center Project site. Due to the removal of previously existing equipment, the field team conducted a pedestrian survey along transects approximately 15 meters apart. Ground visibility was about 60-70 percent in the area that had not been adequately inspected during the November, 2005 survey. The remainder of the

Project area was covered in dense grasses and annuals. Ground visibility in the area of dense cover was estimated at 25-35 percent.

On March 19, 2015, the two-person field team conducted a pedestrian survey along Avenue 17 to complement the field inspection conducted on the north side of Avenue 17 within the Madera Town Center property as well as along both sides Sharon Boulevard, south and north of Ellis Street, to cover the location of the proposed off-site water and sewer mains. From the north end of Sharon Boulevard, the field team walked the route of the proposed sewer main across a cultivated field of scattered grasses and annuals. Ground visibility was 80-90 percent along the entire route of the proposed sewer main to the south boundary of the Madera Travel Center Project site.

PALEONTOLOGICAL RESOURCES

On February 9, 2015, Kenneth L. Finger, Ph.D., Consulting Paleontologist conducted a search of the University of California Museum of Paleontology (UCMP) database. Three Pleistocene sedimentary units are mapped within the Travel Center Project site. From oldest to youngest, the geologic units are: the lower middle Pleistocene Turlock Lake Formation; upper middle Pleistocene Riverbank Formation and; the upper Pleistocene Modesto Formation.

The database search found no paleontological localities of any kind in the Madera Quadrangle. However, two Irvingtonian vertebrate fossil localities were identified in Madera County. One was in the Riverbank Formation (site V5206) and the other was in the Turlock Lake Formation (site V9318). The latter site is especially important, as it has yielded 226 vertebrate fossils ranging from ground sloths to shrews.

The database search yielded no records for the Modesto Formation in Madera County, but six Rancholabrean vertebrate localities for this geologic unit in Stanislaus and Fresno counties (see Appendix F for Database and Records Search Results).

According to State CEQA Guidelines (CCR Title 14, 15064.5), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (CCR Title 14, 15064.5(b)). The guidelines further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC §5020.1(k) and §5024.1(g).

CULTURAL RESOURCES ELIGIBLE FOR THE CALIFORNIA REGISTER EVALUATION CRITERIA

The PRC §5024.1 and Title 14 California Code of Regulations (CCR) §4850 et seq. created the California Register of Historic Resources. In order to be eligible for inclusion on the California

Register, a cultural resource must be at least 50 years old, possess integrity, including physical, stratigraphic, location, setting, and ambience, and, meet one or more of four criteria (California Public Resources Code §5020.1(j) and §5024.1):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possess high artistic values, and

4. Has yielded, or may be likely to yield, information important in prehistory or history.

CULTURAL RESOURCES EVALUATION CRITERIA

"Cultural Resources" includes archaeological (pre-historic and historic) and historical resources. Archaeological resources are described in Section 21083.2 of the PRC, while historical resources are described in Section 15064.5(b) of the CEQA Guidelines. Those cultural resources that do not meet the criteria for eligibility under the California Register should also be considered under the appropriate PRC.

Archaeological Resources

If a project may have a significant effect on "unique archaeological resources," efforts must be made to avoid or minimize impacts to that resource. Per Section 21083.2:

(a) As part of the determination made pursuant to Section 21080.1, the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued.

(b) If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

(1) Planning construction to avoid archaeological sites.
(2) Deeding archaeological sites into permanent conservation easements.
(3) Capping or covering archaeological sites with a layer of soil before building on the sites.

(4) Planning parks, greenspace, or other open space to incorporate archaeological sites.

(c) To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required as provided in this subdivision. The project applicant shall provide a guarantee to the lead agency to pay one-half the estimated cost of mitigating the significant effects of the project on unique archaeological resources. Various types of mitigation may be implemented, which are described in detail under Section 21093.2.

Impacts to Historical and Paleontological Resources

The State CEQA Guidelines (14 CCR §15064.5[b]) state: A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

(1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

(2) The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources...unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

An archaeological resource must be determined to be "unique" or "historic" for an impact to the resource to be considered significant. A "unique archaeological resource" is defined in Section 21083.2(g) of CEQA and is discussed above.

An impact to paleontological resources would be considered a significant impact if a project results in the direct or indirect destruction of a unique or important paleontological resource or site. A project site is deemed paleontologically sensitive if (1) it has fossils that have previously

been recovered from a particular geologic unit; (2) there are recorded fossil localities within the same geologic units as occur within the project area; and (3) the types of fossil materials that have been recovered from the geologic unit are unique or important.

Thresholds of Significance

The CEQA Appendix G *Checklist* states that a project would have a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5;

b) Cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5;

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

d) Disturb human remains, including those interred outside of formal cemeteries.

3.5.4 IMPACTS AND MITIGATION MEASURES

Impact #3.5-1 - Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5:

As noted in the Cultural Resources Assessment (Appendix F), a records search at the SSJVAIC identified no records of any previously documented cultural resources either within the Travel Center Project area or adjacent to the Travel Center. Additionally, no listings for the Project site or records search radius in the California Office of Historic Preservation's Historic Properties Directory, Archaeological Determinations of Eligibility or the California Inventory of Historic Resources. The Phase 1 pedestrian survey of the Project site and off-site water and sewer mains yield a similar lack of identified cultural artifacts. The few remnants of the Travel Center Project site's former use as a holding facility consisted of trash, an above ground diesel tank and rack, an approximately 10- by 18-foot utilitarian building and a small travel trailer parked behind the building. An architectural historian identified the building as a late 1960s/1970s utility building with T-111 siding and a salt box roof. The holding facility remnants all appear to be less than 50 years old–too recent to have achieved any historical significance.

Based on the results of field survey and database research findings, the generally favorable surface visibility conditions, and the extent of previous disturbance observed within the area of the site, the potential to encounter subsurface historical deposits is minimal. This suggests that there is a low potential for ground-disturbing activities to expose and affect previously unknown significant cultural resources, including historical resources at the proposed site. However, there is still a possibility that historical (or archaeological) materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural

resources within the Project area, including historical resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA.

Conclusion: Damage or destruction to potential prehistoric or historical cultural resources that may be encountered on the proposed Project site during future construction would be a ***potentially-significant*** impact.

Mitigation Measure #3.5-1: In the event that resources potentially qualifying as historical resources or unique archaeological resources per CEQA Guidelines Section 15064.5 and Public Resources Code section 21083.2 are inadvertently discovered during ground-disturbing activities, all work within 50 feet of the find shall halt until a qualified archaeologist who meets the Secretary of the Interior's professional qualifications standards in prehistoric or historical archaeology, as appropriate, shall evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents either an historical resource or a unique archaeological resource, the archaeologist shall recommend to the City's Community Development Director potential means of addressing impacts to such resources. Such additional measures may include avoidance, testing, and evaluation or data recovery excavation. The Community Development Director shall then determine whether any such recommended measures are feasible in light of project design, economics, logistics, and other factors. If avoidance is infeasible based on these factors, then testing or data recovery shall be the preferred method of dealing with the affected resources. Once the measure(s) chosen by the Community Development Director have been identified and implemented, construction work in the area within 50 feet of the find shall be resumed.

Effectiveness of Mitigation: The implementation of the Mitigation Measure #3.5-1 will ensure that any impacts to prehistoric or historical resources are reduced to a level that is ***less than significant.***

Impact #3.5-2 - Cause a substantial adverse change in the significance of a unique archaeological resource, as defined in Public Resources Code Section 21083.2(g):

As discussed in Impact #3.5-1, record searches and field surveys of the proposed Project site and off-site water and sewer mains revealed that no archeological (i.e., prehistoric) resources have been found within the area of the three sites. Therefore, the potential to encounter subsurface archaeological deposits is minimal. This suggests that there is a low potential for ground-disturbing activities to expose and affect previously unknown significant cultural resources, including archeological resources, at the site. However, there is still a possibility that archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including archeological resources. When the lead agency determines that the project may have a significant effect on unique (but not any "non-unique') archaeological resources, the environmental report will address the issue of those resources. Disturbance of any deposits that have the potential to

provide significant cultural data would be considered a significant impact under CEQA when an archaeological resource is determined to be "unique." Implementation of Mitigation Measure #3.5-1 would reduce potential impacts on unique archaeological resources associated with the proposed Project to less-than-significant levels.

Operation of the proposed Project would not result in impacts related to the disturbance of archaeological resources.

Conclusion: Damage or destruction to potential cultural resources that may be encountered on the proposed Project site during future construction would be a ***potentially-significant*** impact.

Mitigation Measures: Implement Mitigation Measure #3.5-1.

Effectiveness of Mitigation: The implementation of Mitigation Measure #3.5-1 will ensure that any impacts to unique archaeological resources are reduced to a level that is ***less than significant.***

Impact #3.5-3 - Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature:

The UCMP database indicates that three Pleistocene sedimentary units are mapped within the Project site. From oldest to youngest, the geologic units are: the lower middle Pleistocene Turlock Lake Formation; upper middle Pleistocene Riverbank Formation and; the upper Pleistocene Modesto Formation. The database search found no paleontological localities of any kind in the Madera Quadrangle. However, two Irvingtonian vertebrate fossil localities were identified in Madera County. One was in the Riverbank Formation and the other was in the Turlock Lake Formation. The latter site is especially important, as it has yielded 226 vertebrate fossils ranging from ground sloths to shrews. The database search yielded nothing for the Modesto Formation in Madera County, but found six Rancholabrean vertebrate localities for this geologic unit in Stanislaus and Fresno counties.

Based on the above information there is a basis for concluding that paleontological impacts could occur at the Project site as a result of site grading and excavation activities.

Conclusion: Damage or destruction to potential paleontological resources that may be encountered on the proposed Project site during future construction would be a ***potentially-significant*** impact.

Mitigation Measure #3.5-3: To mitigate potential adverse effects a monitoring program shall be developed in consultation with a professional paleontologist, which would provide intermittent inspection of excavations at the Project site by a professional paleontologist during site grading and excavation activities. Should the construction crew or paleontologist uncover any bones or teeth, all construction-related activities in the immediate vicinity would be stopped until the paleontologist has assessed the find and, if deemed significant, salvaged it for deposition in a repository such as University of California Museum of Paleontology where it would be properly curated and preserved for scientific study. Any period in which construction is

halted shall be kept to the minimum amount of time feasible under the circumstances. To avoid any unnecessary loss of time during construction, the City shall require the paleontologist to assess the significance of the affected resources as soon as is feasible under the circumstances.

Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Madera Community Development Department and to the Natural History Museum of Los Angeles County.

Effectiveness of Mitigation: The implementation of Mitigation Measure #3.5-3 will ensure that any impacts to paleontological resources are reduced to a level that is ***less than significant.***

Impact #3.5-4 - Disturb human remains, including those interred outside of formal cemeteries:

There is no indication, either from the archival research results or the archaeological survey, that any particular location in the Project area has been used for human burial purposes in the recent or distant past. However, given the sensitivity for buried archaeological resources, the Project could inadvertently uncover or damage human remains, which would be a significant impact. In the unlikely event that human remains are uncovered, implementation of Mitigation Measure #3.5-4 would mitigate impacts to a less-than-significant level.

Operation of the proposed Project would not result in impacts related to the disturbance of unknown human remains or cultural resources.

Conclusion: Damage or destruction of unintentionally uncovered human remains that may be encountered on the proposed Project site during construction would be a ***potentially-significant*** impact.

Mitigation Measure #3.5-4: If human remains are uncovered during Project construction, the Project proponent shall immediately halt work, contact the Madera County Coroner to evaluate the remains, and follow the procedures and protocols set forth in §15064.5 (e)(1) of the *CEQA Guidelines*. The Madera Community Development Department shall also be notified of the discovery. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the Native American Heritage Commission, in accordance with Health and Safety Code §7050.5, subdivision (c), and Public Resources Code §5097.98 (as amended by AB 2641). The NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The Most Likely Descendant (MLD) shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98. Per Public Resources Code §5097.98, the Project operator shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has

discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Effectiveness of Mitigation: The implementation of Mitigation Measure #3.5-4 will ensure that any impacts to unknown human remains are reduced to a level that is ***less than significant.***

3.6 Geology, Soils, and Seismicity

This section assesses the potential for seismic hazards, soil erosion, other geological hazards, and occurrence of mineral resources in the regional vicinity of the proposed Project site. This section identifies any specific geological impact that is likely to result from implementation of the proposed Project along with feasible mitigation measures to address those impacts.

Potential impacts associated with septic systems and alternative waste disposal systems are not analyzed in the section because the Project proposes to connect to the City sewer system.

Also, the potential impact of the proposed Project on mineral resources is not analyzed in this section because a previous EIR prepared and certified for a different project on this site in 2007 concluded that no mineral resources are present.

3.6.1 ENVIRONMENTAL SETTING

Regional Geology

Madera is located in the south-central portion of the Great Valley Geomorphic Province of California. The Great Valley, also known as the Central Valley, is an elongated, northwest-trending, nearly flat lowland between the Sierra Nevada Mountains on the east and the Coast Ranges to the west. The San Joaquin Valley is a watershed sub-basin, and the southerly arm, of the Central Valley, enclosed by the Tehachapi Mountains to the south. The San Joaquin Valley has been filled with a thick sequence of alluvial sediments derived from weathering of the adjacent mountain ranges resulting in a stratigraphic section of Quaternary deposits. Madera and the proposed Project site are approximately in the middle, on the east-side of the San Joaquin Valley.

Alluvial sediments in the Project vicinity were deposited in recent times primarily during flood stages of the Fresno River, Schmidt and Cottonwood creeks, and other drainages flowing westerly out of the Sierra Nevada Mountains. Due to repeated flooding and sedimentation, alluvial material in this region is generally well consolidated with weakly to moderately cemented materials below the surficial weathered soil. Alluvium depths in the vicinity average 500 feet, with depths generally increasing from east to west. As a result, the natural grade of the city and the site slopes generally from northeast to southwest (City of Madera General Plan Update EIR, 2009).

Seismic Faulting

The term seismicity refers to the location, frequency, magnitude and other characteristics of earthquakes. To understand the implications of seismic events, a discussion of faulting and seismic hazards is provided below.

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large regional stresses operating over a long time, such as those stresses caused by the relative displacement between tectonic plates. These stresses

build up in the earth's crust until enough stress has built up to exceed the strength along a fault and cause a brittle failure. The rapid slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, stress will build once again until the occurrence of another earthquake. The magnitude of slip is related to the maximum allowable stress that can be built up along a particular fault segment. The greatest buildup in stress due to the largest relative motion between tectonic plates or fault blocks over the longest period will generally produce the largest earthquakes.

Faults are mapped to determine earthquake hazards, since they occur where earthquakes tend to recur. A historic plane of weakness is more likely to fail under stress than a previously unbroken block of crust. Faults are, therefore, a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stress and strain in the crust can shift, predicting the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive (City of Fresno – Westlake Development PEIR, 2013).

"Active" faults are those that have been active within the past 11,000 years. Earthquakes originate as movement or slippage occurring along an active fault. These movements generate shock waves that result in ground shaking.

The proposed Project site is located approximately 50 miles east of dominantly active faults associated with the boundary between the Pacific Plate and North American Plate (e.g., San Andreas Fault) and approximately 20 miles southwest of the lesser active faults associated with the Foothills Fault system in the Sierra Nevada.

Nine known active faults or fault zones are located within a 62-mile (100-kilometer) radius of the proposed Project site. The Foothills Fault System is the dominant source of potential ground motion at the site with a Maximum Considered Earthquake (MCE) magnitude of 6.5. The MCE is defined as the maximum earthquake considered possible under the presently known tectonic framework. The estimated peak site acceleration from the Foothills Fault system is approximately 0.12g (Table 3.6-1) (Madera Town Center EIR, 2006).

Ground Shaking

The severity of ground shaking depends on several variables such as earthquake magnitude, epicenter distance, local geology, thickness, and seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Ground shaking hazards are most pronounced in areas near faults or with unconsolidated alluvium.

The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage from falling objects or broken utility lines. Fire and explosions are also hazards associated with strong ground shaking.

Table 3.6-1
Maximum Earthquake Magnitude and Peak Site Acceleration

Fault Name	Approximate Distance From Site (miles)	Maximum Earthquake Magnitude	Peak Site Acceleration (g)	CBC Fault Type
Foothills Fault System	23.6	6.5	0.12	C
Great Valley, Segment 11	37.6	6.4	0.08	B
Great Valley, Segment 12	38.3	6.3	0.07	B
Great Valley, Segment 10	39.4	6.4	0.08	B
Great Valley, Segment 9	40.1	6.6	0.08	B
Great Valley, Segment 13	44.6	6.5	0.07	B
Ortigalita	49.5	6.9	0.07	B
Great Valley, Segment 8	53.6	6.6	0.07	B
Great Valley, Segment 14	55.4	6.4	0.06	B

Source: Madera Town Center, Geocon Consultants, Inc., 2005.

Site Geology

Natural Resource Conservation Service (NRCS) soil map units which overlay the proposed Project site consists of the following: Atwater loamy sand, which consists of very deep, well drained soils formed in granitic alluvium; San Joaquin sandy loams, are moderately deep to a duripan, well and moderately drained soils forming in alluvium derived mixture dominantly from granitic rock, occurring on slopes of 0 to 9 percent; and the Cometa sandy loam soils, which are moderately deep and moderately well or well drained soils that form in alluvium from granitic rocks generally found on gently sloping to slightly dissected older stream terraces with slopes of 0 to 15 percent (Web Soil Survey, 2015). Table 3.2-4 summarizes the soil map units and acreage across the proposed Project site (Figure 3.2-1).

Mineral Resources

Mineral extraction in Madera County consists substantially of sand and gravel operations. Active mining is occurring in concentrated locations on the alluvial deposits and off-channel floodplains, and some hard rock mining in the upper elevations. Sand and gravel are created from years of mountain erosion and from seasonal storms that result in rapid stream movement.

Commonly extracted mineral resources in Madera County in addition to aggregate (sand, gravel, and crushed stone), are asbestos, copper, gold, iron, and silver. However, the most significant resource in the county in terms of abundance, demand, and economic value, is aggregate. Sand, gravel, and crushed stone are building materials and constitute crucial resources in a developing region.

The county has a history of mineral exploration and extraction throughout its portion of the Sierra range and foothills, including gold, copper, and granite. Gold extraction in the county is now almost entirely recreational, such as with gold panning, although gold is occasionally extracted as a by-product of sand and gravel operations; copper mining is not presently commercially viable. Three types of mineral resources are currently commercially mined in

Madera County: stone (subbase), dimension stone (granitic), and aggregate (Madera Town Center EIR, 2006).

3.6.2 REGULATORY SETTING

Federal

There are no specific federal regulations applicable to mineral resources. The following addresses seismicity and soils.

UNIFORM BUILDING CODE

The Uniform Building Code (UBC) incorporates data regarding the response of structures to seismic events as a basis for structural design. The UBC considers primary lateral seismic forces and general soil type. The objective of the UBC is to protect the life safety of building occupants and the public. The UBC provisions are enforced through the building permit process during which plans for proposed structures are examined for compliance with the applicable provisions of the UBC. In large earthquakes, compliance with provisions of the UBC would reduce the risk of complete structural failure, although structural damage may be expected. All new construction must comply with the current version of the UBC.

EARTHQUAKE HAZARDS REDUCTION ACT

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA) by refining the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and U.S. Geological Survey.

CLEAN WATER ACT (EROSION CONTROL)

The Clean Water Act (CWA) (33 USC § 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain nonpoint source discharges to surface water. Those

discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb one or more acres of land are required to obtain NPDES coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit), Order No. 99-08-DWQ. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which includes Best Management Practices (BMPs) to protect stormwater runoff, including measures to prevent soil erosion.

State

CALIFORNIA BUILDING CODE

The State of California provides minimum standards for building design through the CBC (California Code of Regulations, Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The CBC applies to building design and construction in the state and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with numerous more detailed and/or more stringent regulations.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act (CPRC Division 2, Chapter 7.5) is intended to provide policies and criteria to assist cities, counties, and state agencies in the exercise of their responsibility to prohibit the location of developments and structures for human occupancy across the trace of active faults. In order to assist cities and counties, the State Geologist shall delineate, by December 31, 1973, appropriately wide earthquake fault zones to encompass all potentially and recently active traces of faults and shall compile maps delineating these zones.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act (CPRC Division 2, Chapter 7.8 and CCR Title 14, Article 10) provides for a statewide seismic hazard mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides or other ground failure and other seismic hazards caused by earthquakes.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

In California, the State Water Resources Control Board (SWRCB) administers regulations promulgated by the U.S. Environmental Protection Agency (55 Code of Federal Regulations 47990) requiring the permitting of stormwater-generated pollution under the National Pollutant Discharge Elimination System (NPDES). In turn, the SWRCB's jurisdiction is administered through nine regional water quality control boards. Under these federal regulations, an operator must obtain a general permit through the NPDES Stormwater Program for all construction activities with ground disturbance of one acre or more. The general permit requires the implementation of best management practices to reduce sedimentation into surface waters and control erosion. One element of compliance with the NPDES permit is preparation of a SWPPP that addresses control of water pollution, including sediment, in runoff during construction. (See Section 3.9, "Hydrology and Water Quality," for more information about NPDES and SWPPPs.)

CALIFORNIA SURFACE MINING AND RECLAMATION ACT OF 1975

The Surface Mining and Reclamation Act (SMARA) was enacted by the State Legislature in 1975 (Public Resources Code Section 2710 et seq.) to regulate surface mining in the state. SMARA requires the state and counties to identify, map and classify aggregate resources throughout the state so that local governments could make land use decisions informed of the presence of aggregate resources and the need to preserve access to them. Local jurisdictions are required to enact specific procedures to guide mineral conservation and extraction at particular sites, and to incorporate mineral resource management policies into their general plans. In compliance with the SMARA, the California Department of Conservation, Division of Mines and Geology has established a classification system to denote both the location and significance of four major key extractive resource categories, which are:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists;

- 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; and

- MRZ-4: Areas where available information is inadequate for assignment of any other MRZ zone.

Local

CITY OF MADERA GENERAL PLAN

The City of Madera General Plan sets forth the following goals and policies relevant to geology, soils and mineral resources.

Policy HS-7: The City supports efforts by federal, state, and other local organizations to investigate local seismic and geological hazards and support those programs that effectively mitigate these hazards

Policy HS-8: The City shall seek to ensure that new structures are protected from damage caused by earthquakes, geologic conditions, or soil conditions.

3.6.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;*
- *Strong seismic ground shaking;*
- *Seismic-related ground failure, including liquefaction; or*
- *Landslides;*

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

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

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

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

f) 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; or

g) 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.

The discussion below does not address items (e) or (g) above for reasons noted earlier.

Potential impacts associated with septic systems and alternative waste disposal systems are not analyzed because the Project proposes to connect to the City sewer system.

Also, the potential impact of the proposed Project on mineral resources is not analyzed because the previous EIR prepared and certified for the Gateway Galleria Project on this site in 2007 concluded that no mineral resources are present (Quad Knopf 2007a, page 3-71).

3.6.4 IMPACTS AND MITIGATION MEASURES

Impact #3.6-1 - Exposure of people or structures to potential substantial adverse effects from fault rupture and seismic-related ground failure:

The nearest active faults that are expected to be the sources of future major earthquakes are the San Andreas and Owens Valley faults, which are 50 or more miles distant. No earthquakes of magnitude 5.5 or greater have ever been recorded in the Madera area, nor have there been reports of damage in the area from earthquakes of such magnitude outside Madera County. The proposed Project site is not located on or in close proximity to an active fault or special studies earthquake fault zone, and is not located within an Alquist-Priolo earthquake hazard zone. The site has low potential for any seismic-related ground failure, including liquefaction, landslides, or expansive soils. There is a potential for moderate ground shaking on the proposed Project site from an event along one of the regionally active, distant faults. All new construction will conform to seismic requirements of the Uniform and California building codes as a minimum standard.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.6-2(a) - Proposed project will result in substantial soil erosion or soil instability on-site:

Although the proposed Project site is relatively flat, grading of 33.4 acres of the 50-acre site will be required prior to construction. Motor graders scraping, lifting, transporting and spreading the surface soils of the site will result in loosened, exposed soils that can lead to soil erosion and/or soil instability.

Conclusion: This impact is ***potentially significant***.

Mitigation Measure #3.6-2a: Implement Mitigation Measure #3.6-1.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.6-1 will reduce this impact to a level of ***less than significant***.

Impact #3.6-2(b) - Proposed project will result in substantial soil erosion or soil instability related to off-site infrastructure extension:

Construction activities related to off-site infrastructure resulting in ground disturbance (topographic alteration) could create a potential for ground instability and soil erosion. In addition, impacts related to ground disturbance that could result from trench/pipeline

construction within the off-site utility corridors could potentially occur. However, trenching and pipeline construction are temporary in nature. Once the utility is installed the surface is typically returned to its original condition. Most off-site utility lines will be placed in already disturbed roadway easements, and BMPs shall be applied during construction to minimize erosion and sedimentation.

Conclusion: This impact is ***potentially significant.***

Mitigation Measure #3.6-2b: Prior to issuance of grading permits, an erosion control plan shall be submitted and approved by the City of Madera that reduces erosion and water quality degradation. The erosion control plan shall indicate the proper control of erosion, sedimentation, siltation and other pollutants will be implemented to meet NPDES permit requirements and City standards (see Section 3.9 of this EIR). The plan shall address storm drainage during construction and set forth BMPs that shall be carried out during construction to minimize erosion, sedimentation and water quality degradation. BMPs selected shall be in accordance with the California Stormwater Quality Association Stormwater Best Management Practices Handbook, and will include: vegetated swales; bioretention areas; and a flow-based, storm water treatment device.

The plan shall require that all drainage facilities shall be constructed to the City of Madera specifications. The plan shall indicate whether grading will occur in the winter months.

The plan shall also require that:

- Drainage facilities shall be protected as necessary to prevent erosion of onsite soils immediately following grading activities;
- Cut slopes and drainage ways within native material shall be protected from direct exposure to water runoff immediately following grading activities;
- The design for collected run-off shall dissipate immediately following grading activities;
- Cut and fill embankment slopes shall be protected from sheet, rill, and gully erosion; and
- Where soil stockpiling or borrow areas are to remain for more than one construction season, proper erosion control measures shall be applied as specified in the improvement plans/grading plans.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.6-1 will reduce this impact to a level of ***less than significant***.

Impact #3.6-3 - 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 lateral spreading, subsidence, or collapse:

Lateral spreading and subsidence generally occur on steep, free-facing topographic features. There are no free-facing topographic features at the proposed Project site that would result in lateral spreading, subsidence or collapse.

Conclusion: There is ***no impact***.

Mitigation Measures: No mitigation measures are required.

Impact #3.6-4 - Adverse effect on the availability of a known mineral resource of value to the region and/or residents of the State:

The majority of Madera is currently classified as MRZ-1, indicating that it is an area where adequate information exists to substantiate that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence exists. Additionally, the Madera General Plan does not designate the proposed Project site as a site containing important mineral resources or mineral resource extraction operations. Therefore, the implementation of the proposed Project would not result in the loss of availability of a locally important mineral resource.

Conclusion: There is ***no impact***.

Mitigation Measures: No mitigation measures are required.

3.7 Greenhouse Gases

This section provides an analysis of the potential greenhouse gas (GHG) impacts that may be caused by implementation of the proposed Project. Potential impacts may include GHG emissions that would affect the environment or conflict with a regional adopted air quality plan. This section is based on the Air Quality and Greenhouse Gas Technical Report, dated April 2015, prepared by OB-1 Air Analyses, Inc. (Appendix B). This project has been analyzed with the use of the thresholds derived from the regulatory scheme established by the enactment of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 375 in 2008. AB 32 required that, by the year 2020, GHG emissions in California be reduced 20 percent from 1990 levels. AB 32 required that ARB prepare a Scoping Plan laying out a regulatory strategy for reaching these targets. SB 375, in turn, required ARB to establish regional GHG emissions budgets intended to inform the formulation of Sustainable Community Strategies by which particular regions could seek to formulate land use patterns that would allow the regions to operate within such budgets, and thereby contribute to statewide efforts to meet overall AB 32 GHG emissions reduction goals. Neither AB 32 nor SB 375 required ARB to formulate CEQA significance thresholds to be applied to individual agencies. According to ARB's 2008 Scoping Plan, however, the State as a whole was determined to require the achievement of a 28 percent reduction from a Business as Usual (BAU) scenario that would have occurred had AB 32 never been enacted. AB 32 is described in greater detail on page 3.7-9 of this section.

Under the BAU scenario established in 2008, Statewide emissions were increasing at a rate of approximately one percent per year as noted below. It was estimated that the 2020 estimated BAU of 596 million tons (Mt) MtCO2e would have required a 28 percent reduction to reach the 1990 level of 427 MtCo2e.

3.7.1 ENVIRONMENTAL SETTING

Greenhouse Gases

The constituent gases that trap heat in the Earth's atmosphere are called greenhouse gases. GHGs play a critical role in the global radiation budget by trapping infrared radiation emitted from the Earth's surface, which would otherwise have escaped into space. Prominent GHGs contributing to this process include: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and chlorofluorocarbons (CFCs). Without the natural heat-trapping effect of GHG, the Earth's surface would be about 34°F cooler. This is a natural phenomenon, known as the "Greenhouse Effect," and is responsible for maintaining a habitable climate. However, anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the "Greenhouse Effect," and have led to a trend of unnatural warming of the Earth's natural climate known as global warming or climate change, or more accurately Global Climate Disruption. Emissions of these gases that induce global climate disruption are attributable to human activities associated with the following land uses: industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (Environmental Protection Agency 2006).

"Global warming potential" (GWP) describes the ability of a unit of gas emitted in the present to trap heat in the atmosphere over a certain timeframe, indexed relative to a reference gas, CO2, which is assigned a GWP value of 1. The larger the GWP, the more warming the gas causes. For example, methane's 100-year GWP is 25, which means that methane will cause 25 times as much warming as an equivalent mass of carbon dioxide over a 100-year time period (Greenhouse Gas Protocol, 2007).

Carbon Dioxide (CO2) is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. When an organic carbon compound (such as wood) or fossilized organic matter, (such as coal, oil, or natural gas) is burned in the presence of oxygen, CO2 is produced. CO2 is the reference gas for GWP with a value of 1. Removal of CO2 from the atmosphere is caused by CO2 "sinks," such as absorption by seawater and photosynthesis by ocean-dwelling plankton and land plants, including forests and grasslands. However, seawater is also a source of CO2 to the atmosphere, along with land plants, animals, and soils, when CO2 is released during respiration. Whereas the natural production and absorption of CO2 is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Carbon dioxide's lifetime is poorly defined because the process by which carbon is transferred to ocean sediments is extremely slow.

Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution. Prior to the industrial revolution, concentrations of CO2 were stable at a range of 275 to 285 parts per million (ppm). The National Oceanic and Atmospheric Administration (NOAA's) Earth System Research Laboratory (ESRL) indicates that global concentration of CO2 were 396.72 ppm in April 2013. In addition, the CO2 levels at Mauna Loa averaged over 400 ppm for the first time during the week of May 26, 2013. These concentrations of CO2 exceed by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH4) is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. As mentioned above, methane's 100-year GWP is 25. CH4 is combustible, and it is the main constituent of natural gas-a fossil fuel. CH4 is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH4. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N2O) is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas," and sometimes used as an anesthetic. Nitrous Oxide is more persistent in the atmosphere with a GWP value of 298. N2O is naturally produced in the oceans and in rainforests. Man-made sources of N2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

There are four main categories of fluorinated gases—hydrofluorocarbons; (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6), and nitrogen trifluoride (NF3). The largest sources of fluorinated gas emissions are described below (Environmental Protection Agency 2015):

Hydrofluorocarbons (HFCs) are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs, HFCs are one of four groups with the highest GWP. HFCs are assigned a GWPs between 12,000-14,800. HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Due to the persistent nature of PFCs the GWPs are assigned a range of 7,390-12,200. The two main sources of PFCs are aluminum production and semiconductor manufacture.

Nitrogen Trifluoride (NF3) is a colorless gas with little odor. Traces of active fluorides give it a pungent, musty or moldy odor. Nitrogen trifluoride is rather inert chemically, but at elevated temperatures is a potent oxidizer. NF3 has been assigned a GWP of 17,200. High purity NF3 finds use in the manufacture of semiconductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

Sulfur Hexafluoride (SF6) is an extremely potent greenhouse gas. SF6 is very persistent, with an atmospheric lifetime of more than a thousand years. Thus, a relatively small amount of SF6 can have a significant long-term impact on global climate change. As an extremely persistent greenhouse gas, SF6 has an assigned GWP of 22,800. SF6 is human-made, and the primary user of SF6 is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF6 is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

GHG EMISSION LEVELS

According to the World Resources Institute (WRI) in 2005, total worldwide GHG emissions were estimated to be 37,797 million (M) tons of CO2e (MtCO2e), and GHG emissions per capita worldwide were 5.9 tCO2e. These emissions exclude GHG emissions associated with the land use, land-use change, and forestry sector and bunker fuels. The WRI reports that in 2009, total GHG emissions in the U.S. were 6,469 MtCO2e, with average GHG emissions per capita of 21.09 tCO_2e, and total GHG emissions in California were 446.07 MtCO2e, with average GHG emissions per capita of 12.07 tCO2e.

California has a larger percentage of its total GHG emissions coming from the transportation sector (50 percent) than the U.S. emissions (29 percent) and a smaller percentage of its total GHG emissions from the electricity generation sector, i.e. California have 11 percent but the U.S. has 32 percent.

In August 2014, the City of Madera published a community-wide GHG Inventory[1] to supplement the estimated emissions from local government operations produced in September 2012. The estimated emissions from community-wide sources in 2007 are presented in Table 3.7-1.

Table 3.7-1
City of Madera 2007 GHG Emissions

Sector	GHG Emissions (tCO_2e)	% of Total
Residential Energy	65,210	20.1%
Commercial/ Industrial Energy	54,387	16.7%
Transportation & Mobile Sources	188,585	58.1%
Solid Waste	12,973	4.0%
Water	2,840	0.9%
Wastewater	695	0.2%
Total	**324,690**	**100%**

The GHG Inventory estimated the community-wide GHG emissions in 2007 and estimated what the forecasted GHG emissions in 2020 and 2030 would be if consumption trends continued at the 2007 levels, absent any new federal, State, regional, or local policies or actions that would reduce GHG emissions. It was forecasted that GHG emissions in the City of Madera would be 29 percent higher than 2007 in 2020, and by 2030 the emissions would increase 58 percent from 2007 levels. This information was used by the decision-makers in their GHG emissions reduction efforts in developing their General Plan Policy CON-36, Action Item CON-36.2, which was the development of a Climate Action Plan.

Potential Environmental Effects

Worldwide, average temperatures are likely to increase by 3°F to 7°F by the end of the 21st century. However, a global temperature increase does not directly translate to a uniform increase

[1] City of Madera Greenhouse Gas Emissions Inventory. City of Madera. August 2014a.

in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the Intergovernmental Panel on Climate Change's (IPCC's) Working Group II Report, climate change impacts to North America may include diminishing snowpack, increasing evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations (Intergovernmental Panel on Climate Change, 2014).

California Implications

Even though climate change is a global problem and GHGs are global pollutants, the specific potential effects of climate change on California have been studied. The California Natural Resources Agency summarized the best known science on climate change impacts in seven specific sectors and provided recommendations on how to manage against those threats California Natural Resource Agency 2009). Generally, research indicates that California should expect overall hotter and drier conditions with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures, and accelerating sea-level rise.

In addition to these changes, the intensity of extreme weather events is also changing. The impacts assessment indicates that extreme weather events, such as heat waves, wildfires, droughts, and floods are likely to be some of the earliest climate impacts experienced. It is anticipated that temperatures in California could increase 5°F by 2050 and 9°F by 2100. Precipitation is expected to increase by 35 percent by 2050 and sea levels are expected to rise by 18 inches by 2050 and by 55 inches by 2100.

In fact, in a report prepared by California's Office of Environmental Health Hazard Assessment (EPA 2008) it is reported that more extreme hot days, fewer cold nights, and shifts in the water and growing cycles are already being observed in California; forest and wildland fires are becoming more frequent and intense, in part because dry seasons have started earlier and ended later; sea levels have risen by six inches or more along much of the California coast over the last century; and increased temperatures with decreased winter snowfall, as well as earlier snowmelt and greater rainwater runoff occurring earlier in the year, threaten the State's major water supply—the Sierra Nevada snowpack and timed downstream reservoir releases.

3.7.2 REGULATORY SETTING

GHG pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (EPA) regulates at the federal level. The California Air Resources Board (CARB) regulates at the State level and the San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates at the air basin level.

International

Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34°C cooler (Climate Action Team 2006). As such, climate change is a global issue involving all of the world's population. Therefore, countries such as those discussed below have made an effort to reduce GHGs.

Intergovernmental Panel on Climate Change: In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention): On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol: The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of five percent against 1990 levels over the five-year period 2008-2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

The United States has not approved implementation of the Kyoto Protocol. Other countries that have approved the Kyoto Protocol include: Australia, Canada, China, the European Union (Belgium, Denmark, Germany, the Hellenic Republic, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, Great Britain, and Northern Ireland), Japan, Mexico, and New Zealand.

Federal

The federal government is taking a number of common-sense steps to address the challenge of climate change. The EPA collects various types of GHG emissions data. This data helps policy makers, businesses, and EPA track GHG emissions trends and identify opportunities for reducing emissions and increasing efficiency. EPA has been collecting a national inventory of GHG emissions since 1990 and in 2009 established mandatory reporting of GHG emissions from large GHG emissions sources.

EPA is also getting GHG reductions through partnerships and initiatives; evaluating policy options, costs, and benefits; advancing the science; partnering internationally and with states, localities, and tribes; and helping communities adapt (OB-1 Air Analyses 2015). Below are a list of laws and programs that have been implemented by the federal government.

Climate Action Plan: In June 2013, President Obama unveiled his Climate Action Plan (Plan). The plan is a national blueprint to slow the effects of climate change, and focuses on both CO2 and short lived climate pollutants, such as CH4 and HFCs. The plan encompasses many sources of greenhouse gas emissions, including industrial and transportation sources. The Climate Action Plan directs the EPA to promulgate rules to address CO2 emissions from new and existing power plants, which nationally emitted over 2 billion metric tons of CO2 in 2012; the largest single source of greenhouse gas emissions in the country.

Power Plants: In September 2013, U.S. EPA proposed a rule, under Section 111(b) of the Federal Clean Air Act, to limit CO2 emissions from future fossil-fueled power plants. On June 2, 2014, EPA released a proposed rule to regulate CO2 emissions from existing power plants under Section 111(d) of the Clean Air Act, also known as the Clean Power Plan. EPA estimates that the proposed rule will reduce CO2 emissions from the power sector 30 percent by 2030 from 2005 emissions. Instead of regulating emissions from individual power plants, the proposed rule focuses heavily on energy efficiency and renewable energy programs as a whole, which are two mechanisms championed by states like California where much progress and success have already been achieved. EPA also recognized the fact that state power grids are interconnected, and has included flexibility in the proposed rule allowing the option for states to work together to develop multi-state compliance plans.

Clean Vehicles: Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle

standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year.

Renewable Fuel Standard (RFS) Program: The RFS program was created under the Energy Policy Act (EPAct) of 2005, and established the first renewable fuel volume mandate in the United States. As required under EPAct, the original RFS program (RFS1) required 7.5 billion gallons of renewable- fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act (EISA) of 2007, the RFS program was expanded in several key ways:

- EISA expanded the RFS program to include diesel, in addition to gasoline;
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel, and set separate volume requirements for each one; and
- EISA required EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

Mandatory Reporting of GHGs: The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review: The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits.

State

There has been significant legislative and regulatory activity that affects climate change and GHG in California, as discussed below.

Executive Order S-3-05: On June 1, 2005, the Governor issued Executive Order S 3-05 which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

To meet these targets, the Climate Action Team prepared a report to the Governor in 2006 that contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met.

Additionally, Executive Order B-30-15: On April 29, 2015, the Governor issued Executive Order B-30-15 which established an interim California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. Reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 was enshrined by SB 350 – Public Utilities Code, § 740.12, subd. (a)(1)(D), which came into effect January 1, 2016.

AB 32: In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include CO2, CH4, N2O, HFCs, PFCs, and SF6. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The ARB is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. AB 32 also requires that by January 1, 2008, the ARB must determine what the statewide GHG emissions level was in 1990, and it must approve a statewide GHG emissions limit so it may be applied to the 2020 benchmark. The CARB approved a 1990 GHG emissions level of 427 MtCO2e, on December 6, 2007 in its staff report. Therefore, in 2020, emissions in California are required to be at or below 427 MtCO2e.

SB 50: In the 2015 legislative session, the Legislature passed, and the Governor signed, Senate Bill 350 (SB 350). The bill added to the Public Utilities Code language that essentially puts into statute the post-2020, long-term GHG reduction targets already identified in Executive Orders S-3-05 and B-30-15, as described above, albeit in the limited context of new state policies increasing the overall share of electricity that must be produced through renewable energy sources and directing certain state agencies to begin planning for the widespread electrification of the California vehicle fleet.

Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, section 740.12(b) now states that the Public Utilities Commission (PUC), in

consultation with ARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

SB 350 also requires that, by 2030, 50 percent of all electricity provided by power plants in California must be from renewable sources. SB 350 further requires the CEC to establish annual targets for statewide energy efficiency savings and demand reduction that would achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by retail customers by 2030. The bill requires the PUC to establish efficiency targets for investor-owned electrical and gas corporations consistent with the 2030 goal, and the California Energy Commission to establish annual targets for energy efficiency savings and demand reductions for local publicly-owned electric utilities consistent with the 2030 goal. Each retailer of electricity must regularly file an integrated resource plan (IRP) for review and approval.

Climate Change Scoping Plan: The Scoping Plan released by ARB in 2008 outlined the state's strategy to achieve the AB-32 goals. This Scoping Plan, developed by ARB in coordination with the Climate Action Team (CAT), proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by ARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 MtCO2e requires the reduction of 169 MtCO2e, or approximately 28.3 percent, from the State's projected 2020 BAU emissions level of 596 MtCO2e.

However, in May 2014, ARB developed, in collaboration with the CAT, the First Update to California's Climate Change Scoping Plan (Update), which shows that California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), ARB is beginning to transition to the use of the IIPCC's Fourth Assessment Report (AR4) 100-year GWPs in its climate change programs. ARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 MtCO2e; therefore the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 MtCO2e in the initial Scoping Plan.

SB 375: Senate Bill (SB) 375 passed the Senate on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions and contributes over 40 percent of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30 percent. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation also are necessary. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Title 24: Although not originally intended to reduce greenhouse gases, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2008 standards became effective January 1, 2010. The requirement for when the 2008 standards must be followed is dependent on when the application for the building permit is submitted. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards: On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code (Part 11 of title 24, California code of Regulations), which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code, periodically updated to include new advancements, for all residential, commercial and K-14 school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

Renewable Portfolio Standards: Established in 2002 under Senate Bill (SB 1078), and accelerated in 2006 under SB 107 and again in 2011 under SBX1-2, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Climate Change Scoping Plan. ASBX1-2 added, for the first time, publicly owned utilities to the entities subject to RPS.

The expected growth in RPS to meet the standards in effect in 2008 is not reflected in the BAU calculation in the AB 32 Scoping Plan, discussed below. In other words, the Scoping Plan's BAU 2020 does not take credit for implementation of RPS that occurred after its adoption.

Pavley Regulations: California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request, which begins with motor vehicles in the 2009 model year.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009-2012) standards will result in about a 22-percent reduction compared with the

2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Low Carbon Fuel Standard - Executive Order S-01-07: The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low-Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009. ARB approved some amendments to the LCFS in December 2011, which became effective on November 26, 2012, and were implemented by ARB on January 1, 2013 (California Air Resources Board 2015).

Advanced Clean Cars: In January 2012, CARB approved the ACCs Program, a new emissions-control program for model year 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, the new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

SB 97: Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code.

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its recommended amendments to the State *CEQA Guidelines* for addressing greenhouse gas emissions, as required by SB 97. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Amendments became effective on March 18, 2010.

Regional

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The Project is within the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Currently, the agency has several rules and plans in place that help to guide and reduce impacts from GHG emissions.

In 2009, the SJVAPCD adopted a comprehensive regional policy and guidance on addressing and mitigating GHG emission impacts caused by industrial, commercial, and residential development in the San Joaquin Valley. This set of guidance documents was designed to assist local permitting agencies and businesses by answering several questions related to CEQA and how to address GHG impacts under existing CEQA law.

To assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change, the SJVAPCD has adopted the guidance: "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" (2009). The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from BAU is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.

It should be noted that this guidance from the SJVAPCD predates the California Supreme Court's November 30, 2015, decision in *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, which is now the leading CEQA case on methodologies for assessing the significance of GHG-related impacts of projects. In that case, the respondent agency had relied on a type of BAU analysis in concluding that the proposed project, a major land use plan, would not have significant GHG-related impacts. Although the Court indicated an open-mindedness to the use of an impact assessment approach based on a comparison between a proposed project with GHG-reducing features and mitigation measures against a BAU version of such a project, the Court found an absence of substantial evidence supporting the approach taken in the case by DFW. To the extent that the Court found problems with the approach used by DFW and provided additional guidance about potentially valid ways of addressing GHG-related impacts of projects, the Court's analysis could be understood to raise questions about the approach recommended by the SJVAPCD. That agency, however, has not yet had time to officially respond to the Court's decision or to modify the approach described above. The City has therefore used the approach recommended by SJVAPCD, but has not relied exclusively on that approach in assessing the significance of the Project's GHG-related effects.

MADERA COUNTY TRANSPORTATION COMMISSION

As designated by the federal government and the State, the Madera County Transportation Commission (MCTC) is the Regional Transportation Planning Agency (RTPA) and the designated Metropolitan Planning Organization (MPO) for Madera County. Madera CTC is a public organization that works with governments and the public to address issues and needs that occur across city and county boundaries. Madera County Transportation Commission's role is to:

- Foster intergovernmental coordination;
- Undertake comprehensive regional planning with an emphasis on transportation issues;
- Provide a forum for citizen input into the planning process;
- Provide technical services to its member agencies; and
- Development and adoption of the Regional Transportation Plan and Transportation Improvement Program as required by state law.

In all these activities, the Commission works to develop a consensus among its members with regards to multi-jurisdictional transportation issues.

Local

CITY OF MADERA GENERAL PLAN

Pursuant to California Code Title 14, Section 65300, the 2009 City of Madera General Plan addresses GHG emissions in its Circulation and Infrastructure Element, Conservation Element, and it's Land Use Element. Other policies related to greenhouse gas reduction, which also directly affect air quality, are provided in Section 3.3. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies, listed below:

Circulation and Infrastructure Element, Conservation Element, and Land Use Element

Policy CI-41: Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution and greenhouse gases.

Policy CON-35: The City shall implement and enforce State and Regional regulations pertaining to greenhouse gas emissions and climate change.

Policy CON-36: The City supports local, regional, and statewide efforts to reduce the emission of greenhouse gases linked to climate change.

- Action Item CON-36.1: Within six months of the adoption of this General Plan if possible (but not later than one year after adoption of the General Plan), the City will complete a detailed Greenhouse Gas Inventory including emissions generated from municipal operations, as well as emissions generated by all sectors within the community, using methods approved by, or consistent with guidance from, the ARB. The City shall

establish a baseline inventory of emissions for community wide sources for the year 2007.

- Action Item CON-36.2 Within six months of the completion of the Greenhouse Gas Inventory if possible (but not later than one year after completion of the Inventory), the City will, in collaboration with stakeholders and the community, prepare a Climate Action Plan (CAP) that incorporates and/or addresses the following criteria:

    - The CAP will identify goals for reducing manmade greenhouse gas (GHG) emissions from the community, municipal and business activities;

    - The CAP will establish resiliency and adaptation programs to prepare for potential impacts of climate change, and provide a phased implementation plan to achieve these goals;

    - The CAP will establish a greenhouse gas emissions reduction target of 15% percent below 2007 levels by 2020, consistent with California Assembly Bill 32, the Global Warming Solutions Act of 2006 (AB32) and the guidance provided in the associated California Air Resources Board Climate Change Scoping Plan approved in December 2008; and

    - The CAP will also outline a strategy to achieve 1990 GHG levels by 2020 and an 80% reduction from 1990 GHG levels by 2050 in accordance with California State Executive Order S-3-05.

Policy CON-37: The City shall collaborate and coordinate with regional organizations and local jurisdictions within the City to reduce greenhouse gas emissions.

Policy CON-38: The City shall partner with local agencies and organizations to coordinate outreach and education regarding the effects of greenhouse gas emissions and climate change.

Policy CON-39: The City supports the goals of recently adopted Senate Bill 375 and will review this General Plan for consistency with the Sustainable Community Strategy (SCS) to be adopted by the Madera County Transportation Commission. The City will consider amendments to the General Plan as it deems appropriate to implement the SCS.

Policy LU-36: The City supports walkability as a guiding concept for the design of new residential and commercial projects. Both private sector development projects and City public works projects shall be designed to be pedestrian friendly to help reduce vehicular travel, improve the quality life in Madera, and support the City's efforts to reduce pollution and the generation of greenhouse gases.

Many of the policies relevant to air quality are also beneficial toward the reduction of GHG emissions.

CITY OF MADERA CLIMATE ACTION PLAN

The City of Madera adopted a Climate Action Plan (CAP) in September 2015 that established a GHG emissions reduction goal or target to achieve emissions levels 15 percent below 2007 levels by 2020, consistent with the AB 32 and General Plan Action Item CON-36.2. The Climate Action Plan also established a longer-term target of 20 percent below 2007 levels by 2030, to support California's larger effort to reduce statewide emissions under Executive Orders S-3-05 and B-30-15 (now included in SB 350). Madera would need to reduce its GHG emissions by an additional 29,754 MtCO2e by 2020 and by 88,676 MtCO2e by 2030 beyond reductions associated with State regulations to meet these targets.

3.7.3 IMPACT EVALUATION CRITERIA

Analysis Methodology

Applied methodology comes from the SJVAPCD's "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the "District Policy - Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency". As discussed previously, SJVAPCD recommends that projects complying with any SJVAPCD adopted BPSs are not required to provide a specific quantification of GHG emissions and thus would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPSs thus require quantification of GHG emissions and demonstration that GHG emissions have been reduced or mitigated by 29 percent below BAU, as targeted by ARB's AB 32 Scoping Plan to be considered to have a less than significant impact on climate change. As noted earlier, however, the City has not relied solely on this methodology in addressing the significance of impacts in light of uncertainties created by the California Supreme Court's decision in *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204.

Thresholds of Significance

According to the *CEQA Guidelines* Appendix G Environmental Checklist, lead agencies, in considering whether greenhouse gas emissions impacts from a proposed project would be significant, should inquire whether a proposed project would:

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

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

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a "threshold of significance." The Office of Planning and Research's amendments to the CEQA Guidelines state that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

However, the CEQA Guideline amendments do not identify a threshold of significance for GHG emissions, nor does it prescribe assessment methodologies or specific mitigation measures. Instead, it calls for a "good faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project."

Guideline 15064.4(a) states, "…A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use…; or (2) Rely on a qualitative analysis or performance based standards."

The CEQA Guidelines amendments for GHG emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions:

Consideration No. 1: The extent to which the project may increase or reduce GHG emissions compared with the existing environmental setting. This discussion could involve a quantification of GHG emissions to the extent feasible;

Consideration No. 2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

Consideration No. 3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

In accordance with the SJVAPCD's guidance for addressing GHG emission impacts for new projects under CEQA, a project would be considered to have a less-than-significant individual and cumulative impact on climate change if it were to do at least one of the following:

- Be exempt from the requirements of CEQA; or
- Comply with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency; or
- Implement approved Best Performance Standards (BPS); or

- Quantify project GHG emissions and reduce those emissions by at least 29 percent compared to BAU. BAU is referenced in CARB's AB 32 Scoping Plan as emissions occurring in 2020 if the average baseline emissions during the 2002–2004 period grew to 2020 levels without additional control. Therefore, 2002–2004 emissions factors, on a unit of activity basis, multiplied by the activity expected to occur in 2020, is an appropriate representation of 2020 BAU. Also, see page 3.7-8 for more information on BAU. The reductions can be based on any combination of reduction measures, including GHG reductions achieved as a result of changes in building and appliance standards occurring since the 2002–2004 baseline period.

The Project is not exempt from CEQA. The Scoping Plan prepared pursuant to AB 32 demonstrates how California would reduce GHG emissions to 1990 levels by the year 2020; however, most of the measures in the Scoping Plan are not applicable to the Project. There are no approved SJVAPCD BPS that would apply to the project. Therefore, the approach used in this analysis is to quantify GHG emissions and reduce the emissions by at least 29 percent compared to BAU. As explained previously, however, the 2015 *CBD v. CDFW* case raised questions about the approach taken by CDFW in that case in calculating the level of GHG reductions that would be needed for the project at issue in order for the project to be bearing what amounts to its "fair share" of GHG reductions under the Scoping Plan. The SJVAPCD is aware of the Court's decision, and is reviewing the District's methodology. The SJVAPCD confirmed in March 2016 (D. Wagner, Pers. Comm.) that it will continue to use the 29 percent reduction from 1990 levels until such time that a new method and/or revised reductions have been approved. Because the SJVAPCD reduction may no longer be reliable, however, in determining whether the GHG impacts of individual projects are significant or less-than-significant-impact, the City of Madera has not relied exclusively on this SJVAPCD methodology.

District Significance Thresholds

It is widely recognized that no single project could generate enough GHG emissions to noticeably change the global climate temperature. However, the combination of GHG emissions from past, present and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether or not they would result in a cumulatively significant impact on global climate change.

In the SJVAPCD's Staff Report, staff reviewed the relevant scientific information and concluded that the existing science is inadequate to support quantification of the extent to which project specific GHG emissions would impact global climate features such as average air temperature, average rainfall, or average annual snow pack. In other words, the SJVAPCD was not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an insignificant impact.

In the absence of scientific evidence supporting establishment of a numerical threshold, the SJVAPCD policy applies performance based standards to assess project specific GHG emission impacts on global climate change. The determination is founded on the principle that projects whose emissions have been reduced or mitigated consistent with AB 32, should be considered to

have a less than significant impact on global climate change. The SJVAPCD provides a tiered approach in assessing significance of project specific GHG emission increases.

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.

- Projects implementing BPS would not require quantification of project-specific GHG emissions. Consistent with the CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

- Projects not implementing BPS would require quantification of project-specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to BAU, including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Projects achieving at least a 29 percent GHG emission reduction compared to BAU, or "no action taken" (NAT), would be determined to have a less than significant individual and cumulative impact for GHG.

3.7.4 IMPACTS AND MITIGATION MEASURES

Impact #3.7-1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment:

The GHG emissions inventory for this analysis includes the following sources of annual direct and indirect emissions: (1) area sources (e.g., landscaping-related fuel combustion sources and natural gas fireplaces); (2) energy use associated with residential and non-residential buildings; (3) water and wastewater; (4) solid waste; (5) mobile sources (e.g., passenger vehicles and trucks); and (6) construction. The ongoing operational emissions consist of the first five categories, while the one-time emissions are associated with construction. The typical types of GHG emissions resulting from developments such as the Project are emissions of CO2, CH4, and N2O.

One-time emissions are those construction emissions that are not reoccurring over the life of the Project. The major construction phases included in this analysis are site preparation, grading, building construction, paving, and architectural coating. Emissions are from off-road construction equipment and on-road vehicles like worker and vendor commuting and trucks for soil and material hauling.

Some emissions would occur every year after build out. GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions when associated with a building. GHGs are also

emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Indirect GHG emissions also result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water, as well as the sources of the water. In addition, CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill using waste disposal rates by land use and overall composition.

The primary sources of annual GHG emissions are associated with on-road mobile sources related to residents, workers, customers, and delivery vehicles visiting the land use types in the project.

A summary of all GHG emissions from the proposed Project is presented in Table 3.7-2.

Table 3.7-2
Proposed Project Unmitigated GHG Emissions

Category	CO2e (t/year)
Direct – Mobile (Amortized Construction)	18
Direct – Mobile (Operational)	6,043
Direct – Stationary	0
Indirect – Purchased Electricity (Power)	503
Indirect – Purchased Natural Gas (Power)	232
Indirect – Purchased Electricity (Water)	13
Indirect – Cogeneration	0
Direct – Manufacturing	0
Direct – Fugitive – Solid Waste	74
TOTAL	**6,864**

The SJVAPCD has determined that since GHG emissions from development projects primarily occur indirectly through energy consumption and vehicle miles traveled (VMT). They suggest that developers can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances. Developers can further reduce GHG emissions through project designs that reduce VMT through features that promote pedestrian access and use of public transportation.

Several project design features (PDFs) presented in the Project Description (Chapter Two) of the Draft EIR are considered to be beneficial to greenhouse gas impacts. These PDFs and others described below will reduce emissions by design and are included as part of the Project.

- The applicant is proposing to have all proposed outdoor lighting fixtures to be energy efficient LED. In addition, signage for the travel stop, hotel, and restaurant, and the monument sign at Avenue 17 entrance and directional signs throughout the project site is proposed to be internally LED illuminated;

- The site will be landscaped with water-efficient deciduous and evergreen trees and a variety of tall, medium, and low shrubs and ground covers. Plants will be ranked

"Medium", "Low" and "Very Low" water use per California's Water Use Classification of Landscape Species (WUCOLS), and the overall landscape will meet the requirements of the State's Model Water Efficient Landscape Ordinance (MWELO);

- Irrigation will be a mix of low-volume overhead irrigation (rotators) and surface and sub-surface drip irrigation. The minimum efficiency of all irrigation utilized will be 71 percent per MWELO, with the majority of the specified equipment in the 85 percent to 95 percent range. There will be a separate water meter for landscape irrigation, and the irrigation controller will be a "Smart Controller" able to compensate for changing weather and seasons.

CalEEMod was run to reflect the effects of the PDFs. The "mitigated" results are presented in Table 3.7-3, which demonstrates an overall reduction of 570 tCO2e/yr.

Table 3.7-3
Proposed Project Mitigated GHG Emissions

Category	CO2e (t/year)
Direct – Mobile (Amortized Construction)	18
Direct – Mobile (Operational)	5,683
Direct – Stationary	0
Indirect – Purchased Electricity (Power)	323
Indirect – Purchased Natural Gas (Power)	203
Indirect – Purchased Electricity (Water)	10
Indirect – Cogeneration	0
Direct – Manufacturing	0
Direct – Fugitive – Solid Waste	74
TOTAL	**6,294**

In order to assess the Project's significance under CARB AB 32 and SJVAPCD guidance, this analysis compares the proposed Project's 2020 GHG emissions to the emissions that would occur from the development without the PDF commitments made by the Project and without the regulatory requirements that have been promulgated to comply with AB 32.

The energy supplier for the Project is Pacific Gas and Electric (PG&E). CalEEMod uses energy intensity emission factors of 641.35 lb CO2/MWh; 0.029 lb CH4/MWh, and 0.006 lb N2O/MWh based on values submitted to the California Climate Action Registry (CCAR) for 2008. The California Public Utilities Commission (CPUC) has forecasted that implementation of the Renewable Portfolio Standards (RPS) requirement of 33 percent of the power obtained from renewable sources will result in the PG&E energy intensity emission factor of 290 lb CO2/MWh in 2020[2]. Using this 2020 factor in CalEEMod reveals that compliance with RPS standards would provide a reduction of 42.3 tCO2e/yr from indirect purchased electricity for power and 4.2 tCO2e/yr from indirect purchased electricity for water.

[2] Greenhouse Gas Emission Factors: Guidance for PG&E Customers. Pacific Gas and Electric. April 2013.

In addition, the proposed Project would be eligible to take credit for utilizing the latest efficiency reductions available through implementation of the 2013 CCR Title 24 standards. These reductions are in addition to previously mentioned RPS reductions, as they would be implemented by the applicant at the project level. Currently, the 2013 CCR Title 24 provides improved electrical energy reductions of 21.8 percent, and an improved natural gas efficiency of 16.8 percent[3]. Implementation of 2013 Title 24 standards would provide an additional reduction of 109.7 tCO2e/yr from indirect purchased electricity for power and 38.9 tCO2e/yr from indirect purchased natural gas for power.

The proposed Project would also be eligible to take credit for the State's implementation of the Pavley II and the CARB Low Carbon Fuel Standard (LCFS). Quantification Guidelines[4] were supplied by Sacramento Metropolitan Air Quality Management District (SMAQMD). In order to compare what the projects mobile source GHG emissions would be as though these standards were not implemented, the SMAQMD suggests running two comparative CalEEMod runs, wherein CalEEMod calculates the mobile emissions for the Project at 2020 conditions and with specific modifications to CO2 emission factors for affected vehicle classes to reflect alternative non-Pavley, non-LCFS factors presented in CalEEMod Guideline Appendix D, Table 4.4. In addition, applying an adjustment to CO2 emission factors for all other vehicle classes reflecting the effects of LCFS to produce the 2020 NAT conditions. The proposed Project's 2020 mobile emissions are 5,452 tCO2e/yr and the 2020 NAT conditions demonstrate that 7,230 tCO2e/yr would be emitted in 2020 if no action was taken.

Table 3.7-4 is presented to show the proposed Project's significance determination.

Table 3.7-4
Significance Determination

Category	CO2e Emissions (t/year)						
	2020 NAT	CO2e Reductions				2020 Project	Percent Reduction
		PDF	P + LCSF	RPS	T24		
Amortized Construction	18	0	0	0	0	18	0%
Mobile (Operational)	7,230	590	1,777	0	0	4,862	-33%
Electricity (Power)	503	180	0	42	110	171	-66%
Natural Gas (Power)	231	28	0	0	39	164	-29%
Electricity (Water)	13	2	0	4	0	6	-51%
Solid Waste	74	0	0	0	0	74	0%
TOTAL	**8,069**	**801**	**1,777**	**47**	**149**	**5,296**	**-34%**

[3] Impact Analysis Report, California 2013 Building Energy Efficiency Standards, California Energy Commission, 2013.

[4] Quantification of Greenhouse Gas Emissions for Transportation Activities. Sacramento Metropolitan Air Quality Management District. Revised November 2014.

Conclusion: An analysis of the proposed Project compared to the 2020 Project under BAU, or NAT, conditions demonstrates a reduction substantially greater than 29 percent reduction. Thus, under the methodology recommended by the SJVAPCD, the impact would be less than significant. Even so, in order to avoid any dispute over the validity of that methodology in the aftermath of the *CBD v. DFW* decision, the City has decided, with the applicant's agreement, to conservatively treat the impact as being potentially ***significant and unavoidable.***

Mitigation Measures: With the inclusion of the reductions already described, no additional feasible mitigation measures are available.

Impact #3.7-2 – Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG:

The City has completed its Climate Action Plan (CAP). The CAP does not include quantitative measures to reduce emissions for this type of project, and therefore the Project does not conflict with the CAP. The SJVAPCD has established its Land Use Guidelines as a component of their overall Climate Change Action Plan (CCAP). The proposed Project would be consistent with the SJVAPCD's CCAP. In summary, the proposed Project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

Conclusion: The proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, this would be a ***less-than-significant*** impact.

Mitigation Measures: No mitigation measures are necessary.

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3.8 Hazards and Hazardous Materials

This section describes the hazards and hazardous materials setting of the Project site, and addresses the potential for the Project to create hazards to the public or environment through the transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emitting hazardous emission or handling hazardous materials within 0.25 mile of a school; being located on a known hazardous material site; resulting in a safety hazard within two miles of an airport land use plan or public airport, or within the vicinity of a private airstrip; impairing implementation of a emergency response or evacuation plan; or exposing people or structures involving wildland fires.

This section is based, in part, upon a Phase I Environmental Site Assessment (ESA) that was performed for the Project site by Terracon Consultants, Inc. (Terracon) (see Appendix G). The primary purpose of a Phase I ESA is to identify Recognized Environmental Conditions (RECs) at a site. An REC is defined in ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment." For a Phase I ESA analysis, the term *de minimus* is defined in ASTM E1527-13 as conditions that "are not recognized environmental conditions."

3.8.1 ENVIRONMENTAL SETTING

History of the Project Site and Its Vicinity

Based on a review of the historical information, the Project site consisted of undeveloped/agricultural land from as early as 1946 through at least 1981. The site was purchased by two trusts in 1983. The site was used from the late 1980s through approximately 2008 as a used equipment sales yard, and as National Hardware Supply from approximately 1995 through 2008. The site was cleared prior to 2009. Two aboveground storage tanks (ASTs) for the storage of diesel and gasoline fuel and an onsite septic system were associated with the site. The storage of vehicles, trailers, and miscellaneous equipment observed at the site from at least 1998 through 2006 is likely associated with National Hardware Supply and a used equipment sales yard reported to be associated with the site from 1981 through 2007.

The north-adjoining property by Avenue 17 is vacant land. The east-adjoining property was undeveloped land from 1922 through 1981, when it was cleared for development. From as early as 1995 through 2006, the east-adjoining property was occupied by National Hardware Supply, and was cleared in 2006. The west- and south-adjoining properties have been occupied by the Southern Pacific Railroad line (SPRR) and SR 99 since as early as 1922, with vacant agricultural land further distant.

Historical aerial photographs that were reviewed for the Project site and its vicinity dated back to 1946 and can be seen in Appendix G.

Project Site Description

The Project site consists of only the western approximately 25 acres of the entire associated parcel that totals approximately 50 acres. The site is improved with an abandoned single-story office building (approximately 200 square feet) and a portable office building (approximately 200 square feet), both near the center of the site. The site is currently unoccupied, but was previously occupied by National Hardware Supply, a business that stored trucks, trailers, and various pieces of large equipment onsite. The site additionally includes a full chain-link fence surrounding the site, an asphalt paved driveway (enters the site from Avenue 17 to the north and meanders along the northwest side of the site to the center site where the office buildings are located), a stormwater retention basin in the northwest portion of the site, and a large dirt/aggregate parking area that extends from the north end to the south end of the site along the west side. At the time of the Phase I ESA reconnaissance survey on February 6, 2015, large amounts of construction debris, refuse, fill dirt, storage containers, and wood were located at the site.

Adjoining Properties

To the north of the site is Avenue 17, and vacant land to its north. To the east of the site is vacant land (1750 Avenue 17), which is the other half of the parcel associated with the Project site that is not proposed for development. Three pole-mounted transformers, two wells, and one stormwater retention basin were observed. No staining and/or leaking of the pole-mounted transformers were observed at the time of site reconnaissance. To the south of the eastern section of the site is vacant land. To the west and south is the SPRR and SR 99, oriented northwest-southeast along the western site boundary.

Records Review

Regulatory federal, State, and tribal database information was included in the Phase I ESA for the Project site and its surroundings. Table 3.8-1 provides a summary of the identified facilities provided by the database information and/or other records gathered by Terracon as part of the Phase I ESA analysis.

NATIONAL HARDWARE SUPPLY (24766 AVENUE 17)

This property is listed in the Certified Unified Program Agency (CUPA) Listings database. This property is reported to have been regulated by a CUPA regulatory agency for materials including: diesel, unleaded gasoline, new and used motor oil, and used lead-acid batteries. No dates are provided.

MADERA MUNICIPAL AIRPORT (4020 AVIATION DRIVE)

Located approximately 3,500 feet southwest of the Project site, this property is listed in the Envirostor and CA Bond Expenditure Plan databases. According to the listings, this property is a municipal airport with crop-dusting operations, and is reported to have had pesticide contaminated wash and rinse water runoff into an unlined drainage ditch. Contaminants of concern include: dichlorodiphenyl trichloroethane (DDT), Dichlorodiphenyl dichloroethane (DDD), malathion, dieldrin, ethion, and trithion.

Table 3.8-1
Identified Facilities

Facility Name	Estimated Distance and Direction	Database Listing
National Hardware Supply (24766 Avenue 17)	Project site	CUPA Listing[1]
Madera Municipal Airport (4020 Aviation Drive)	Approximately 3,500 feet southwest of Project site	EnviroStor[2] CA Bond Expenditure Plan[3]

[1]A listing of sites included in the county's Certified Unified Program Agency (CUPA) database. California's Secretary of Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.
[2]The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further.
[3]Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Source: Appendix G.

Recognized Environmental Conditions

The Phase I ESA concluded that indications of RRECs were not observed with the adjoining properties. Additionally, based on the distance from the Project site and the fact that it is down gradient of the site, the Madera Municipal Airport (4020 Aviation Drive) (see above) also does not constitute a REC to the site. Therefore, this section focuses on RECs that occur at the Project site.

USED EQUIPMENT SALES YARD AND NATIONAL HARDWARE SUPPLY HISTROIC USE

Based on limited knowledge of operations, equipment maintenance/repair operations, storage, and chemical handling practices of the used equipment sales yard and National Hardware Supply historic use, the used equipment sales and truck yard and septic system constitute RECs.

STAINED AREA

During the site reconnaissance, three areas of oil staining were observed on soil. The stains were observed to be between approximately four square feet to 50 square feet and located in areas where parking of large trucks and equipment had previously occurred, in the approximate center of the site. Most of the staining appeared to be a *de minimis* condition; however, the approximately 50 square-foot soil staining represents a release to the environment and is considered an REC to the site.

KILN AND STAINED AREA

During the site reconnaissance, one presumed kiln was observed approximately 100 feet east of the office buildings. The kiln was observed to be a steel-and-brick, box-like apparatus in an advanced state of disrepair, as most of the upper half bricks had fallen out of place. In addition, three containers that appeared to be burned are located adjacent to the kiln. Dark soil was observed in the area of the kiln and other apparently burned material, indicating burning of an unknown material. This constitutes an REC to the site.

Other Conditions at the Project Site

The following conditions were not identified in the Phase I ESA as RECs, but are still conditions that may need to be remediated prior to development of the Project.

HEATING/COOLING SYSTEM

During the site reconnaissance, one window mounted air-conditioning unit was observed attached to the permanent office building. No leaking and/or staining were observed in the vicinity of the air conditioner.

ABOVEGROUND STORAGE TANKS

The following ASTs are currently found at the Project site:

- One approximately 515-gallon diesel above ground storage tank (AST) located approximately 50 feet southeast of the offices. The AST mounted on a steel-framed stand with an attached dispenser hose and nozzle, located on the ground surface. No staining was observed in the vicinity of the AST;

- One approximately 700-gallon gasoline AST located approximately 100 feet east of the offices. The AST was on wooden boards and a pallet over bare dirt. No staining was observed in the vicinity of the AST; and

- One approximately 550-gallon AST of unknown use was observed approximately 50 feet east of the offices on wooden boards over bare dirt. No staining was observed in the vicinity of the AST.

DRUMS, BARRELS, AND/OR CONTAINERS

The following drums, barrels, and/or containers greater than 5 gallons are currently found at the Project site:

- Six 55-gallon steel drums, located approximately 50 feet east of the offices, were observed to be either empty or filled with water and/or refuse and placed on top of wooden pallets;

- One 10-gallon steel propane tank, located approximately 50 feet east of the offices, was observed to be very rusted and placed on a wooden pallet. The tank was observed to be very light; however, the fill gauge was not readable;

- Two steel and two plastic five-gallon buckets, located approximately 50 feet east of the offices, were observed to be filled with water and/or sludge, and placed on a wooden pallet;

- Two sealed steel five-gallon buckets, located approximately 50 feet east of the offices, were observed to be sealed, heavy, and placed on a wooden pallet;

- One steel five-gallon solvent container, located approximately 50 feet east of the offices, was observed to be about 1/8th filled with an odorous clear fluid, and placed on a wooden pallet;

- One wooden storage box filled with numerous plastic and steel buckets, as well as refuse, was observed 50 feet east of the offices;

- One 55-gallon steel drum, located approximately 50 feet east of the offices, was observed to be empty and placed directly on bare soil;

- Four plastic five-gallon buckets, located approximately 50 feet southeast of the offices, were observed to be empty or filled with water and placed directly on bare soil;

- One approximately 20-gallon drain pan, located approximately 50 feet southeast of the offices, was observed to be partially filled with water and placed directly on bare soil;

- One approximately 20-gallon drain pan, located approximately 10 feet southeast of the offices near an outdoor sink, was observed to be partially filled with water and placed directly on bare soil;

- Two steel storage containers, located approximately 75 feet east of the offices, were observed to be partially filled with refuse including one automotive tire;

- Numerous approximately 20-gallon fiber containers, located east of the offices, were observed to be either partially or fully burned and placed in wooden crates or directly on the ground surface; and

- Numerous plastic and steel containers approximately five-gallons in volume, located at various location of the site, were observed to be rusted and/or broken.

Evidence of staining or surface releases were not observed in the vicinity of the drums or storage containers at the time of site reconnaissance.

STAINED PAVEMENT

During the site reconnaissance, numerous areas of minimally stained asphalt pavements typically associated with parking were observed in the parking area and on the driveway. The staining appeared to be a *de minimis* condition.

TRASH, DEBRIS, AND/OR OTHER WASTE MATERIALS

During the site reconnaissance, the accumulation of trash and debris was observed throughout the site. Primarily located in the vicinity of the office buildings and along the site boundaries, the

accumulation included plastic bags, empty aerosol spray-paint cans, empty one-gallon paint containers, two automobile tires, cloth rags, and old clothing. Leaking and/or staining, noxious odors, or hazardous materials storage was not observed in the vicinity of the trash and debris accumulation.

DUMPING AREA

During the site reconnaissance, a large disposal area was observed near the center of the site, beginning approximately 50 feet east of the office buildings. Abundant trash and construction/demolition materials were observed in this area. Additionally, two ASTs, 55-gallon steel drums, steel storage containers, and a presumed kiln were observed in this area (see above). Evidence of staining or surface releases was not observed in the vicinity of the disposal area at the time of site reconnaissance.

CONSTRUCTION/DEMOLITION DEBRIS AND/OR DUMPED FILL DIRT

During the site reconnaissance, extensive storage of construction and demolition debris was observed near the center of the site. Observed refuse materials include plastic, steel, and cast concrete pipes; broken asphalt pieces; broken concrete pieces with/without rebar; cast concrete junction boxes (Christy boxes); stacks of wooden pallets, lumber, and plywood, steel construction mesh; old pieces of chain-link fence; and cast-concrete pipe supports. Leaking and/or staining were not observed in the vicinity of the refuse storage area.

Additionally, three fill soil piles were observed at the site, one in the northwest corner of the site, one in the vicinity of the office buildings near the center of the site, and one near the center south area of the site. All of the fill dirt piles included mixed dirt with materials such as wood and asphalt pieces.

Hazardous Materials Transportation

The transport of hazardous materials within California is subject to various federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery or the loading of such materials (California Vehicle Code, Sections 31602(b) and 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transport of hazardous materials. The transport of hazardous materials is restricted to these routes, except in cases where travel branching from these routes is required to deliver or receive hazardous materials.

The City coordinates with CHP, the Madera County Department of Environmental Health Services, the Madera County Sheriff's Department, and all other appropriate local, State and federal agencies in hazardous materials route planning, notifications, and incident response to ensure appropriate first response to hazardous material incidents.

Nearby Schools

The closest schools to the Project site are Crossroads Christian School and Ezequiel Tafoya Alvarado Academy located over one mile to the northeast and east of the Project site, respectively. There are currently no known proposed schools within 0.25 mile of the Project site.

Nearby Airports/Airstrips

The Project site is located within approximately one mile to the northeast of the Madera Municipal Airport and therefore, the Project is located within two miles of a public airport. According to the *Airport Land Use Compatibility Plan Madera County Airports* (Madera County Airport Land Use Commission 1993), the Project site is not located within Compatibility Zone boundaries developed for the *Airport Land Use Compatibility Plan*. Within the Compatibility Zone boundaries, there are established criteria and restrictions (e.g., height limitations within a runway path) for development within a boundary. According to the Compatibility Map (Figure 3B in the Plan) for the Madera Municipal Airport, all Compatibility Zone boundaries nearest to the Project site terminate along the SR 99 alignment to the west of the Project site and therefore, the site is not within a Compatibility Zone boundary for the airport.

The closest private airstrip to the Project site is the El Peco Ranch Airport, which is over eight miles to the southeast of the Project site. The private airstrip has a Federal Aviation Administration Identifier of 49CL and requires permission prior to landing (AirNav.com 2015).

Wildland Fire Hazards

According to the California Department of Forestry and Fire Protection's (Calfire) Madera County Fire Hazard Severity Zone (FHSZ) Maps for the Local Responsibility Area, the Project site is located in an "Unzoned" FHSZ (Calfire 2007). The properties to the immediate south of the site are located in a "Moderate" FHSZ.

3.8.2 REGULATORY SETTING

Federal

U.S. ENVIRONMENTAL PROTECTION AGENCY

The U.S. Environmental Protection Agency (EPA) was established in 1970 to consolidate a variety of federal research, monitoring, standard-setting, and enforcement activities in one agency to ensure environmental protection. EPA's mission is to protect human health and safeguard the natural environment (i.e., air, water, land) upon which life depends. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs and delegates the responsibility for using permits and monitoring and enforcing compliance to states and tribes. Where national standards are not met, EPA can issue sanctions and take other steps to help states and tribes reach desired levels of environmental quality.

RESOURCE CONSERVATION AND RECOVERY ACT

Under the Resource Conservation and Recovery Act (RCRA) of 1976, individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as federal RCRA requirements. The EPA must approve state programs intended to implement federal regulations. In California, the California Environmental Protection Agency (Cal/EPA) and the Department of Toxic Substances Control (DTSC), a department within Cal/EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. The EPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. DTSC has primary hazardous material regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe the management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in ordinary landfills. Hazardous waste generators must retain hazardous waste manifests for a minimum of three years. These manifests provide a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with the State. The generator must match copies of hazardous waste manifests with receipts from treatment, storage, and disposal facilities.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and associated Superfund Amendments provide the EPA with the authority to identify hazardous sites, require site remediation and recover the costs of site remediation from polluters. California has enacted similar laws intended to supplement the federal program. The DTSC is primarily responsible for implementing California's Superfund Law.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The federal Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of American workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA's staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910. CFR Chapter 29, Sections 1910 (General Industry) and 1026 (Construction), promulgates regulations for the preparation of Health and Safety Plans (HASPs). HASPs identify potential hazards associated with a proposed land use and may provide appropriate mitigation measures as required.

FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA) regulates aviation at regional, public, private, and military airports. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 49 CFR 77.13. The U.S. Department of Transportation and Caltrans require the Project proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. According to 49 CFR 77.17, notification allows the FAA to identify potential aeronautical hazards in advance, thereby preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in this FAA regulation, would require issuance of a permit from Caltrans' Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure would have no impact on air navigation.

State

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Cal/EPA was created in 1991. It unified California's environmental authority in a single cabinet-level agency and brought California Air Resources Board (CARB), State Water Resources Control Board, Regional Water Quality Control Boards (RWQCB), CalRecycle, DTSC, Office of Environmental Health Hazard Assessment, and the Department of Pesticide Regulation under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment and ensure public health, environmental quality, and economic vitality.

DEPARTMENT OF TOXIC SUBSTANCE CONTROL

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

USC 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services (DHS) lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

CALIFORNIA OFFICE OF EMERGENCY SERVICES

To protect public health and safety as well as the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans related to the handling and release, or threatened release, of hazardous

materials. OES requires basic information regarding hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) to be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans to prevent or mitigate impacts on the environment or the health and safety of individuals from the release, or threatened release, of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1, Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520), and Article 2, Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 of the California Code of Regulation (CCR) (Public Safety; Division 2; Office of Emergency Services; Chapter 4; Hazardous Material Release Reporting, Inventory, and Response Plans; Article 4 [Minimum Standards for Business Plans]) establishes minimum statewide standards for hazardous materials business plans. These plans must include the following: 1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, 2) emergency response plans and procedures in accordance with Section 2731, and 3) training program information in accordance with Section 2732. Business plans should contain basic information regarding the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business would prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety related to the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings (8 CCR 5192 outlines standards for the preparation of HASPs).

CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 66261.20-24

Soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste when excavated. The California Code of Regulations, Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste.

UNIFIED HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT REGULATORY PROGRAM (UNIFIED PROGRAM)

In January 1996, the Cal/EPA adopted regulations implementing the Unified Program. The program has six elements: 1) hazardous waste generators and hazardous waste on-site treatment; 2) underground storage tanks; 3) aboveground storage tanks; 4) hazardous materials release response plans and inventories; 5) risk management and prevention programs; and 6) Uniform Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. The local agency that is responsible for the implementation of the Unified Program is the Certified Unified Program Agency (CUPA), and the Madera County Environmental Health Department is designated the CUPA.

THE CALIFORNIA HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY LAW OF 1985 (BUSINESS PLAN ACT)

The Business Plan Act requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored on site;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher courses.

STATE WATER RESOURCES CONTROL BOARD UNDERGROUND STORAGE TANK PROGRAM

The State Water Resources Control Board (SWRCB) established regulations governing prevention of leaks from underground storage tanks (USTs). There are published standards and requirements for installation, tank construction, tank testing, leak detection, spill containment and overfill protection. California UST laws and regulations give local agencies (counties, cities, or other local agencies) authority throughout the State to issue permits for tank operation and to enforce tank testing requirements within their jurisdiction. In Madera County, Madera CUPA issues permits for the operation of underground storage tanks and oversees the installation, operation and removal.

HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS (26 CCR)

The State has also adopted U.S. Department of Transportation regulations for the intrastate movement of hazardous materials. State regulations are contained in 26 CCR. In addition, the State regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California. The two State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and Caltrans.

CALIFORNIA VEHICLE CODE SECTION 32000

Common carriers are licensed by the CHP, pursuant to California Vehicle Code Section 32000. This section requires the licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards.

CALIFORNIA ACCIDENTAL RELEASE PREVENTION PROGRAM

The California Accidental Release Prevention Program (CalARP) regulations became effective January 1, 1997, replacing the California Risk Management and Prevention Program. CalARP was created to prevent the accidental release of regulated substances. It covers businesses that store or handle certain volumes of regulated substances at their facilities. A list of regulated substances is found in Section 2770.5 of the CalARP regulations. If a business has more than the listed threshold quantity of a substance, an accidental release prevention program must be implemented and a risk management plan may be required. The California OES is responsible for implementing the provisions of CalARP.

Local

CITY OF MADERA GENERAL PLAN

The *City of Madera General Plan* (City of Madera 2009) sets forth the following policies relevant to hazards and hazardous materials:

Policy HS-9: The City of Madera will work with responsible agencies to identify and prevent potential hazardous waste releases.

Policy HS-10: The City will regulate the storage of hazardous and waste materials consistent with state and federal law. The City shall not permit above ground tanks without considering the potential hazards that would result from the release of stored liquids caused by possible rupture or collapse, and may request applicants to have an emergency response plan.

Policy HS-11: The City will work with responsible agencies to ensure that all industrial facilities are constructed and operated in accordance with the most current safety and environmental protection standards.

Policy HS-12: The City will consider the potential impacts of facilities which propose to store and/or process significant quantities of hazardous or toxic materials on the public and nearby properties. The City shall require such projects to prepare a site specific hazard and threat assessment when determined necessary by the City's emergency services department(s) or appropriate consulting agencies. The hazard and threat assessment shall consider the likelihood of reasonably foreseeable events and their potential to create physical effects at off-site locations resulting in death, significant injury, or significant property damage.

Policy HS-14: Industries which store and process significant quantities of hazardous or toxic materials shall provide a buffer zone between the installation that houses such substances and the

property boundaries of the facility sufficient to protect the public in the event of the release or leak of the materials.

Policy HS-15: The City will coordinate with the CP, the Madera County Department of Environmental Health Services, the Madera County Sheriff's Department, and all other appropriate local, state and federal agencies in hazardous materials route planning, notifications, and incident response to ensure appropriate first response to hazardous material incidents.

Policy HS-16: The City will work with other responsible agencies on efforts to clean up or contain identified soil or water contamination identified in the city limits. This policy will extend to the former Oberti salt ponds and other related facilities at such time as they are annexed to the city.

Policy HS-17: The City shall seek to avoid and minimize exposure of sensitive land uses to potentially hazardous emissions along truck routes and rail lines which may be used by surface vehicles and rail cars carrying hazardous or toxic substances. These truck routes include Avenue 12 and Highways 99 and 145. Rail corridors include the two primary lines running north-south through Madera, as well as the spur line which serves the industrial area in the southwest portion of the City.

AIRPORT LAND USE COMPATIBILITY PLAN

The *Airport Land Use Compatibility Plan Madera County Airports* sets forth the criteria and policies which are used to assess the compatibility between the principal airports in Madera County and proposed land use development in areas surrounding them. The Plan provides land use Compatibility Criteria for certain demarcated Compatibility Zone boundaries surrounding an airport. For example, the Runway Protection Zone (Zone A) excludes residential development and limits all other uses to fewer than 10 people per acre. Outside of the established Compatibility Zone boundaries, there are no restrictions to development as a result of the Plan.

OPERATIONAL AREA EMERGENCY OPERATIONS PLAN

The Madera County's *Operational Area Emergency Operations Plan* (Madera County 2010) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, weapons of mass destruction, and national security emergencies in or affecting the County of Madera.

This plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any emergency or disaster affecting Madera County;

- Identifies the policies, responsibilities and procedures required to protect the health and safety of Madera County communities, public and private property and the environmental effects of natural and technological emergencies and disasters; and

- Establishes the operational concepts and procedures associated with Initial Response Operations (field response) to emergencies, the Extended Response Operations County Emergency Operations Center (EOC) activities and the recovery process.

This plan is designed to establish the framework for implementation of the National Incident Management System (NIMS) for Madera County, which is located within the Offices of California Emergency Management Mutual Aid Region V. It is intended to facilitate multi-agency and multi-jurisdictional coordination, particularly between Madera County and local governments, including special districts, tribes and state agencies, in emergency operations.

This document is operational in design. It serves a secondary use as a planning reference. Departments within the County of Madera and local governments who have roles and responsibilities identified by this plan, are encouraged to develop emergency operations plans, detailed Standard Operating Procedures (SOPs), and emergency response checklists based on the provisions of this plan. This plan will be used in conjunction with the State Emergency Plan and the National Response Framework.

3.8.3 IMPACT EVALUATION CRITERIA

Methodology

A Phase I EESA was performed for the Project site by Terracon Consultants, Inc. (Terracon) (Appendix G). The Phase I ESA was prepared consistent with the procedures included in the American Society for Testing and Materials (ASTM) E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The primary purpose of a Phase I ESA is to identify Recognized Environmental Conditions (RECs) at a site. An REC is defined in ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment." For a Phase I ESA analysis, the term *de minimus* is defined in ASTM E1527-13 as conditions that "are not recognized environmental conditions." The Phase I ESA by Terracon used Project proponent-provided information, regulatory database review, historical and physical records review, interviews, and noninvasive reconnaissance of the Project site to come to its conclusions. Unless otherwise cited, the majority of the information provided in this section is taken from this report.

Thresholds of Significance

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

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

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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;

f) 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;

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

3.8.4 IMPACTS AND MITIGATION MEASURES

Impact #3.8-1 - Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials:

Construction

Project construction would involve routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, and grease consistent with applicable federal, State, and local regulations. Small amounts of these materials would be on site at any given time and are typical materials used in construction of projects. However, any hazardous waste that is generated during construction of the Project would be collected and transported away from the Project site in compliance with existing regulations. During construction, nonhazardous construction debris would be generated. This debris would be disposed of in local landfills. In addition, sanitary waste would be managed during construction through the use of portable toilets, which would be located at reasonably accessible onsite locations. Additionally, the Project would be required to adhere to all OSHA and Cal/OSHA standards for the protection workers during the construction period. Therefore, no significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction of the Project would occur, and impacts would be less than significant.

Operation

The major structures of the Project include a travel stop, tire shop and truck area, hotel, restaurant with drive-in lanes, recreational vehicle (RV) and boat storage facility. The travel stop includes a store, two restaurants, and gasoline and diesel fuels that would be sold at nine covered fuel islands. Propane would also be available. The tire shop and truck area would include a building for the tire shop, nine covered fuel islands for trucks, nine covered fuel islands for automobiles, truck scales, oil-water separator, RV dump, three 20,000-gallon diesel ASTs, one 20,000-gallon gasoline UST, one 12,000-gallon and 8,000-gallon gasoline split UST, and one 12,000-gallon exhaust fluid UST. The tire shops main function would be to replace tires and other light maintenance and would not include heavy maintenance or engine rebuilding activities. The hotel would be a free-standing, four-story structure that includes 81 rooms, a ground floor area of 18,144 square feet and a total floor area of 57,792 square feet. The restaurant with drive-through lanes would consist of a 4,400 square-foot building with drive-through windows. The RV and boat storage area would consist of seven canopy-covered, open-air storage buildings.

The travel stop (aside from the fuel islands and propane area), hotel, restaurant with drive-through lanes, and RV and boat storage area are typical commercial uses that would likely require the use of some common hazardous materials, including cleaning products, pesticides, fertilizers, gasoline and solvents all of which are commonly used in cleaning and landscaping activities. The travel stop's fuel islands and propane area as well as the tire shop and truck area would require the transport, use, and disposal of significant hazardous materials such as large quantities of gasoline and diesel fuels and flammable propane gas. If not properly transported, used, or disposed, such materials could create hazards for customers, employees, and nearby residents which is a potentially-significant impact.

Federal and State law requires labeling of all such materials, which identifies proper use, storage, and disposal instructions. Additionally, the use of such materials would be regulated by the Madera County Environmental Health Department, which has been certified by the DTSC as the CUPA to implement the State's Unified Program in the City of Madera. This program requires handlers of significant amounts of hazardous materials to prepare hazardous materials management plans, which detail plans for emergency response to a release or threatened release of a hazardous material. In accordance with the Business Plan Act, the Project proponent would be required to prepare a hazardous materials management plan (see Mitigation Measure #3.8-1) because the Project would use, handle, or store significant quantities of hazardous materials. The hazardous materials management plan would be required to include details, including floor plans, of the facility and business conducted at the site; an inventory of hazardous materials that are handled or stored on site; an emergency response plan; and a safety and emergency response training program for new employees with annual refresher courses.

The travel stop's fuel islands and propane area, as well as the tire shop and truck area would also require the transport large amounts of hazardous materials including gasoline, oil, and other automotive materials. In accordance with California Vehicle Code Section 32000, licensing is required for every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000

pounds of hazardous material of the type requiring placards. Transport of hazardous materials as a result of Project operations would also have to adhere to the State's Hazardous Materials Transportation Regulations (CCR 26).

Finally, the USTs as a result of the Project would also be regulated by the SWRCB under the UST Program as Health and Safety Code, Division 20, Miscellaneous Health and Safety Provisions, Chapter 6.7 (Sections 25280-25299.8). In Madera County, the SWRCB has given to Madera CUPA the authority to issue permits for the operation of USTs in the County and oversees their installation, operation, and removal. In the absence of mitigation, impacts would be ***potentially significant.***

Conclusion: This impact is considered ***potentially significant***.

Mitigation Measure #3.8-1a: The Project proponent shall prepare a Hazardous Materials Business Plan and submit it to the Madera CUPA for review and approval. The Hazardous Materials Business Plan shall include, at a minimum, floor plans of the facility and business conducted at the site; an inventory of hazardous materials that are handled or stored on site; an emergency response plan; and a safety and emergency response training program for new employees with annual refresher courses. A copy of the approved plan shall be provided to the City of Madera Planning Department prior to the issuance of grading permits.

Mitigation Measure #3.8-1b: The Project proponent shall obtain the appropriate underground storage tank permit, as required under the State Health and Safety Code, as previously referenced. from the Madera County Environmental Health Department for the installation of such tanks as a result of the Project. A copy of the approved underground storage tank permit shall be provided to the City of Madera Planning Department prior to the issuance of grading permits.

Effectiveness of Mitigation: Implementation of the above mitigation measures would ensure that appropriate compliance measures will be taken to reduce any potential impacts to the public or to the environment regarding hazardous materials to a ***less-than-significant*** level.

Impact #3.8-2 - 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:

Construction

As discussed above in Section 3.8.1, *Environmental Setting*, the Project site contains three RECs, namely:

1. The limited knowledge of the previous operations, equipment maintenance/repair operations, storage, and chemical handling practices of the used equipment sales yard and National Hardware Supply historic use, the used equipment sales and truck yard and septic system;

2. A 50 square-foot soil staining area located in areas where parking of large trucks and equipment had previously occurred; and

3. A deteriorated kiln, three containers that appeared to be burned adjacent to the kiln, and dark soil observed in the area of the kiln and other apparently burned material, indicating burning of an unknown material.

The Phase I ESA for the Project recommends additional investigation to determine if these three identified RECs have affected the soils at the site.

Additionally, the Phase I ESA describes other conditions at the Project site that would require remediation prior to grading of the site. These other conditions are:

- One window mounted air-conditioning unit where leaking and staining was not observed;
- Three ASTs (515-gallon diesel, 700-gallon gasoline, and 550-gallon unknown use) where staining was not observed;
- Numerous drums, barrels, and/or containers greater than 5 gallons throughout the site where staining or surface releases were not observed;
- Stained asphalt pavements where staining appeared *de minimis*;
- Trash, debris, and/or waste materials throughout the site where leaking, staining, noxious odors, or hazardous materials storage was not observed;
- Dumping area where staining or surface releases was not observed;
- Construction/demolition debris area where leaking and/or staining were not observed; and
- Three fill soil piles that included mixed dirt with materials such as wood and asphalt pieces.

Based on the above identified RECs and other conditions identified at the Project site, developing the site in its current state could result in the upset and accident conditions involving the release of hazardous materials into the environment, which would be a significant impact.

Based on the Phase I ESA's recommendation that additional investigations be performed at the Project site, Mitigation Measure #3.8-2 requires an additional Phase II ESA investigation at the site, including soil sampling to determine if soil contamination has occurred that the site as a result of the identified RECs. This mitigation also requires that, if the Phase II ESA determines that the identified RECs or any additional RECs identified as part of the Phase II ESA analysis pose a significant hazard to the public or environment that the Project proponent is compelled to implement all remediation recommendations in the Phase II ESA and obtain concurrence from the Madera CUPA that the remediation recommendations have been implemented prior to

grading activities for the Project. The mitigation also provides measures that, at a minimum, would be implemented at the site to reduce potential impacts as a result of the upset and accident conditions involving the release of hazardous materials into the environment that could create a significant hazard to the public or the environment. Finally, the measure requires the clean up and proper disposal of the other conditions at the site, such as the air conditioning unit, ASTs, etc. With implementation of Mitigation Measure #3.8-2a and 3.8-2b, site preparation activities prior to groundbreaking and subsequent to groundbreaking activities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Operation

As stated above under Impact 3.8-1, the uses proposed for development on the Project site, with the exception of travel stop's fuel islands and propane area as well as the tire shop and truck area, would not handle or store any significant hazardous materials other than those used for common cleaning and landscaping purposes.

The Project Applicant will be required to submit a Hazardous Materials Business Plan to the Madera County Environmental Health Department for review and approval (see Mitigation Measure #3.8-1a). In the absence of mitigation, Project construction would 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.

Conclusion: This impact is considered ***potentially significant***.

Mitigation Measure #3.8-2: The Project proponent shall have a qualified professional prepare a Phase II Environmental Site Assessment for the Project site that includes soil sampling. Based on the conclusions of the Phase II Environmental Site Assessment, the Project proponent shall prepare a work plan and submit it to the Madera County Environmental Health Department for review and approval. A copy of the approved work plan shall be provided to the City of Madera Planning Department prior to the issuance of grading permits,.

As determined by the results of the Phase II Environmental Site Assessment, at a minimum, the work plan shall include, but not be limited to:

1. Delineating the vertical and horizontal extent of the any soil contamination;

2. Providing workers with notices and information regarding the presence of any surface and subsurface contamination;

3. Educating workers regarding the appropriate measures for protecting themselves from surface and subsurface contamination through a training program;

4. Preparing a remediation plan for affected soils that outlines proposed remediation methods, including capping, excavation and offsite disposal, stockpiling, and/or onsite

treatment in accordance with applicable laws, including California Code of Regulations, Title 22, Section 66261.20-24;

5. Identifying the party responsible for funding and conducting site cleanup;

6. Removing and disposing of air-conditioning unit; three aboveground storage tanks; numerous drums, barrels, and/or containers; stained asphalt pavements; trash, debris, and/or waste materials; materials associated with the dumping and construction/demolition debris areas; and three fill soil piles in accordance with applicable laws;

7. Removing or abandoning onsite septic system in accordance with applicable laws;

8. Taking other actions as required by the conclusions in the Phase II Environmental Site Assessment; and

9. Taking other actions as required by the Madera County Environmental Health Department.

Effectiveness of Mitigation: Implementation of the above mitigation measures would reduce this impact to a ***less-than-significant*** level.

Impact #3.8-3 - Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school:

The closest schools to the Project site are Crossroads Christian School and Ezequiel Tafoya Alvarado Academy located over one mile to the northeast and east of the Project site, respectively. There are currently no known proposed schools within 0.25 miles of the Project site. The Project would be operated in compliance with federal, State, and local regulations. Therefore, construction and operation of the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.8-4 - 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:

The Phase I ESA (Appendix G) did not identify the Project site on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. A review of the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List) on the DTSC website determined that there is only one site in all of Madera County on this list, and is not the Project site. Therefore, the Project is not 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.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.8-5 - 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:

As discussed in Section 3.8.1, *Environmental Setting*, the Project site is located approximately one mile to the northeast of the Madera Municipal Airport and therefore, the Project is located within two miles of a public airport. However, the site is not located within any Compatibility Zone boundary identified for the Airport in the *Airport Land Use Compatibility Plan Madera County Airports*. These boundaries established criteria and restrictions (e.g., height limitations within a runway path) for development within a boundary near public airports in Madera County. The Project site is not within the flight path of the Airport and the heights of the proposed structures as a result of the Project are similar to nearby uses. The tallest proposed structure is a three-story (45-foot-tall) hotel and the development of the site would not result in changes to flight patterns that could result in a safety hazard. Therefore, the Project would not result in a safety hazard for people residing or working in the Project area as a result of the Project being located within two miles of a public airport.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.8-6 - 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:

The closest private airstrip to the Project site is the El Peco Ranch Airport, which is over eight miles to the southeast of the Project site. Therefore, the Project would not result in a safety hazard for people residing or working within the vicinity of a private airstrip.

Conclusion: There is ***no impact***.

Mitigation Measures: No mitigation measures are required.

Impact #3.8-7 - Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan:

The Project does not include any characteristics (e.g., permanent road closures) that would physically impair or otherwise interfere with emergency response or evacuation in the project vicinity. In addition, during construction activities, the Project would be required to comply with the current Madera County *Operational Area Emergency Operations Plan*. This plan identifies

responsibilities and coordinates emergency response at the local level in the event of a hazardous materials incident.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.8-8 - Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands:

According to the California Department of Forestry and Fire Protection (Calfire) (2007), the Project site is located in an "Unzoned" FHSZ, but adjacent properties to the south of the site are located in a "Moderate" FHSZ. The Project site is surrounded by Avenue 17 to the north, vacant land to the east, to the south is vacant land and a railroad and SR 99, and to the west the SPRR line and SR 99. The vacant portions of the adjoining properties are not heavily overgrown with vegetation and do not appear to be wildland areas with thick bush or woodland/forested areas. Therefore, the Project site is not located near any wildland areas that are susceptible to fires.

The City and County of Madera have entered into a Memorandum of Understanding (MOU) which establishes a Unified Command and Control Structure for fire protection services. Similar to the City Fire Department, the County Fire Department is staffed by Calfire. The County Fire Department operates 2 stations in proximity to the City, at 14225 Road 28 and 25950 Road 18 ½. The Unified Command and Control Structure provides for a pre-planned response dispatch allowing responses of apparatus and personnel in the most efficient manner possible, regardless of ownership. This agreement differs from a typical mutual aid agreement, in that the agencies have agreed that geographical/legal jurisdictional boundaries will be ignored and the closest, most effective resources will be dispatched automatically to an incident.

Fire protection and emergency medical services available to the proposed Project site will be provided by the Madera City Fire Department, which is administered by Calfire through a cooperative fire protection agreement. County fire station 3 is located at 25950 Road 18 ½ and is approximately 2.5 miles away from the Project site. County stations are traditionally manned with just 1 firefighter, supplemented by paid call personnel.

Services provided include: fire prevention and suppression, emergency medical assistance, rescue, public assistance, fire menace standby, safety inspections, and review of building plans for compliance with applicable codes and ordinances.

All on-site construction as well as the use and storage of construction materials is required to conform to fire prevention/protection standards established by the Madera City Fire Department which is administered by the Calfire, or the State. These standards include (but shall not be limited to) smoke alarms; sprinklers; building and emergency access; adequate emergency notification; and hydrant sizing, pressure, and siting. Therefore, during construction of the proposed Project, impacts related to the provision of fire protection service and the need for additional facilities would be less than significant.

The proposed Project would be designed, constructed, and operated per applicable fire prevention/ protection standards established by Calfire, the City of Madera, or State. Standards, as previously identified, may include (but shall not be limited to) provisions for smoke alarms; sprinklers; building and emergency access; adequate emergency notification; and hydrant sizing, pressure, and siting. The development of the proposed Project would not cause fire staffing, facilities, or equipment to operate at a deficient level of service. Additionally, because the proposed Project would be required to pay development impact fees to fund future fire facilities and services, impacts associated with fire protection services and facilities would not occur.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

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3.9 Hydrology and Water Quality

This section describes the hydrology and water quality setting of the Project site, and examines the potential impacts associated with the Project related to surface and groundwater water resources.

3.9.1 ENVIRONMENTAL SETTING

Climate

Madera is located in the central portion of the Central Valley of California, which has relatively hot summers and mild-to-warm winters characteristic of hot semi-arid climates. Hot semi-arid climates in California tend to have precipitation patterns closer to Mediterranean climates with wet winters. The Central Valley has greater temperature extremes than coastal areas because it is less affected by the moderating influence of the Pacific Ocean.

The Western Regional Climate Center (WRCC) provides climate data derived from stationary weather sources throughout the western United States. WRCC has developed a data set for monthly climate for the Madera area (1928 to 2015) (WRCC 2015a). Table 3.9-1 details the average maximum and minimum temperature [degrees Fahrenheit (^{o}F)] and average total precipitation (inches) for the Madera area.

Table 3.9-1
Average Monthly Temperature and Precipitation for the Madera Area (1928 to 2015)

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Max. Temp. (^{o}F)	54.0	61.2	67.2	74.8	83.9	91.6	98.2	96.4	90.9	80.3	66.1	55.2	76.6
Avg. Min. Temp. (^{o}F)	35.9	39.1	41.8	45.5	51.3	56.7	61.4	59.9	55.3	47.8	39.6	35.7	47.5
Avg. Precip. (inches)	1.98	1.92	1.81	1.08	0.39	0.09	0.01	0.02	0.14	0.58	1.18	1.78	10.99

Source: WRCC 2015a.

Typical of a hot semi-arid climate in California, most of the rainfall in the Madera area occurs in the winter months as the Gulf Stream shifts southward from northern latitudes in the wintertime. This shift creates a quasi-permanent low-pressure zone over the area and feeds moisture originating over the Pacific Ocean into the region. This southern shift creates the precipitation regime characteristic of the area.

However, because of the inland location and "rainshadow effect" caused by the coastal mountain ranges, the Madera area typically gets less rainfall during the winter than coastal areas to the west. The rainshadow effect refers to a reduction of precipitation commonly found on the leeward side of a mountain. Infrequent summer thunderstorms and showers from tropical depressions account for the remaining rainfall in the summer months. Average precipitation is

about 11 inches. By comparison, Monterey to the west and on the other side of the coastal ranges receives an annual rainfall average of about 20 inches (WRCC 2015b).

Surface Water Resources

SAN JOAQUIN RIVER BASIN

The Project site is located in the Central Valley's San Joaquin River Basin. This Basin covers 15,880 square miles and encompasses the area drained by the San Joaquin River. The principal streams in the Basin are the San Joaquin River and its largest tributaries: Cosumnes, Mokelumne, Calaveras, Stanislaus, Toulumne, Merced, Chowchilla, and Fresno rivers (Central Valley RWQCB 2011). In 2000, about two-thirds of the Basin area was used for agricultural purposes. Although surface water is used when available, the region relies heavily on groundwater, which accounts for 30 percent of the annual supply for agricultural and urban uses (USGS 2015).

LOWER SAN JOAQUIN RIVER WATERSHED

The Project site is located within the Lower San Joaquin River Watershed, which encompasses about 4,580 square miles in Merced County and portions of Fresno, Madera, San Joaquin, and Stanislaus counties (Central Valley RWQCB 2011). This Watershed is divided into seven subareas, comprised of nine minor subareas. The Project site is found within the "Lower San Joaquin River Upstream of Salt Slough" subarea and the "Fresno-Chowchilla" minor subarea (Central Valley RWQCB 2011).

The Fresno-Chowchilla minor subarea is comprised of about 860 square miles located in southeastern Merced County and western Madera County and contains lands that drain in the Lower San Joaquin River between Sack Dam and the Bear Creek confluence, including the drainages of the Fresno and Chowchilla rivers (Central Valley RWQCB 2011).

The Fresno River is the principal surface water body in Madera. The designated beneficial uses for the Fresno River (Hidden Reservoir to San Joaquin River) (Hydrologic Unit Number 545) are shown in Table 3.9-2. A beneficial use is a use that benefits people and/or wildlife as designated in the Basin Plan.

Table 3.9-2
Surface Water Beneficial Uses for Fresno River (Hidden Reservoir to San Joaquin River)

Use	Benefit
Municipal (MUN)	P
Agriculture (AGR)	E
Water Contact Recreation (REC-1)	E
Non-Contact Water Recreation (REC-2)	E
Warm Freshwater Habitat (WARM)	E
Wildlife Habitat (WILD)	E
P = Potential Beneficial Use; E = Existing Beneficial Use	

Source: Central Valley RWQCB 2011.

None of the uses shown in Table 3.9-2 are designated as impaired, which means that each beneficial use's associated water quality objectives for a number of criteria have been met and therefore, the surface water body is not designated as impaired.

LOCAL SURFACE WATER

A blue-line water feature is a stream or watercourse that flows for most or all of the year and is marked by either a solid or dashed blue line on U.S. Geological Survey (USGS) maps. The nearest blue-line surface water feature to the Project site is Schmidt Creek, which is about 0.5 miles to the north of the Project site. This creek is approximately three miles in length and does not directly connect to any major river, such as the nearby Fresno River. Blue line water features are illustrated in Figure 3.4-2 in the Biological Resources section of this Draft EIR.

The topography of the Project site is flat and the majority of the ground surface is an earth and gravel mixture with patches of low grassy areas. The topography of the site coupled with relatively low precipitation levels (on average about 11 inches/year) results in very little offsite stormwater drainage. Average precipitation would likely cause standing water that largely stays onsite and percolates to ground.

Groundwater Resources

REGIONAL GROUNDWATER BASIN

Unless otherwise cited, the following description of regional groundwater resources is based largely on the Department of Water Resource's *California's Groundwater* Bulletin 118 (DWR 2003). This bulletin provides a description of the groundwater basin and its supply, water quality, and use.

The Project site is located in the San Joaquin River Hydrologic Region, San Joaquin Valley Basin, Madera Subbasin (Groundwater Basin No. 5-22.06). The San Joaquin River Hydrologic Region covers approximately 9.7 million acres (15,200 square miles).

The San Joaquin Valley Groundwater Basin is divided into nine subbasins that include 3.73 million acres (5,830 square miles). This Basin is heavily reliant upon groundwater and 30 percent of the annual supply used for agricultural and urban purposes is derived from groundwater. The aquifers in the Basin are generally quite thick and consist of unconsolidated alluvium and consolidated rocks with unconfined and confined groundwater conditions. Alluvium is a deposit of clay, silt, sand, and gravel left by flowing streams in a river valley or delta, typically producing fertile soil. The San Joaquin Valley is a structural trough up to 200 miles long and 70 miles wide filled with up to 32,000 feet of marine and continental sediments deposited during periodic inundation by the Pacific Ocean and by erosion of the surrounding mountains.

The Madera Subbasin comprises 491,000 acres (298 square miles). The Subbasin consists of Quaternary-age alluvial-fan and fluvial deposits that formed by rivers (like the Fresno River) draining the Sierra Nevada (Sheldon et al. 2013). It is bound on the south by the San Joaquin

River, on the west by the eastern boundary of the Columbia Canal Service Area, on the north by the south boundary of the Chowchilla Subbasin, and on the east by the crystalline basement bedrock of the Sierra Nevada foothills. The sediment of this Subbasin consist of gravels, sands, silts, and clays with Corcoran Clay underlying the western portion and divides the Subbasin into an unconfined to semi-confined upper system and a largely unconfined lower system (Sheldon et al. 2013). Corcoran Clay is a Pleistocene (2,588,000 to 11,700 years ago) lake deposit in the San Joaquin Valley known for its impermeability. A confined aquifer (or basin) is an aquifer that is wedged between layers of relatively impermeable materials. An unconfined aquifer (or basin) is an aquifer that does not include confining formations or layers.

The groundwater in the Madera Subbasin is generally of fairly high quality (City of Madera 2011), and the groundwater is mainly comprised of a bicarbonate type throughout most of the Subbasin, transitioning from calcium and calcium-magnesium-bicarbonate water in the eastern portion to sodium-bicarbonate water in the western portion; sodium increases near the western edge of the Subbasin along within increasing chloride to produce poor-quality sodium-chloride (i.e., salt) type water with average total dissolved solids (TDS) concentration in the western portiuon of 1,150 milligrams/liter (mg/L) (City of Madera 2011). The average TDS for the Subbasin is in the range of 200 to 400 mg/L and the range is 100 to 6,400 mg/L. Nitrate, dibromochloropropane, iron, and manganese are also constituents of particular concern in this Subbasin (City of Madera 2011).

EXTRACTION AND RECHARGE

The Madera Subbasin, like the San Joaquin Valley Groundwater Basin, has been in a state of overdraft for several decades. The Madera Subbasin is considered to be "critically overdrafted" by California Department of Water Resources (DWR) (City of Madera et al. 2015). The decline in groundwater levels is estimated as an average of 40 feet between 1970 and 2000 in the Subbasin. Specific to the Project site, it is estimated that groundwater levels have declined between 31 to 62 feet between 1980 and 2011 (City of Madera et al. 2015). The City currently extracts groundwater from the upper portion of the Subbasin, which is above 600 feet below the ground surface. It is estimated that for the last 50 years, the quantity of overdraft in the area is 7,600 acre-feet per year (City of Madera 2011.)

Table 3.9-3 provides the annual amount of groundwater pumped from 2006 to 2010 from the Madera Subbasin by the City. The City currently uses groundwater pumped from the Madera Subbasin to meet all of its water demand (City of Madera 2011). More recent than 2010, the annual demand for groundwater by the City has been estimated at 12,700 acre-feet/year (City of Madera et al. 2015).

Table 3.9-3
Amount of Groundwater Pumped from the Madera Subbasin (2006 through 2010)

Historical Groundwater Pumped (acre-feet/year)				
2006	**2007**	**2008**	**2009**	**2010**
9,849	10,431	10,295	13,114	11,742

Source: City of Madera 2011

The City, in partnership with City of Chowchilla, Chowchilla Water District, Madera County, Madera Irrigation District, and South-East Madera County United, has developed a Draft *Madera Regional Groundwater Management Plan* (GMP) (City of Madera et al. 2014). As part of the draft GMP, the GMP partners have developed mitigation strategies for addressing groundwater overdraft. These strategies include, but are not limited to:

- Increasing surface water storage;
- Increasing conveyance capacity;
- Expanding area served by surface water;
- Prohibiting groundwater exports;
- Identifying and importing new surface water supplies;
- Intentionally flooding irrigation fields; and/or
- Capturing flood and stormwater.

LOCAL GROUNDWATER

The actual depth to groundwater at the Project site is currently unknown. Groundwater in the vicinity of the site is estimated at between 20 to 40 feet above mean sea level (City of Madera et al. 2014). Since the site is 266 feet above mean sea level, groundwater is estimated to be between 226 to 246 feet below the ground surface at the site.

Floodplains

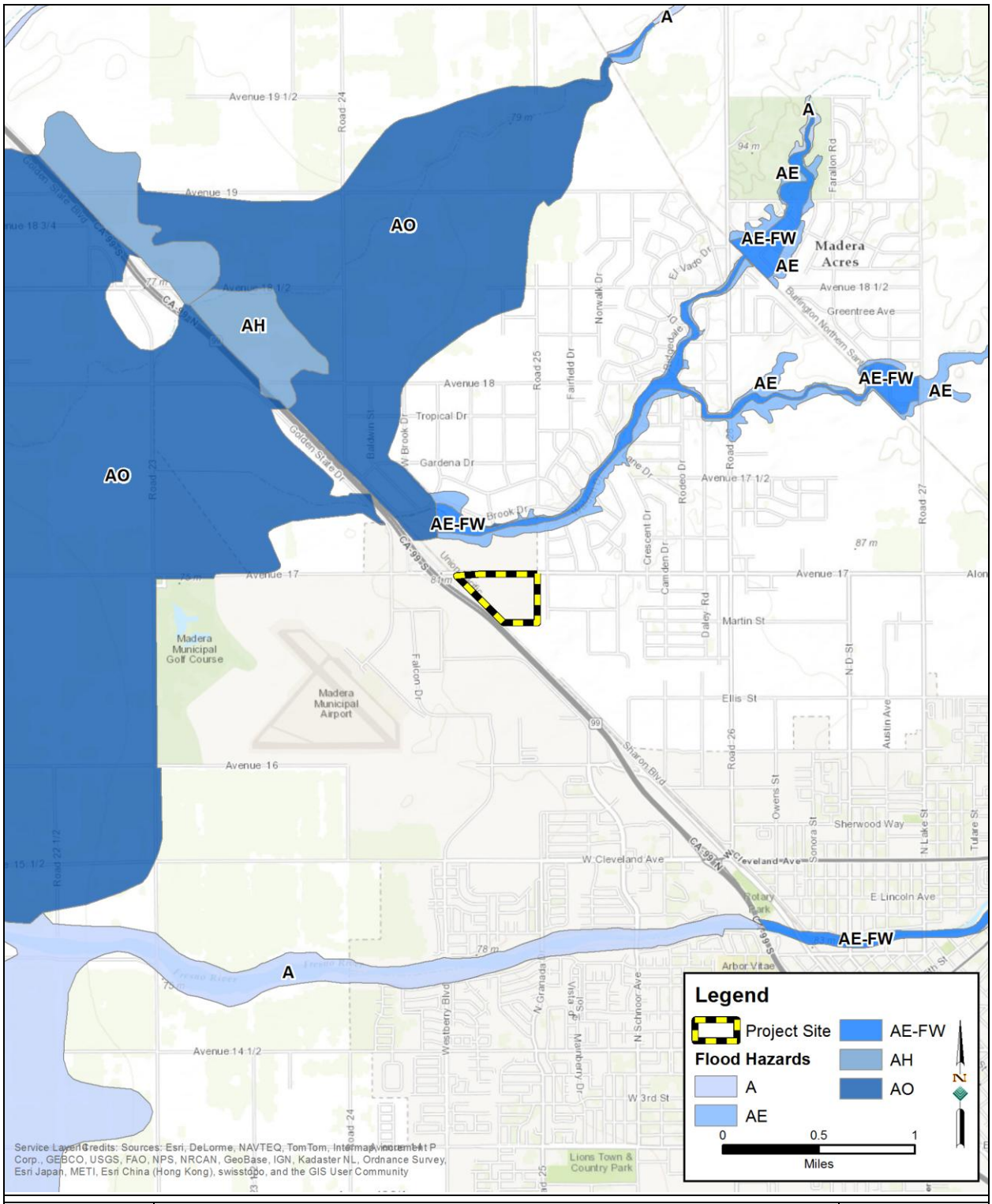
Figure 3.9-1 shows the floodplains in the Project's vicinity. As shown in the figure, the Project site is outside of the 100-year floodplain.

Following are descriptions of the flood zones shown in Figure 3.9-1:

Zone A - Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Zone AE - Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Zone AH -Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.



Quad Knopf	100-Year Floodplains	Figure 3.9 - 1

Zone AO - Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Some Zone AO areas have been designated as areas with high flood velocities such as alluvial fans and washes. Communities are encouraged to adopt more restrictive requirements for these areas.

DAM FAILURE INUNDATION

The Hidden Dam is located on the Fresno River in the Sierra Nevada foothills approximately 15 miles northeast of Madera. It is a rolled earthfill dam constructed between 1972 through 1975 with a crest length of approximately 5,700 feet and a maximum height above streambed of 184 feet, and crest elevation of 561 feet. The impounded Hensley Lake has a surface area of about 1,570 acres and a storage capacity of 90,000 acre-feet. (Minsley et al. 2010.)

As shown in Figure 3.9-2, the Project site's southern portion is found within the Hidden Dam/Hensley Lake inundation area (City of Madera 2009).

Site Erosion Potential

The Project site's soils consist of Atwater loamy sand, Cometa sandy loams, and San Joaquin sandy loams. Atwater loamy sand is sandy alluvium derived from granite, have 0 to 3 percent slopes, are well drained, and do not have a frequency of flooding or ponding. Cometa sandy loams is alluvium derived from granite, have 3 to 8 percent slopes, are well drained, and do not have a frequency of flooding or ponding. San Joaquin sandy loams is alluvium derived from granite, have 0 to 3 percent slopes, are moderately well drained, and do not have a frequency of flooding or ponding. (USDA 2015b.)

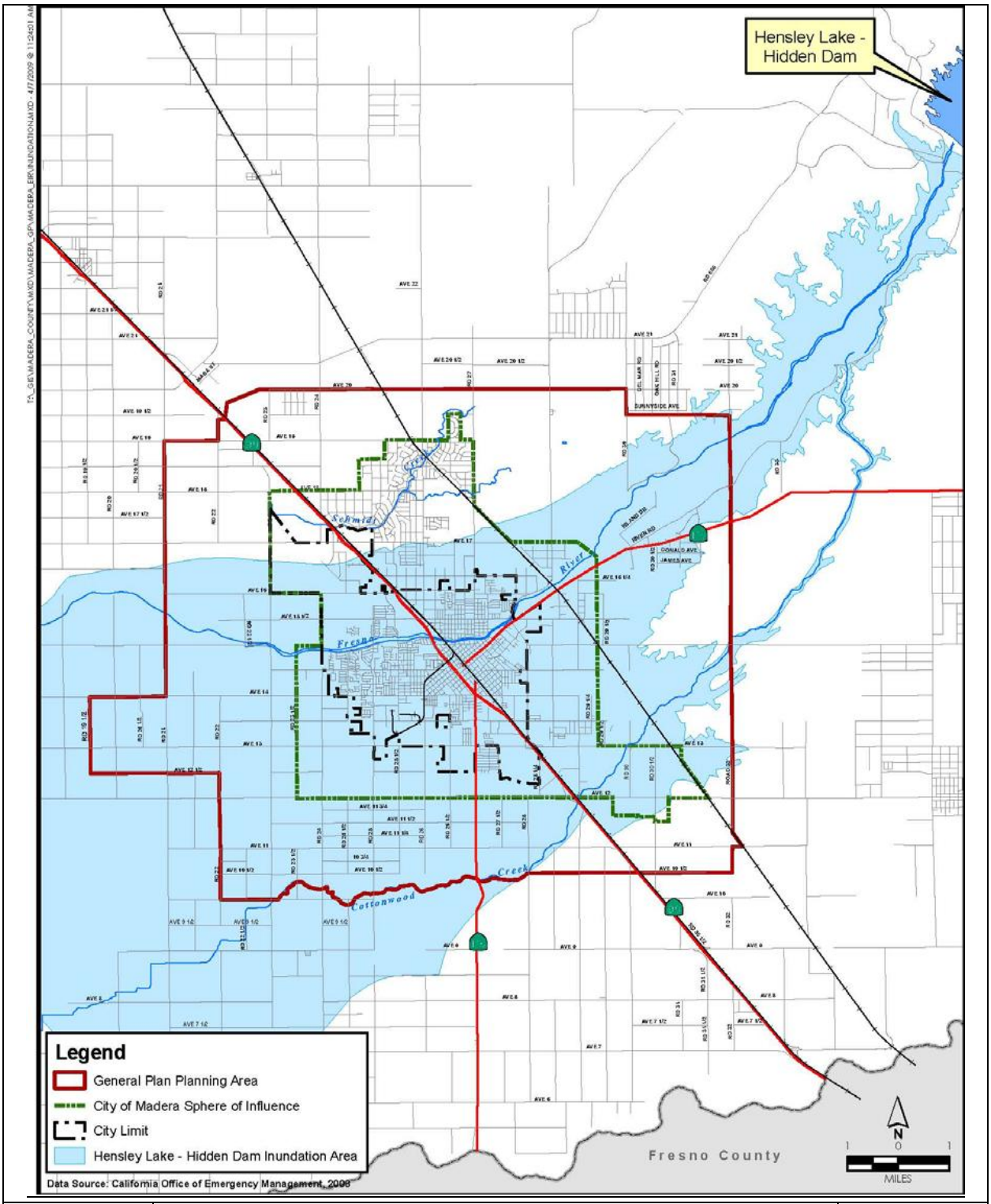
For Atwater loamy sand and San Joaquin sandy loams, low slope angle results in characteristically slow runoff and slight water erosion potential. For Cometa sandy loams, the greater slope angle results in faster runoff and greater water erosion potential. Section 3.2, *Agricultural and Forestry Resources*, includes Figure 3.2-1 which shows where these soil types are located at on the site.

3.9.2 REGULATORY SETTING

Federal

CLEAN WATER ACT

The Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires



Quad Knopf	Hidden Dam Inundation Area	Figure 3.9 - 2

individual states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The Project site is within the jurisdiction of the Central Valley RWQCB.

Section 401 of the CWA requires that any activity, including river or stream crossings during road, pipeline, or transmission line construction that may result in discharges into a State water body, must be certified by the applicable RWQCB(s). This certification ensures that the proposed activity does not violate State and/or federal water quality standards.

The CWA is based on the concept that all discharges into the Nation's waters are unlawful unless specifically authorized by permit. The 1972 amendments to the Federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the Act devoted to stormwater permitting (Section 402[p]). The U.S. Environmental Protection Agency (EPA) has granted the states primacy in administering and enforcing the provisions of the CWA and the NPDES permit program. The NPDES permit program is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. The State Water Resources Control Board (SWRCB) issues both general and individual permits for certain activities.

Industrial and municipal dischargers (point-source discharges) must obtain NPDES permits from the Central Valley RWQCB. The existing NPDES stormwater program (Phase I) requires municipalities with more than one million persons to obtain an NPDES stormwater permit for any construction project that would disturb more than five acres. Proposed NPDES stormwater regulations (Phase II) expand the existing national program to include smaller municipalities with more than 10,000 persons and construction sites that disturb more than one acre. For other discharges, such as those that affect groundwater or nonpoint-source discharges, a report of waste discharge must be filed with the RWQCB. In specified situations, some permits may be waived, and some discharge activities may be handled through an existing general permit.

While EPA has two permitting options to meet NPDES requirements (individual permits and general permits), the SWRCB has elected to adopt one statewide general permit for California that applies to all construction-related stormwater discharges, except for those on tribal lands, in the Lake Tahoe Hydrologic Unit, or under the control of the California Department of Transportation. In September 2009, the SWRCB adopted a new NPDES General Permit for the stormwater discharges associated with construction and land disturbance activities (No. 2009-0009-DWQ as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) that, among other things, requires compliance with certain numeric effluent limitations. Construction activities that are subject to this general permit include clearing, grading, stockpiling, and excavation that results in soil disturbances to at least one acre of the total land area. Construction activities that disturb less than one acre are still subject to this general permit if the activities are part of a large common plan of development or if significant water quality impairment would result from the activities.

The general permit requires all dischargers whose construction activities would disturb one acre or more to:

- Develop and implement a stormwater pollution and prevention plan (SWPPP) that specifies best management practices (BMPs) to prevent construction pollutants from contacting stormwater, with the intent of keeping all products of erosion from moving off-site and into receiving waters;

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States; and

- Inspect all BMPs.

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). The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project site. The SWPPP must list BMPs that the discharger would use to protect stormwater runoff and the placement of BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of BMPs), and a sediment monitoring plan if the site discharges directly to a water body. The BMPs and overall SWPPP is reviewed by the RWQCB as part of the NPDES permitting process. If a single project traverses more than one RWQCB jurisdiction, a complete notice of intent package (notice of intent, site map, and fee) and notice of termination (upon completion of each section) must be filed for each RWQCB.

In addition, EPA published effluent limitation guidelines (ELGs) and new source performance standards (NSPS) to control the discharge of pollutants from construction sites, effective February 1, 2010. After this date, all permits issued by EPA or individual states must incorporate the final rule requirements. All construction sites required to obtain EPA permit coverage must implement a range of erosion and sediment controls and pollution prevention measures.

Phase I of the EPA storm water program was promulgated in 1990 under the CWA. Phase I relies on NPDES permit coverage to address storm water runoff from: 1) "medium" and "large" municipal separate storm drain systems (MS4s) generally serving populations of 100,000 or greater, 2) construction activity disturbing 5 acres of land or greater, and 3) ten categories of industrial activity.

On December 8, 1999, EPA promulgated regulations known as the Storm Water Phase II Final Rule. The Phase II program expanded the Phase I program by requiring additional operators of MS4s in urbanized areas serving populations greater than 25,000 and fewer than 100,000 and operators of small construction sites disturbing one acre or more, through the use of NPDES permits, to implement programs and practices to control polluted storm water runoff.

The EPA delegated to SWRCB the authority to administer and enforce the Phase II NPDES Program within the State of California. In 2003, SWRCB adopted a General Permit for storm water discharges from regulated Small MS4s. An "MS4" is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): 1) designed or used for collecting and/or conveying storm water; 2) which is not a combined sewer; and (3) which is not part of a Publicly Owned Treatment Works (POTW). The City is included in this definition, along with certain urbanized areas in the County.

Operational compliance with NPDES would be regulated by the *City of Madera Storm Water Quality Management Program* (see below). The City is one of the permittees under the General Permit for the Discharge of Storm Water from Small MS4s (Water Quality Order No. 2003-0005-DWQ), and projects in the City are subject to NPDES requirements. The NPDES requirements for a project's operational period are met in Madera through implementation of the City's Standard Specifications and Standard Drawings (see below) to be verified during the City Engineer's site plan review.

IMPAIRED WATER BODIES

Section 303(d) of the CWA (33 USC 1250 et seq., at 1313(d)) requires states to identify impaired water bodies as those that do not meet water quality standards. States are required to compile this information in a list and submit the list to EPA for review and approval. As part of this process, states are required to prioritize waters and watersheds for future development of total maximum daily load (TMDL) requirements. SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

NATIONAL FLOOD INSURANCE ACT

The Federal Emergency Management Agency (FEMA) is responsible for managing the National Flood Insurance Program (NFIP), which makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards. To help identify areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRMs) that can be used for planning purposes, including floodplain management, flood insurance, and enforcing mandatory flood insurance purchase requirements. Policy HS-21 of the *City of Madera General Plan* (see below) requires any development on land subject to a 100-year flood event, based on Federal Emergency Management Agency (FEMA) or on other updated mapping acceptable to the City, conform to NFIP standards.

State

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter Cologne Act, passed in 1969, acts in concert with the federal CWA. The Act established the SWRCB and divided the state into nine regions, each overseen by an RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of California's surface and groundwater supplies; however, much of its daily implementation authority is delegated to the nine RWQCBs.

The Porter Cologne Act provides for the development and periodic review of water quality control plans (Basin Plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met. Basin plans, updated every three years, provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The proposed Project falls within *The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region, The Sacramento River Basin and San Joaquin River Basin* (Central Valley RWQCB 2011). The act also assigns responsibility for implementing CWA Sections 401, 402, and 303(d) to the SWRCB and RWQCBs.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT OF 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015, and applies to all groundwater basins in the state (Water Code Section 10720.3). (The SGMA is comprised of three separate bills: Senate Bill 1168, Senate Bill 1319, and Assembly Bill 1739. All three were signed into law by the Governor on September 16, 2014.) By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

Pursuant to SGMA, any local agency that has water supply, water management, or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). Local agencies have until January 1, 2017 to elect to become or form a groundwater sustainability agency. In the event a basin is not within the management area of a groundwater sustainability agency, the county within which the basin is located will be presumed to be the groundwater sustainability agency for the basin. However, the county may decline to serve in this capacity (Water Code Section 19724).

Any established groundwater sustainability agency would have additional powers under the SGMA to manage groundwater within the basin, including, for example, the power to: conduct investigations of the basin, to require registration of groundwater extraction facilities and metering of groundwater extractions, regulate groundwater extractions from individual groundwater wells or wells generally, and to assess fees on groundwater extractions (see generally, Water Code Section 10725 et seq.). Under the SGMA, the City of Madera will retain

its authority to permit construction of all new groundwater wells within its jurisdiction, unless the City delegates this authority to a groundwater sustainability agency (Water Code Section 10726.4[b]). In exercising its authority under the SGMA, a groundwater sustainability agency must consider the interests of holders of overlying groundwater rights, among others, and may not make a binding determination of the water rights of any person or entity (Water Code Sections 10723.2, 10726.8). The SGMA also provides local agencies with additional tools and resources designed to ensure that the state's groundwater basins are sustainably managed.

The SGMA also requires DWR to categorize each groundwater basin in the state as high-, medium-, low-, or very low priority (Water Code Sections 10720.7, 10722.4). All basins designated as high- or medium-priority basins must be managed by a groundwater sustainability agency under a groundwater sustainability plan that complies with Water Code Section 10727 et seq. In lieu of preparation of a groundwater sustainability plan, a local agency may submit an alternative that complies with the SGMA no later than January 1, 2017 (Water Code Section 10733.6).

On December 15, 2014, DWR announced its official "initial prioritization" of the state's groundwater basins for purposes of complying with the SGMA, and this priority list became effective on January 1, 2015 (DWR 2014). The City of Madera is underlain by the Madera Groundwater Sub-basin. DWR has ranked the Madera Sub-basin as a high priority basin. In 2015, the City of Madera joined 6 other local agencies in cooperatively establishing a "Groundwater Sustainability Agency Formation Committee" for the Madera Sub-basin, which is working to comply with the various components of SGMA. In January of 2016, Formation Committee members preliminarily agreed to pursue a structure whereby individual jurisdictions or small groups of jurisdictions would form individual groundwater sustainability agencies, and those agencies would then work together on a single groundwater sustainability plan for the basin. It will be the intent of the Agency to comply with the SGMA by January 31, 2020.

Local

CITY OF MADERA GENERAL PLAN

The *City of Madera General Plan* (City of Madera 2009) sets forth the following goals and policies relevant to hydrology and water quality:

Goal CON-1: Manage water supplies as limited, valuable, and shared natural resources to meet the demands of all Maderans and ensure the ecological health of watersheds and natural systems.

Goal CON-2: Sustainable water supplies that meet future demands through innovative reclamation, conservation, and education programs.

Goal CON-3: Water use that corresponds to the scarcity of the resource and its value for the City.

Goal CON-4: Water quality that is maintained and improved for the health of all City residents and visitors and for natural communities.

Policy CON-2: The City supports the consideration and implementation of a broad range of strategies to ensure the long-term sustainability of its water supply, including strategies related to conservation, reclamation, recharge, and diversification of supply.

Policy CON-3: The City supports natural groundwater recharge and new groundwater recharge opportunities through means such as:

- Developing a comprehensive groundwater recharge program to be applied in conjunction with new development;
- Increasing the area on developed sites into which rainwater can percolate;
- Providing areas where rainwater and other water can collect and percolate into the ground;
- Providing for groundwater recharge in storm drainage facilities; and
- The use of reclaimed water to recharge the groundwater table.

Policy CON-5: To reduce the need for groundwater, the City encourages water conservation and the use of reclaimed water.

Policy CON-7: The City encourages the use of gray water systems, and other water re-use methods in new development and renovation projects as consistent with state and local water quality regulations.

Policy CON-8: The City encourages Low Impact Development practices in all residential, commercial, office, and mixed-use discretionary projects and land division projects to reduce, treat, infiltrate, and manage runoff flows caused by storms, urban runoff, and impervious surfaces. Low impact development practices may include:

- Use of small scale stormwater controls such as bioretention, grass swales and channels, vegetated rooftops, rain barrels and cisterns;
- Reduction of impervious surfaces through site design and use of pervious paving materials;
- Retention of natural features such as trees and ponds on site; and
- The use of drought tolerant plant materials and/or water-conserving irrigation systems.

Policy CON-11: The City shall protect and maintain water quality for the health of all users, including natural plant and animal communities.

Policy CON-12: The City shall seek to minimize toxic runoff from such sources as homes, golf courses, and roadways. Examples of potential programs include:

- The use of "bioswales" and similar features (such as infiltration trenches, filter strips, and vegetated buffers) to trap contaminants;
- Installation of grease/oil separators to keep these contaminants out of storm runoff;
- Regular street sweeping programs to prevent the buildup of oil, grease, and other contaminants and keep them from being swept into creeks and rivers;
- Minimizing pesticide use and promoting the use of natural pest controls;
- Encouraging the installation of "gray water" systems; and
- The development of new storm drain runoff retention ponds for sediment and pollutant removal based on the updated storm water master plan.

Policy CON-13: The City will endeavor to protect groundwater quality from pollution by point and non-point sources.

Goal HS-3: Working with other agencies to protect residents and businesses from hazards caused by flooding.

Goal HS-4: Working with other agencies to protect and manage natural drainage ways, floodplains and flood retention basins, to maintain flood carrying capacity in harmony with environmental, recreational and open space objectives.

Policy HS-19: The City shall not permit new development projects to result in new or increased flooding impacts on adjoining parcels in either upstream or downstream areas.

Policy HS-21: The City shall require any development on land subject to a 100-year flood event, based on Federal Emergency Management Agency (FEMA) or on other updated mapping acceptable to the City, to conform to NFIP standards.

Policy HS-26: The City shall require all new urban development projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing comprehensive drainage plans. All such control measures will consider potential affects to adjacent property owners.

CITY OF MADERA STORMWATER QUALITY MANAGEMENT PROGRAM

The purpose of the City's *Storm Water Quality Management Program* (SWQMP) (City of Madera 2004) is to implement and enforce a series of BMPs designed to reduce the discharge of pollutants from the municipal separate storm drain systems to the "maximum extent practicable," to protect water quality, and to satisfy the appropriate water quality requirements of CWA. The

achievement of these objectives is gauged using a series of Measurable Goals, which also are contained in the SWQMP.

The BMPs are grouped under the following six "Minimum Control Measures," which are required under the Phase II regulations:

- **Public Participation/Involvement** - Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives to attend storm water management program meetings;

- **Public Education and Outreach** - Distributing educational materials and performing outreach to inform citizens about the impacts polluted storm water runoff discharges can have on water quality;

- **Construction Site Runoff Control** - Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary storm water detention ponds);

- **Illicit Discharge Detection and Elimination** - Developing and implementing a plan to detect and eliminate illicit discharges to the storm drain system. This includes developing a system map, informing the community about hazards associated with illegal discharges and improper disposal of waste, and enforcement measures;

- **Pollution Prevention/Good Housekeeping** - Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques, which might include such things as regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning;

- **Post-Construction Runoff Control** - Developing, implementing, and enforcing a program to address discharges of post-construction storm water runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.

The BMPs in the SWQMP include:

- Develop Post-Construction Plan to prevent or minimize water quality impacts by storm water runoff from new development and redevelopment projects that disturb one acre (or fewer than one acre sites within larger developments) that incorporates the following:

    - Structural and non-structural BMPs;
    - Design Standards;

- Long-term operations and maintenance requirements, both for municipal and privately owned controls;
- Systems and procedures for tracking maintenance activities, for both municipal and private activities;
- Inspections, including frequency and methods for measuring compliance; and
- Enforcement procedures for adherence to Design Standards, for proper implementation of BMPs and Design Standards on site, and for long-term operations and maintenance controls.

CITY OF MADERA STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

The City Engineer has developed Standard Specifications and Standard Drawings that are used to provide guidance and consistency for all new development in Madera. The Standard Specifications provide the City Engineer-approved engineering standards that set out an explicit set of requirements to be satisfied by a development's design. The Standard Drawings provides standardized drawings of common development components that have been approved by the City Engineer.

The Standard Specification applicable to hydrology and water quality includes, but is not necessarily limited to, *Section 20, Storm Drainage Piping and Structures*.

The entire list of Standard Specifications and Standard Drawings can be found on the City Engineer's webpage on the City's website.

3.9.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Violate any water quality standards or waste discharge requirements;

b) 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 pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);

c) 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 or siltation on site or off site;

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site;

e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

f) Otherwise substantially degrade water quality;

g) Place housing 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;

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows;

i) 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; or

j) Contribute to inundation by seiche, tsunami, or mudflow.

3.9.4 IMPACTS AND MITIGATION MEASURES

Impact #3.9-1 - Violate any water quality standards or waste discharge requirements:

Development and use of the Project would result in a significant impact to hydrology and water quality if associated construction and operation activities would result in the violation of any water quality or waste discharge standards. Such violations could occur through the creation of erosion, sedimentation, and/or polluted runoff, or through the accidental release of potentially hazardous materials during construction or operational activities. Applicable water quality standards and regulations are presented in Section 3.9.2, *Regulatory Setting*. Potential impacts associated with water quality or waste discharge violations are described below.

Construction

Primary construction-related soil-disturbing activities would include grading of a total 33.4 of acres for the Project, including offsite areas; installation of underground water and sanitary sewer lines; development of stormwater drainage structures; and construction of Sharon Boulevard.

Disturbance of on- and offsite soils during construction could result in soil erosion and subsequent water quality degradation through increased turbidity and sediment deposition into local waterways. No drainages are present onsite or affected areas offsite, thereby avoiding the potential for intrusion by sediments; however, exposed and/or eroding soil could be transported by stormwater flows or runoff to nearby water bodies.

Potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant following implementation of a SWPPP.

Additionally, construction-related activities would involve the use of materials such as vehicle fuels, lubricating fluids, solvents, and other materials that could result in polluted runoff; however, the potential consequences of any spill or release of these types of materials are generally small due to the localized, short-term nature of such releases. The volume of any spills would likely be relatively small because the volume in any single vehicle or container would generally be anticipated to be less than 50 gallons. Furthermore, implementation of the SWPPP would identify measures regarding the handling of these types of materials and the protocols for actions taken if a spill or release does occur.

Operation

Nonpoint-source pollution is caused by surface runoff that picks up and carries away natural and human-made pollutants, depositing them into lakes, rivers, wetlands, and groundwater. Surface parking areas especially contribute to nonpoint-source pollution (e.g., oil, grease, radiator fluid, pesticides, and excess fertilizer from landscape maintenance activities), which can wash into stormwater conveyance structures during rain events. As a result, urban development can result in pollution of offsite drainages and aquifers. The City regulates Project compliance with the General Permit of the SWRCB Phase II Small MS4 (Water Quality Order No. 2013-0001-DWQ), of which the City is one of the permittees. The Project would be subject to the requirements of the General Permit, which are met by applying the City's Standard Specifications and Standard Drawings for stormwater-related Project facilities. The Project proponent has also committed to implementing volumetric treatment criteria and/or flow-based treatment criteria in accordance with Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit. Additionally, the Project proponent proposes the following specific water quality-related BMPs to further ensure that the Project would not degrade water quality:

- Gasoline and diesel fueling areas shall be covered by canopies and shall be surfaced with Portland cement concrete. Diesel fueling areas shall be covered by canopies and shall have catch basins piped to an oil-water separator at each fueling bay to effectively preclude these areas from degrading storm water runoff. Storm water shall be precluded from entering catch basins due to covered canopies and grading design;

- Diesel fuel delivery areas shall have catch basins to capture any incidental spillage and shall be piped to an oil-water separator, and discharged to the sanitary sewer system. Catch basins shall not receive storm water runoff due to grading design;

- Above ground diesel tanks shall have a containment curb around them; and

- Maintenance bays in the tire shop shall be fully covered to preclude degradation of storm water runoff as a result of maintenance operations.

The Project's stormwater drainage system would be designed and implemented to comply with applicable Standard Specifications and Standard Drawings as well as methods described in Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ). The adequacy of operational BMPs designed for the Project, including those proposed by

the Project proponent, would be assured by the City Engineer. In the absence of mitigation, water quality impacts would be potentially significant.

Conclusion: This impact is considered ***potentially significant***.

Mitigation Measure #3.9-1a: Prior to issuance of grading permits, the Project proponent shall submit a Notice of Intent (NOI) and 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 specify and require the implementation of Best Management Practices (BMPs), with the intent of keeping all products of erosion from moving off site and into receiving waters during construction. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended BMPs for the construction phase shall include, but is not limited to, the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

The City of Madera Community Development Department shall confirm that the RWQCB has approved the SWPPP prior to issuance of grading permits.

Mitigation Measure #3.9-1b: Prior to issuance of grading permits, the Project proponent shall prepare a drainage plan for the Project for approval by the City of Madera City Engineer that identifies post-construction treatment, control, and design measures that minimize surface water runoff, erosion, siltation, and pollution. The drainage plan shall be prepared in accordance with the City's *Storm Water Quality Management Program* and CASQA's *Storm Water Best Management Practices Handbook* as well as the City Engineer's Standard Specifications and Standard Drawings. During final design of the Project, the Project proponent shall implement a suite of post-construction stormwater treatment and control Best Management Practices designed to address the most likely sources of stormwater pollutants resulting from operation and maintenance of the Project. These measures shall take into account the proposed 1.52-acre fenced retention basin, low-lying landscaped areas to be used as vegetated swales, shall be designed to methods described in Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ) and shall include the following Project-proponent proposed water quality best management practices:

- Gasoline and diesel fueling areas shall be covered by canopies and shall be surfaced with Portland cement concrete. Diesel fueling areas shall be covered by canopies and shall have catch basins piped to an oil-water separator at each fueling bay to effectively preclude these areas from degrading storm water runoff. Storm water shall be precluded from entering catch basins due to covered canopies and grading design;

- Fuel delivery areas shall have catch basins to capture any incidental spillage and shall be piped to an oil-water separator, and discharged to the sanitary sewer system. Catch basins shall not receive storm water runoff due to grading design;

- Above ground diesel tanks shall have a containment curb around them; and

- Maintenance bays in the tire shop shall be fully covered to preclude degradation of storm water runoff as a result of maintenance operations.

Effectiveness of Mitigation: Implementation of the above mitigation measures would reduce this impact to a ***less-than-significant*** level.

Impact #3.9-2 - 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 pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted):

Construction

The City currently uses groundwater pumped from the Madera Subbasin to meet all of its water demand. Like any activity in Madera, groundwater would be used for construction. Water would be used for purposes of dust control during grading and construction as well as for minor activities such as washing of construction equipment and vehicles. Water demands generated by the Project during the construction phase would be temporary and not substantial (approximately 2.4 million gallons). It is anticipated that groundwater supplies will be adequate to meet construction water demands generated by the Project without depleting the underlying aquifer or lowering the local groundwater table. Therefore, Project construction would not deplete groundwater supplies and impacts would be less than significant.

Project construction would not substantially prevent or inhibit incidental groundwater recharge onsite during precipitation events. As the Project is constructed, portions of the site would remain pervious and would allow infiltration that presently occurs during precipitation events to continue to occur. Therefore, Project construction would not result in a substantial depletion of area groundwater supplies or interfere substantially with groundwater recharge, and impacts would be less than significant

Operation

The City currently uses groundwater pumped from the Madera Subbasin to meet all of its water demand ("Regional Groundwater Basin" above describes the Subbasin). Most recent data from the draft GMP shows that the annual demand for groundwater by the City has been estimated at 12,700 acre-feet/year. Using the projected water usage for the Project found in Chapter Two, *Project Description*, of this EIR, the proposed Project is expected to use approximately 10,000 gallons per day (gpd) for the Travel Stop, Tire Shop, and Restaurant, and 13,500 gpd for landscaping of the entire site (Lane Engineers 2016). The applicant has estimated water usage of

5,300 gpd for the hotel (65 gpd per room) based on their experience with existing operations, and approximately 5,000 gpd for the second restaurant. Combined, it is estimated that the Project's annual water demand is 33,800 gpd or 37.9 acre-feet/year. The September 2015 City of Madera Water System Master Plan estimated the average daily water production as 9,800,000 gallons and long term demand as 41,000,000 gallons. The Project's daily supply requirement of 33,800 gpd represents less than 0.4percent of the current City domestic demand and 0.08 percent of the City's long-term requirements. The report and its cited (Section 7.4.1) Appendices concluded that the City could continue to rely upon its groundwater source as adequate to supply City buildout. As discussed in Section 3.10, *Land Use and Planning*, the Project is consistent with the General Plan designation and zoning classification of the site and, with approval of requested Conditional Use Permit, the Project is an allowable use at the Project site. Since the Project is consistent with the current General Plan designation, the Project's water usage has already been accounted for in the EIR for the most current General Plan update. Although the Madera Subbasin (the basin that the City pumps groundwater from) has been described as "critically overdrafted," the Project area's projected groundwater usage has already been accounted for, and the Project would not change the baseline condition of groundwater water supplies in the Basin beyond the baseline condition already analyzed in the General Plan EIR.

The Project would result in full development of the site, converting 18.4 acres onsite (or 75 percent of the site) from pervious (i.e., porous) surfaces to impervious (i.e., not allowing water to pass through) surfaces. However, the Project proponent has committed to implementing volumetric treatment criteria and/or flow-based treatment criteria in accordance with Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ). During large storm events, onsite stormwater would be directed towards a fenced retention basin located near the sound end of the site. Mitigation Measure #3.9-1a ensures that the Project proponent complies with this commitment. Therefore, Project operation would not interfere substantially with groundwater recharge.

Furthermore, it should be noted that the City of Madera is required to join a Groundwater Sustainability Agency (GSA) by June 30, 2017 as part of the SGMA). The City of Madera joined six (6) other local agencies within Madera County to cooperatively establish a "Groundwater Sustainability Agency Formation Committee" for the Madera Sub-basin, which is working to comply with the various components of SGMA. In order to be compliant under the SGMA, the local agencies within a GSA must adopt a Groundwater Sustainability Plan (GSP), and must begin annual reporting beginning in January 2020 to document the progress made toward implementation of the GSP to the Department of Water Resources (DWR). Within the GSP, implementation measures would need to be in place and enforced for the territory within the GSA governing area. Those measures would further aid in reducing overdraft and moving the underlying groundwater basin towards sustainability.

However, these measures are not yet in place. Although implementation of these unknown, future measures is expected to be beneficial for preserving groundwater resources underlying the City of Madera, including this project, they will not have any immediate impact related to reducing the Project's impact. Thus, the implementation of the GSP measures as required by the SGMA cannot be used to reduce the Project's impacts to groundwater resources and, in turn, cannot be utilized to reduce impacts to a less than significant level for CEQA purposes.

Conclusion: As noted in Section 3.12, due to the overdraft condition of the regional groundwater basin, this impact is ***significant***.

Mitigation Measures: Implement Mitigation Measure #3.12-1.

Effectiveness of Mitigation: Even with mitigation, the potential impact remains ***significant and unavoidable.***

Impact #3.9-3 - 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 or siltation on site or off site:

The rate and amount of surface runoff is determined by multiple factors, including the following: topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed, and the amount of precipitation and water that infiltrates to the groundwater. The Project would alter the existing drainage pattern of the site, which would have the potential to result in erosion or siltation on or offsite. The disturbance of soils onsite during construction could cause erosion, resulting in temporary construction impacts. In addition, the placement of permanent structures onsite could affect drainage in the long-term. Impacts from construction and operation are discussed below.

As discussed in Impact #3.9-1, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant after implementation of an SWPPP (see Mitigation Measure #3.9-1a). No drainages or other water bodies are present on the Project site and therefore, the Project would not change the course of any such drainage. However, erosion may occur onsite during rain events or high winds.

Grading activities would occur on 33.4 acres, including offsite improvements, to construct building foundations and to improve associated infrastructure systems (e.g. water and wastewater systems, site access). Such activities have the potential to result in erosion or sedimentation and/or discharge of construction debris from the site. The Project would not require grading on steep slopes, which are typically prone to erosion, as the Project site is flat. However, other earthmoving activities (e.g., excavation, creating building pads, grading for the road realignment, etc.) would have the potential to loosen soil, and the removal of any onsite vegetation could contribute to future soil loss and erosion by wind and stormwater runoff. The clearing of vegetation and grading activities, for example, could lead to exposed or stockpiled soils, which are susceptible to peak stormwater runoff flows and wind forces. In addition, the presence of large amounts of raw materials for construction may lead to stormwater runoff contamination.

The Project proponent would be required to obtain coverage under the NPDES General Permit, Order No. 2009-0009-DWQ, because the proposed Project would result in one or more acres of land disturbance. To conform to the requirements of the NPDES General Permit, a SWPPP would need to be prepared (see Mitigation Measure #3.9-1a). The SWPPP would specify BMPs

to prevent construction pollutants, including eroded soils (such as topsoil), from moving offsite. Implementation of the permit and BMP requirements would mitigate the potential for erosion of soils or siltation during construction activities. With implementation of this mitigation measure, construction impacts would be reduced to less than significant.

As discussed in Impact #3.9-1, the Project proponent would be required to prepare drainage plans for the site (see Mitigation Measure #3.9-1b) to ensure that existing drainage patterns are maintained during operation and that operation of the Project would not result in substantial erosion or loss of topsoil. With implementation of this mitigation measure, impacts with regard to erosion during the operational phase would be less than significant.

Conclusion: This impact is considered ***potentially significant***.

Mitigation Measures: Implement Mitigation Measures #3.9-1a and #3.9-1b.

Effectiveness of Mitigation: Implementation of the above mitigation measures would reduce this impact to a ***less-than-significant*** level.

Impact #3.9-4 - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site:

Aside from a temporary retention basin, no drainages or other water bodies are present on the Project site and therefore, development of the site would not change the course of any such drainages that may potentially result in on or offsite flooding. Water would be used during the temporary construction phase of the proposed Project (e.g., for dust suppression). However, any water used for dust control would be mechanically and precisely applied and would generally infiltrate or evaporate prior to running off.

The Project site is flat and proposed grading would not substantially alter the overall topography of the Project site. Although the amount of surface runoff on the Project site would not substantially increase with construction of the Project, runoff patterns and concentrations could be altered by grading activities associated with the Project. Improper design of the access road or building pads could result in an alteration of drainage patterns that would cause flooding on- or off-site. The potential for construction of the proposed Project to alter existing drainage patterns would be minimized through compliance with preparation of a SWPPP (Mitigation Measure #3.9-1a). With implementation of such measures, the Project would not substantially increase the amount of runoff in a manner that would result in flooding on- or off-site. Impacts would be reduced to less than significant.

Because onsite drainage patterns would be altered and new impermeable surfaces would be added with the Project, the rate and volume of runoff from the site could change, thereby resulting in flooding offsite. The Project proponent would be required to prepare a drainage plan (see Mitigation Measure #3.9-1b) to ensure that operational runoff from the site is not significantly increased, potentially resulting in on- or off-site flooding. Therefore, long-term

effects on drainage patterns across the Project site, which could result in flooding on or offsite, would be less than significant with implementation of this mitigation measure.

Conclusion: This impact is considered ***potentially significant***.

Mitigation Measures: Implement Mitigation Measures #3.9-1a and #3.9-1b.

Effectiveness of Mitigation: Implementation of the above hydrology and water quality mitigation measures would reduce this impact to a ***less-than-significant*** level.

Impact #3.9-5 - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff:

Construction

Currently, there are no existing stormwater drainage systems on the Project site. Stormwater at the Project site likely percolates to ground or runs off along existing roads (such as Avenue 17), and does not rely on constructed stormwater drainage systems. Based on the existing conditions at the site (i.e., predominantly bare ground), any polluted runoff currently generated by the site would primarily consist of silt and soil conveyed in surface stormwater flow.

As stated previously, the Project proponent would be required to request coverage under the NPDES General Permit Order No. 2009-0009-DWQ because the Project would result in one or more acres of land disturbance. To conform to the requirements of the NPDES General Permit, a SWPPP would need to be prepared (see Mitigation Measure #3.9-1a). This would specify BMPs to prevent construction pollutants, including eroded soils (such as topsoil), from moving offsite. Implementation of the General Permit and BMP requirements would mitigate erosion of soils during construction activities, and impacts would be less than significant

Operation

As stated above, the Project site is drained by sheet flow and does not rely on constructed stormwater drainage systems. Development of the Project site would introduce additional impervious surfaces and would have the potential to increase the amount of stormwater runoff either on or offsite. Surface runoff velocities, volumes, and peak flow rates would therefore have the potential to increase.

As discussed in Impact #3.9-1, the Project proponent would be required to prepare drainage plans for the site (see Mitigation Measure #3.9-1b) to ensure that planned stormwater drainage system would not be exceeded and that polluted runoff would not occur in significant quantities. With implementation of this mitigation measure, impacts with regard stormwater drainage systems during the operational phase would be less than significant.

Conclusion: Impact #3.9-5 is considered ***potentially significant***.

Mitigation Measures: Implement Mitigation Measures #3.9-1a and #3.9-1b.

Effectiveness of Mitigation: Implementation of the above mitigation measures would reduce this impact to a ***less-than-significant*** level.

Impact #3.9-6 - Otherwise substantially degrade water quality:

No other sources that would degrade water quality were identified. The Project will not otherwise substantially degrade water quality.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.9-7: Place housing 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.

As shown in Figure 3.9-1, the Project site is not located within the 100-year floodplain and no housing is proposed for the Project. Therefore, the Project would not place housing within a 100-year flood hazard area and there would be no impact.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.9-8 - Place within a 100-year flood hazard area structures that would impede or redirect flood flows:

As shown in Figure 3.9-1, the Project site is not located within the 100-year floodplain. Therefore, the Project would not place structures within a 100-year flood hazard area and there would be no impact.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.9-9 - 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:

As shown in Figure 3.9-1, the Project site is not located within the 100-year floodplain and there do not appear to be any significant levees that, if they were to fail, could potentially affect people or structures. However, the southern portion of the Project site is located within the Hidden Dam/Hensley Lake inundation area. If there were to be a catastrophic failure of the dam, the Project's location partially within the inundation area (see Figure 3.9-2) could expose people or structures to a significant risk of loss, injury, or death as result of the failure dam.

The Hidden Dam is approximately 40 years old and does not currently have any known deficiencies. Dam failures are extremely rare events but have been known to occur during California's history. The *Madera County Operational Area Emergency Operations Plan* (Madera County 2010) includes procedures for federal, State, and local agencies in knowing and understanding their management role and responsibility when confronted with an incident requiring activation of emergency operations in Madera County. The Plan includes the possibility of dam failure. Given the remote possibility that dam failure could occur that would affect the Project site and because local agencies, including City agencies, have a clear plan of action outlined in the Plan, the possibility that the Project would 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 is considered less than significant.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.9-10 - Contribute to inundation by seiche, tsunami, or mudflow:

A seiche is an occasional and sudden oscillation of an enclosed water body, such as a lake, bay, estuary, etc., producing fluctuations in the water level and caused by wind, earthquakes, changes in barometric pressure, etc. Because the Project site is not near an enclosed water body, there is no possibility of inundation by seiche. The Project is also not near an ocean and therefore, there is also no possibility of inundation by tsunami (or tidal wave). The Project site and its surroundings are flat and therefore, the Project would also not be susceptible to inundation by mudflow, which occurs in areas at the foot of a steep slope where mixed earth debris containing a large amount of water would flow and inundate an area. There would be no impact.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

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3.10 Land Use and Planning

This section provides an analysis of the potential land use and planning impacts that may be caused by implementation of the proposed Project, such as impacts related to physically dividing a community (roads, bridges, walls, etc.). Impacts may include conflicts with local regulation, introducing population growth, or displacing housing or people.

3.10.1 ENVIRONMENTAL SETTING

Current Land Uses

Figure 2-3 shows the proposed Project site. The site is undeveloped, but a few miscellaneous remnants of the prior operation remain. The site was previously used as a holding facility for large storage containers and earth moving equipment such as bulldozers, loaders, backhoes, graders, forklifts, scrapers, and farm equipment. A more complete description of existing site features is contained in Chapter Two. Surrounding land uses include Avenue 17, undeveloped land and an abandoned dairy facility to the north; residential units to the east; undeveloped land to the south; and SR 99, Southern Pacific Railroad (SPRR) tracks, and undeveloped land to the west.

3.10.2 REGULATORY SETTING

Land use planning and zoning authority of local jurisdictions in California are set forth in the state's planning laws. The Project site is located in Madera and will be subject to the City's regulations. . For this reason, the analysis of the regulatory setting focuses on the relevant policies of the City of Madera.

The following is a description of entitlement actions and approvals that will likely be required by the City of Madera in order for the Project to be implemented:

- Site Plan Review – Overall site;
- Truck Stop – Conditional Use Permit (This will include tire shop and related facilities);
- Hotel – Conditional Use Permit;
- RV/Boat Storage – Conditional Use Permit;
- Drive-through Restaurant – Conditional Use Permit ;
- Outdoor Seating – Conditional Use Permit;
- Alcohol Sales in Restaurant/Convenience Store – Conditional Use Permit ;
- Signage – Variance and Conditional Use Permit if sign exceeds height and size limits;
- Development Agreement – Development Agreement for overall development;
- Building Permits – All structures;
- Construction of off-site utilities and infrastructure; and
- Subdivision of the existing parcel into five lots – Tentative Subdivision Map.

Permits that may be required by other entities are summarized below:

- San Joaquin Valley Air Pollution Control District - Indirect Source Review; and
- County of Madera – Construction of off-site utilities and infrastructure in County public street right-of-way.

In conjunction with the formal submittal of applications, the City will confirm a precise set of entitlements that will be required to support Project components.

In addition, the following State agencies may or may not have involvement in the project implementation process:

- Department of Transportation (Caltrans); and
- Native American Heritage Commission.

Federal

There are no applicable federal regulations pertaining to land use and planning.

State

GENERAL PLANS

California Government Code Section 65300, et seq. establish 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 city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. A broad range of topics is addressed in the general plan, 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 city's or county'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.

SUBDIVISION MAP ACT

Pursuant to Title 7, Division 2, Section 66411: Regulation and control of the design and improvement of subdivisions are vested in the legislative bodies of local agencies. Each local agency shall, by ordinance, regulate and control the initial design and improvement of common interest developments as defined in Section 1351 of the Civil Code and subdivisions for which this division requires a tentative and final or parcel map. In the development, adoption, revision, and application of such ordinance, the local agency shall comply with the provisions of Section 65913.2. The ordinance shall specifically provide for proper grading and erosion control, including the prevention of sedimentation or damage to offsite property. Each local agency may by ordinance regulate and control other subdivisions, provided that the regulations are not more restrictive than the regulations for those subdivisions for which a tentative and final or parcel

map are required by this division, and provided further that the regulations shall not be applied to short-term leases (terminable by either party on not more than 30 days' notice in writing) of a portion of the operating right-of-way of a railroad corporation as defined by Section 230 of the Public Utilities Code unless a showing is made in individual cases, under substantial evidence, that public policy necessitates the application of the regulations to those short-term leases in individual cases.

CALIFORNIA AIR RESOURCES BOARD

The California Air Resources Board (ARB) adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook) in 2005. The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of toxic air contaminants. The sources of toxic air contaminants identified in the Land Use Handbook are high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. If the Project involves siting a sensitive receptor or source of toxic air contaminant discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors.

Local

CITY OF MADERA GENERAL PLAN

Planning for a city is typically done through the Land Use Element of the City of Madera General Plan. "It establishes the pattern of activity the community would like to see develop in the years to come, and defines areas of the city for housing, business, industry, open space, recreation, education and other public services" (City of Madera 2009). The Project site is designated by the City of Madera General Plan Map as C – Commercial (Figure 2-4). The Project site is also identified in "Village D: Northwest Madera" in the Land Use Element. Listed below are some of the goals and policies from the City of Madera General Plan that are relevant to land use and planning:

Policy LU-36: The City supports walkability as a guiding concept for the design of new residential and commercial projects. Both private sector development projects and City public works projects shall be designed to be pedestrian friendly to help reduce vehicular travel, improve the quality life in Madera, and support the City's efforts to reduce pollution and the generation of greenhouse gases.

Policy LU-37: "Walkability" shall include:

- A safe walking environment that includes safety features, sidewalks, crosswalks, stopping places, shade, grade-separated crossings where necessary, and ample opportunities for pedestrians to see and be seen;

- An overall community design in which the places that provide day-to- day needs (parks, local schools, daily shopping needs) are within a reasonable walking distance—generally one mile—of all homes; and

- A citywide system that allows for walking and bicycling throughout the community and that reduces or eliminates conflicts between these users and motor vehicles.

Policy LU-44: The City supports the creation and retention of jobs that provide sustainable wages and benefits for Madera residents.

Policy CD-1: The City of Madera will require that all new development is well-planned and of the highest possible quality. The City will seek to build an image of Madera as a contemporary small city with vibrant, livable neighborhoods and walkable pedestrian- and bicycle- oriented development.

Policy CD-4: Site layout and building design shall take into consideration Madera's warm, dry climate, by including trees, landscaping and architectural elements to provide shade.

Policy CD-7: All new development projects requiring site plan approval, shall establish landscape and façade maintenance programs for the first three years, ensuring that streetscapes and landscapes areas are installed and maintained as approved.

Policy HS-1: The City will provide access to open space areas for all members of the community.

CITY OF MADERA ZONING ORDINANCE AND SUBDIVISION CODE

Regulatory compliance with the City of Madera Municipal Code is required for all projects in the city. The site is shown on the City of Madera Zoning Map (Madera Code 2008) as C2 - Heavy Commercial (Figure 2- 2-5). Pursuant to Title X, Chapter 3, Section 10-3.3902 of the City's Municipal Code the following uses are permitted, permitted with approval from the Zoning Administrator, and permitted with approval of a conditional use permit (CUP), as noted below:

Permitted

- Any use permitted in the C-1 zone. This includes, but is not limited to:
    - Service Stations;
    - Restaurants and cafes;
    - Automobile parts and supply stores; or
    - Full service car washes.

- Wholesale stores and storage within buildings
- Building material yards
- Lumber yards
- Used secondhand merchandise within enclosed buildings

Permitted Zoning Administrator Approval

- Temporary outdoor display of merchandise and sales activities
- Gas and electric transmission lines, electrical transmission and distribution substations, gas regulator stations, communications equipment buildings, public service pumping stations, and elevated pressure tanks.

Conditional Use Permit

- Auto wrecking
- Bottling works
- Contractor's yards
- Farm supply store
- Junk yards
- Machine shops
- Planing mills
- Outdoor storage of goods and materials
- Trailer coach camps
- Auction facilities
- Self-service car washes as either a primary or accessory use
- Any use permitted in any R zone
- Adult oriented businesses as provided in § 10-7.01 of this title
- Other uses, which in the opinion of the Commission are of a similar nature
- Light manufacturing, including the manufacture of clothing, novelties, and toys, and uses which in the opinion of the Commission are of a similar nature, and all subject to first securing a use permit in each case
- Signs appurtenant to any permitted use may be erected in the C-2 zone subject to all the laws, rules, and regulations of the city pertaining to signs

Other uses listed in the City of Madera Municipal Code include emergency shelters and group homes in accordance with Government Code Section 65582. These uses are subject to certain criteria.

Permitting Process

The Project proponent has submitted an application for a tentative subdivision map (TSM), pursuant to Section 10.2 of the Municipal Code (Subdivision), and a CUP, to the City of Madera for approval of the following uses:

- Subdivision of one parcel into 5 parcels including a Reminder parcel (TSM);
    - Parcel 1 – Approximately 1.9 acres: includes the restaurant;
    - Parcel 2 – Approximately 2.4 acres: includes the hotel;
    - Parcel 3 – Approximately 12.9 acres: includes the Travel Stop and tire shop;
    - Parcel 4 – Approximately 7.3 acres: includes RV and boat storage facility; and

  - Parcel 5 – Approximately 18.8 acres. This remainder parcel will not be developed as part of this proposed Project.

- Truck Stop – CUP (tire shop and related facilities);
- Hotel – CUP;
- Mini-Storage – CUP;
- Drive-through Restaurant – CUP;
- Outdoor Seating – CUP;
- Alcohol Sales in Restaurant/Convenience Store – CUP; and
- Signage – variance and CUP if sign exceeds height and size limits.

3.10.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Physically divide an established community;

b) 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 mitigation an environmental effect; or

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

3.10.4 IMPACTS AND MITIGATION MEASURES

Impact #3.10-1 - Physically divide an established community:

For CEQA purposes, to "physically divide" can be defined as to create physical barriers that change the connectivity between areas of a community in which people are separated from one area to another. Connectivity is often provided by roadways, pedestrian paths, and bicycle paths. Some factors that would contribute to dividing or separating a community include:

- Construction of major highways or roadways;
- Closing bridges or roadways;
- Construction of utility transmission lines;
- Construction of storm channels; and
- Dams and other waterway diversions.

As proposed, the Project will include street improvements. Construction of Sharon Boulevard will begin at Avenue 17 and extend to a temporary cul-de-sac to the south. Sharon Boulevard will be constructed as an arterial roadway with curb, gutter, and sidewalks, as well as several other improvements including: a 16-foot wide median, two 12-foot southbound lanes, a 25-foot wide park strip with sidewalk, a 12-foot northbound lane, and an eight-foot wide paved shoulder.

There will also be frontage improvements along Avenue 17, including installation of signalized intersections.

Connectivity from the southern portion of the Project site to Avenue 17 would be provided with Sharon Boulevard. Sidewalks will accommodate pedestrians. Several other improvements including parking lots, driveways, and access points along Avenue 17 are being proposed.

Conclusion: The Project would provide connectivity through construction of a new roadway. Other improvements will make the site more accessible for both traffic and pedestrians. This impact is ***less than significant.***

Mitigation Measures: No mitigation measures are required.

Impact #3.10-2 - 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 mitigation an environmental effect:

The Project site is designated as C2 - Heavy Commercial. The City of Madera Community Development Department has determined that, as proposed, each element of the Madera Travel Center is allowed as either a permitted use or with a CUP pursuant to Title X, Chapter 3, Section 10-3.902 of the City of Madera Municipal Code. In addition, the Project will not conflict with the goals and policies listed in the City of Madera General Plan. Section 10-3.4.-0102 of the Municipal Code requires the proposed Project to undergo site plan review, which ensures that the Project is consistent with all applicable development standards and general plan policies. Subdivision of the property will comply with Title X, Chapter 2, Section 10-2.402 of the Code.

Conclusion: This impact is ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.10-3 - Conflict with any applicable habitat conservation plan or natural community conservation plan:

There are no adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state plans that cover the proposed Project site or the surrounding areas. Therefore, implementation of the Project would have no impacts related to these types of plans.

Conclusion: There is ***no impact.***

Mitigation Measures: No mitigation measures are required.

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3.11 Noise

This section describes the affected environment and regulatory setting for noise. It also describes the noise-related impacts that would result from implementation of the proposed Project, as well as potential off-site construction activities, and the mitigation measures that would reduce these impacts. The information in this section is based on an Environmental Noise Analysis (j.c. Brennan, April 14, 2015) included as Appendix H of this Draft EIR.

3.11.1 ENVIRONMENTAL SETTING

Acoustical Terminology

Sound is defined by Caltrans as a vibratory disturbance created by a moving or vibrating source in the pressure and density of a gaseous or liquid medium or in the elastic strain of a solid that is capable of being detected by the hearing organs. Sound may be thought of as the mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. The medium of primary concern is air. In absence of any other qualifying statements, sound is considered airborne sound, as opposed to structure- or earthborne sound, for example.

Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. It therefore may be classified as a more specific group of sounds. Although the terms sound and noise are often used synonymously, perceptions of sound and noise are highly subjective. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities (e.g., normal conversations, watching television, telephone conversations) and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep. Noise can come from two types of sources: mobile and stationary. Mobile source noises are generally associated with transportation such as cars, trains, and aircraft. Stationary sounds can be pin-pointed and do not move. Examples of stationary noise sources include outdoor machinery (heating/cooling systems found in residential, industrial and commercial development), race tracks, airports, etc.

The three components of sound are source, path, and receiver. All three components must be present for sound to exist. Without a source, no sound pressure waves would be produced. Similarly, without a medium, sound pressure waves would not be transmitted. Finally, sound must be received—a hearing organ, sensor, or other object must be present to perceive, register, or be affected by sound. In most situations, there are many different sound sources, paths, and receivers.

Existing Noise Environment in the Project Vicinity

The proposed Project site is located adjacent to and north of Avenue 17 and separated by Southern Pacific Railroad (SPRR) tracks from State Route (SR) 99 to the west (Figure 2-3, Chapter Two). The nearest noise sensitive receptors include six single-family homes that border the east side of the proposed Project site. Additional single-family homes are located across Avenue 17 approximately 300 feet away to the north and northeast.

Motor vehicle traffic, railroad operations, and aircraft overflights are the major contributors to the existing noise environment in the proposed Project vicinity. Vehicular noise occurs primarily along SR 99 and railroad noise from the railroad tracks. The Madera Municipal Airport, which is addressed later in this section, is located to the northeast. The existing noise environment in the Project vicinity is defined primarily by noise from existing vehicular traffic, including heavy trucks, SR 99, roadway traffic on Avenue 17 and SPRR operations.

A summary of the existing continuous and short-term ambient noise measurements for the proposed Project site is shown in Table 3.11-1.

Table 3.11-1
Measured Ambient Noise Levels
February 3-4, 2015

Site - Location		Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
	Ldn	**Leq**	**L_{50}**	**Lmax**	**Leq**	**L_{50}**	**Lmax**
Continuous 24-hour Noise Measurement Sites							
Site A – Southeast property line	64.4 dB	58 dB	54 dB	75 dB	58 dB	54 dB	73 dB
Site B – West center property line.	79.5 dB	73 dB	64 dB	91 dB	73 dB	60 dB	88 dB
Short-term Noise Measurement Sites					**Notes:**		
ST1 - 2/3/15 @ 2:00 pm	N/A	54 dB	54 dB	60 dB	SR-99, Traffic, Train passby		
ST1 - 2/4/15 @ 1:45 pm	N/A	54 dB	53 dB	60 dB	SR-99, Traffic, Train passby		
ST2 - 2/3/15 @ 2:30 pm	N/A	47 dB	46 dB	56 dB	Ave 17 traffic, SR-99 background		
ST2 - 2/4/15 @ 2:10 pm	N/A	48 dB	47 dB	57 dB	Ave 17 traffic, SR-99 background		
ST3 - 2/3/15 @ 3:00 pm	N/A	63 dB	61 dB	71 dB	SR-99, Traffic, Ave 17 traffic is contributing		
ST3 – 2/4/15 @ 2:45 pm	N/A	62 dB	61 dB	71 dB	SR-99, Traffic, Ave 17 traffic is contributing		

1. Average values reported are the average of the hourly measured values over the daytime or nighttime period, respectively.
2. Continuous measurements are conducted for 1-hour intervals over the 24-hour measurement period.

Source: j.c. brennan & associates, Inc. – 2015

Existing Roadway Traffic Noise Levels

Traffic volumes for existing conditions were obtained from the Project traffic consultant (VRPA Technologies Inc, 2015, see Appendix H of this DEIR.) in the form of average daily traffic volumes (ADTs) and peak hour traffic volumes. Truck usage and vehicle speeds on the local area roadways were estimated from field observations.

Table 3.11-2 shows the existing traffic noise levels in terms of Ldn at a reference distance of 100 feet from the centerlines of the major arterial streets. A complete listing of the Federal Highway Administration (FHWA) Model input data is contained in Appendix H.

Table 3.11-2
Existing Traffic Noise Levels and Distances to Contours

Roadway	Segment	Ldn @ 100 feet	Distance to Contours (feet) 70 dB	65 dB	60 dB
Avenue 17	State Route 99 to Airport Drive	61 dB	27	58	125
Avenue 17	State Route 99 Waldon Drive	64 dB	42	91	197
Avenue 17	East of Waldon Drive	63 dB	36	77	167
Waldon Drive	South of Avenue 17	43 dB	1	3	7
Waldon Drive	North of Avenue 17	53 dB	7	16	35
Golden State Blvd	North of Avenue 17	55 dB	10	21	45
Airport Drive	South of Avenue 17	54 dB	8	18	38

Notes: Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
Source: FHWA-RD-77-108 with inputs from VRPA Technologies, and j.c. brennan & associates, Inc. 2015.

Existing Madera Municipal Airport Noise Levels

The Madera Municipal Airport is located west of SR 99, and south of Avenue 17. Based upon the Airport Land Use Compatibility Plan for the Madera County Airports, which was prepared for the Madera County Airport Land Use Commission, the 60 dB Community Noise Equivalent Level (CNEL) contour associated with the airport operations is confined to the areas west of SR 99. The noise levels associated with the airport operations do not contribute significantly to the overall noise environment.

3.11.2 REGULATORY SETTING

Federal

There are no federal noise requirements or regulations that bear directly on local actions of the City of Madera. The Noise Control Act of 1972 directed the EPA to develop noise guidelines that would protect the population from the adverse effects of environmental noise. The EPA published a guideline, entitled EPA Levels Document, Report No. 556/9-74-664, containing recommendations for noise levels affecting residential land use of 55 Ldn [1]dBA for outdoors and 45 Ldn dBA for indoors. The agency is careful to stress that the recommendations contain a factor of safety and do not consider technical or economic feasibility issues, and therefore, should not be construed as standards or regulations.

1 Ldn = Day-Night Sound Level. Ldn is the A-weighted equivalent sound level for a 24 hour period with an additional 10 dB imposed on the equivalent sound levels for night time hours of 10 p.m. to 7 am. dBA= A-weighted Decibel. dBA is the most common unit used for measuring environmental sound levels. It adjusts, or weights, the frequency components of sound to conform to the normal response of the human ear at conversational levels (California Department of Transportation 2013).

The Federal Department of Housing and Urban Development standards (24 CFR Part 51, subpart B) define the 65 Ldn dBA as an acceptable outdoor noise level for residential uses. If outdoor noise levels exceed 75 dBA Ldn, the interior noise level in residential homes could exceed 45 dBA, however, with proper insulation and other construction techniques, the interior noise level can be reduced to the 45 dBA level.

FEDERAL HIGHWAY ADMINISTRATION

Highway traffic noise for highway projects requires abatement through the Code of Federal Regulations (23 CFR Part 772).

FEDERAL TRANSIT ADMINISTRATION AND FEDERAL RAILROAD ADMINISTRATION

Thorough noise and vibration assessments for mass transit or high-speed railroad projects passing by residential areas is recommended by the Federal Transit Administration and Federal Railroad Administration.

State

The California Department of Health Services had developed guidelines for acceptable community noise levels, which are frequently adopted by local agencies. Selected relevant noise levels are as follows:

- CNEL below 60 dBA - normally acceptable for low-density residential use;
- CNEL of 55 to 70 dBA - conditionally acceptable for low-density residential use;
- CNEL below 65 dBA - normally acceptable for high-density residential, transient lodging, churches, educational and medical facilities; and
- CNEL below 70 dBA - normally acceptable for playgrounds, neighborhood parks.

"Normally acceptable" is defined as satisfactory for the specified land use, assuming that conventional construction is used in buildings. "Conditionally acceptable" may require some additional noise attenuation or study. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall in within the overlapping range.

California additionally regulates the noise emission levels of licensed motor vehicles traveling on public thoroughfares, sets noise emission limits for certain off-road vehicles and watercraft, and sets required sound levels for light rail transit vehicle's warning signals. The extensive state regulations pertaining to worker noise exposure are for the most part only applicable to the construction phase of any project.

California encourages each local jurisdiction to perform noise studies and implement a noise element as part of its general plan. The Governor's Office of Planning and Research (in conjunction with the California Department of Health Services) has published guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The Department of Health guidelines indicate that residential land uses and other noise-sensitive uses would generally be acceptable without special noise insulation requirements in areas where exterior ambient noise levels do not exceed approximately 60 dBA (day-night noise levels, Ldn or CNEL). Residential uses in areas with Ldn between 60 and 65 dBA would generally be acceptable with noise reduction measures or insulation, and residential uses should generally be discouraged in areas where noise levels are above 65 dBA Ldn.

Local

CITY OF MADERA GENERAL PLAN

The City of Madera's noise standards are expressed in terms of the Ldn descriptor, as well as hourly performance standards. In addition to applying the City's noise standards to this proposed Project, CEQA also requires that impacts be assessed relative to ambient noise levels which are present without the proposed Project. As a result, ambient noise surveys were conducted as part of this analysis, and comparisons of Project to no-project noise levels were used to assess noise impacts (in addition to comparison to the City of Madera noise standards). Specifically, individual maximum (Lmax) noise levels and hourly average (Leq) noise levels, both with and without the proposed Project, were compared so that the assessment of noise impacts was not based solely on an assessment of Project-generated noise in terms of 24-hour averages (Ldn), but also on short-term fluctuations in the ambient noise environment (California Department of Transportation 2013).

Noise impacts are addressed through policies that are mandated in the City of Madera General Plan's Noise Element. The City of Madera General Plan sets forth the following goals and policies relevant to noise:

Policy N-1: The City will protect residential areas and other noise-sensitive uses from excessive noise by doing the following:

1. Requiring that land uses, roadways, and other sources do not create incompatible noise levels on adjacent parcels;

2. Allowing homes or noise-sensitive uses to be developed only in places where existing and projected noise levels will meet the exterior noise guidelines and standards shown in Policies N-5 and N-6; and

3. Requiring that City decisions which would cause or allow an increase in noise created by stationary or mobile sources (such as development of noise-generating land uses or the construction of new or wider roadways) be informed by a noise analysis and accompanied by noise reduction measures to keep noise at acceptable levels.

The analysis may be accomplished by reviewing available noise data, by requiring additional information on potential noise that would be created, or by a noise analysis prepared as part of the Project's environmental analysis. Roadway projects which are consistent with the Circulation Map in this General Plan will generally not require the preparation of a noise analysis.

Policy N-2: To implement Policy N-1, the following shall apply:

1. No use regulated by the City shall be permitted to generate noise that would cause the ambient noise on any adjacent parcel to exceed the "completely compatible" 24-hour guidelines shown in Policy N-5 or the 30-minute noise standards in Policy N-6;

2. The City shall ensure that noise mitigation to achieve a "completely compatible" 24-hour exterior noise level and conformance with the 30- minute exterior noise standard is provided in conjunction with any decision it makes that would cause a violation of item 1) above;

3. Developers of new residential or other noise-sensitive uses which are placed in environments subject to existing or projected noise that exceeds the "completely compatible" guidelines in Policy N-5 shall be responsible for ensuring that acceptable exterior and interior noise levels will be achieved; and

4. The City shall ensure that transportation projects such as new or widened roadways include mitigation measures to maintain at least "tentatively compatible" noise levels as shown in Policy N-5. Mitigation for roadway noise need not be provided where "tentatively compatible" noise guidelines would be exceeded on vacant lands, but shall be installed as part of the transportation project where the noise would affect existing homes. In those instances where noise mitigation is not initially triggered, it shall be the responsibility of the project which places residential units on the vacant lands.

Action Item N-2.1: Apply the State Noise Insulation Standards, zoning and building controls, buffers, sound barriers, traffic controls, and other effective measures to reduce exposure to noise that exceeds the standards contained in this General Plan.

Action Item N-2.2: Require acoustical studies for:

1. Significant new noise generators; or

2. New uses which are proposed to be developed in areas which do not meet the "completely compatible" exterior noise guidelines contained in Policy N-5 or Policy N-6.

If information on the noise environment at a Project site is not available, a measurement of the noise environment by a qualified acoustical engineer may be needed to make a determination whether a proposed Project complies with the guidelines and standards in Policy N-5 or N-6.

Action Item N-2.3: Seek to obtain noise mitigation from other agencies (including the State of California) required to address the noise impacts of decisions made by those agencies (including, but not limited to, roadway widenings and railroad operations).

Policy N-4: The following compatibility standards shall be used to determine whether a proposed use is appropriate for its location, given the projected ambient noise level:

- "Completely Compatible" means that the specified land use is satisfactory and both the indoor and outdoor environments are pleasant;

- "Tentatively Compatible" means that noise exposure may be of concern, but common building construction practices will make the indoor living environment acceptable, even for sleeping quarters, and outdoor activities will not be unduly disturbed by noise;

- "Normally Incompatible" means that noise exposure warrants special attention, and new construction or development should generally be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. Careful site planning or exterior barriers may be needed to make the outdoor environment tolerable; and

- "Completely Incompatible" means that the noise exposure is so severe that new construction or development should generally not be undertaken.

Policy N-5: The following are the maximum 24-hour exterior noise levels for land designated by this General Plan for residential, commercial/retail, and public parks:

- See Policy N-4 for the definitions of these levels of compatibility;

- These guidelines apply to land designated by this General Plan for these uses. Residential, retail, or public parks which have been developed on land designated for other uses shall be subject to the exterior noise guidelines for the land on which they are located;

- Non-residential uses located on residentially designated land shall be subject to the exterior noise guidelines for residential lands;

- All uses on commercial lands, including non-commercial uses, shall be subject to the standards for commercial land;

- Land use designations not listed above do not have exterior noise compatibility standards. Land use designations with no exterior noise compatibility standard include office and industrial; and

- Standards for public schools are set and enforced by the State of California and are not regulated by the City of Madera. Therefore, no standards for public schools are shown in Table N-B.

Table N-B:
Exterior Noise Compatibility Guidelines for Noise From All Sources, Including Transportation Noise (24-Hour Day-Night Average [CNEL/Ldn])

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
All Residential (Single- and Multi-Family)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Commercial	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	(1)
Public Parks (Lands designated as Open Space on which public Parks are located or planned)	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA
(1) No "Completely Incompatible" category is shown for commercial uses because not all commercial uses are incompatible with noisy environments. The City may determine as part of the review of individual development proposals that some types of commercial uses are incompatible with noise environments in excess of 75 dBA CNEL.				

City of Madera, General Plan 2009

Policy N-6: The following are the City's standards for maximum exterior non-transportation noise levels to which land designated for residential land uses may be exposed for any 30-minute period on any day:[2]

- Where existing ambient noise levels exceed these standards, the ambient noise level shall be highest allowable noise level as measured in dBA Leq (30 minutes);

- The noise levels specified above shall be lowered by 5 dB for simple tonal noises (such as humming sounds), noises consisting primarily of speech or music, or for recurring impulsive noises (such as pile drivers, punch presses, and similar machinery). Example: the Single Family/Duplex standard from 10 p.m. to 7 a.m. for these types of noises is 45 dBA;

- The City may impose exterior noise standards which are less restrictive than those specified above, provided that:

    1. The noise impact on the residential or other noise-sensitive use is addressed in an environmental analysis;

    2. A finding is made by the approving body stating the reasons for accepting a higher exterior noise standard; and

    3. Interior noise standards will comply with those identified in Policy N-7.

[2] Please see Policy N-5 for 24-hour exterior noise guidelines.

Table N-C:
Exterior Noise Level Standards for Non-Transportation Noise, Measured as dBA Leq (30 minutes)

Land Use Type	Time Period	Maximum Noise Level (dBA)
Single –Family Homes and Duplexes	10 p.m. to 7a.m.	50
	7 a.m. to 10 p.m.	60
Multiple Residential 3 or More Unites Per Building (Triplex +)	10 p.m. to 7a.m.	55
	7 a.m. to 10 p.m.	60

City of Madera, General Plan 2009

Policy N-7: The following are the City's standards for acceptable indoor noise levels for various types of land uses. These standards should receive special attention when projects are considered in "Tentatively Compatible" or "Normally Incompatible" areas:

- Noise created inside a use listed above shall not count toward the acceptable noise levels to be maintained in accordance with this policy.

Table N-D:
Maximum Acceptable Interior Noise Levels Created by Exterior Noise Sources

Land Use Type	Time Period	Maximum Noise Level (dBA)
Single –Family Homes and Duplexes	10 p.m. to 7a.m.	50
	7 a.m. to 10 p.m.	60
Multiple Residential 3 or More Unites Per Building (Triplex +)	10 p.m. to 7a.m.	55
	7 a.m. to 10 p.m.	60

City of Madera, General Plan 2009

Policy N-9: The City's preferences for providing noise mitigation are, in order (#1 is the most preferred, #5 the least):

1. Reduce noise at the source;

2. If #1 is not practical, seek to designate land uses which are compatible with projected noise levels;

3. If #1 or #2 are not practical, use distance from the source to reduce noise to acceptable levels;

4. If #1, #2, or #3 are not practical, use buildings, berms, or landscaping or a combination of these to reduce exterior noise to acceptable levels. Use construction techniques (sound-reducing windows, etc.) to reduce interior noise to acceptable levels; and

5. The last measure which should be considered is the use of a sound wall to reduce noise to acceptable levels.

Policy N-10: Where they are constructed, sound walls should be:

1. Considered only if proven effective by accompanying noise studies;

2. Be visually attractive, complement the surroundings, and require a minimum of maintenance. (See Community Design Element references to sound wall designs); and

3. As small/low as possible consistent with the need to reduce noise to acceptable levels.

Policy N-12: All acoustical analysis prepared pursuant to this Noise Element shall:

1. Be the financial responsibility of the applicant;

2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;

3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources;

4. Estimate existing and projected cumulative (20 years) noise levels in terms of Ldn or CNEL and/or the standards in this Noise Element, and compare those levels to the policies in this Noise Element;

5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of this Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses;

6. In cases where a sound wall is proposed, the potential impacts associated with noise reflecting off the wall and toward other properties or sensitive uses shall be evaluated;

7. Estimate noise exposure after the prescribed mitigation measures have been implemented; and

8. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

Policy N-13: For the purposes of CEQA analysis, a 5 db increase in CNEL or Ldn noise levels shall be normally considered to be a significant increase in noise.

Policy CD-16: Soundwalls or fences along streets other than arterials and expressways and adjacent to rail lines should be used only if no other design solutions exist for reducing the impact of roadway noise on residential areas, consistent with this General Plan's policy regarding noise mitigation preferences.

CITY OF MADERA MUNICIPAL CODE

The City of Madera Municipal Code, Title III, Chapter 11, Sections 3-11.01 and 3-11.02 provides regulation for noise. The proposed Project may be subject to the following regulation:

Sections 3-11.01

(A) No person shall make, or cause or permit to be made or cause, upon any premises owned, occupied, possessed, or controlled by them or upon any public street, alley, or thoroughfare any unnecessary noise or sound which is physically annoying to persons of ordinary and normal sensitivity or which is so harsh or so prolonged unnatural or unusual in its use, time, and place as to cause physical discomfort, or which is injurious to the lives health, peace and comfort of the inhabitants of the city.

(B) The provisions of this chapter shall not be construed to apply to any public celebration, public holiday, or public occasion generally celebrated or public parades held under authorized permits; nor shall such provisions apply to any sporting event or activity conducted under the direction and supervision of any public or private school; nor shall such provisions apply to the operation of any mechanical devices used by public employees or utility companies involved in remedying a dangerous, hazardous, or unhealthful situation at any time of the day or night.

Sections 3-11.02

(A) Operating, playing, or permitting the operation or playing of any radio, television set, loudspeaker, stereo, drum, musical instrument, or similar device which produces or reproduces sound which is in violation of the provisions of §3-11.01 of this title.

(B) Between the hours of 8:00 p.m. and 6:00 a.m. of the following day. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work which creates sound which is in violation of §3-11.01 of this title.

(C) Between the hours of 10:00 p.m. and 6:00 a.m. of the following day. Operating or permitting the operation of any mechanically powered saw, drill, grinder, lawn or garden tool, or similar tool which creates sound which is in violation of §3-11.01 of this title. (Ord. 622, passed 5-18-94)

3.11.3 IMPACT EVALUATION CRITERIA

Methodology

CEQA requires a determination of the significance of noise impacts associated with proposed projects. The process of assessing the significance of noise impacts associated with a project involves establishing thresholds at which significant impacts on noise-sensitive uses may occur. Noise levels associated with activities related to the proposed Project were predicted and compared with the significance thresholds. Where a noise level is predicted to exceed a

threshold, the impact is considered significant, and mitigation measures are proposed as applicable. The following impact analysis is based on the Acoustical Assessment (j.c. Brennan and Associates, 2015) prepared for the Project, which is included as Appendix H of this EIR.

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To assess noise impacts due to Project-related traffic increases on the local roadway network, traffic noise levels are predicted at a representative distance for existing, and future, Project and no-Project conditions for the proposed Project.

To predict noise levels due to traffic, the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model include traffic volumes provided by the traffic consultant, as well as information on automobile and truck mix percentages.

ON-SITE NOISE SOURCE METHODOLOGY

On-site noise sources were evaluated through noise measurements conducted at a similar, existing truck stop in Ripon, California. While the Ripon facility has fewer uses onsite, it includes truck operations, which are the primary noise generator, similar to the proposed Project. Noise measurements were conducted at varying distances from the truck parking areas (rest areas), wash bays, lube / tire shop and fueling areas. Noise measurements consisted of short-term noise level measurements and continuous 24-hour noise measurements. Noise measurement data was used to quantify overall noise levels and predicted noise levels at the nearest noise-sensitive areas. As a rule, the noise level measurements were conducted in what is referred to as the "free field." The overall noise measurements represented area-wide noise levels and the calculations from the project site are generally from the center of the overall activities. In most cases maximum noise levels do not occur at the edge of the site, and occur within the project area.

CONSTRUCTION NOISE AND VIBRATION IMPACT METHODOLOGY

Construction noise and vibration impacts were analyzed using data compiled by Caltrans, and the FHWA.

The potential increase in traffic noise from the Project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3 dB change is barely perceptible;
- A 5 dB change is clearly perceptible; and
- A 10 dB change is perceived as being twice or half as loud.

CRITERIA FOR ACCEPTABLE VIBRATION

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 Madera General Plan does not contain specific policies pertaining to vibration levels. However, vibration levels associated with construction activities are discussed in this report.

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 3.11-3, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 3.11-3 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. and continuous vibrations of 0.10 in/sec p.p.v., or greater, would likely cause annoyance to sensitive receptors.

Thresholds of Significance

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will result in:

a) 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;

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the area to excessive noise levels; or

f) For a project within the vicinity of a private airstrip, exposure of people residing or working in the Plan Area to excessive noise levels.

Table 3.11-3
Effects of Various Vibration Levels on People and Buildings

Vibration Level (Peak Particle Velocity)*			
mm/s	**in/sec**	**Human Reaction**	**Effect on Buildings**
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: Transportation Related Earthborne Vibrations, Caltrans Experiences. Technical Advisory: TAV-02-01-R9601. February 20, 2002

3.11.4 IMPACTS AND MITIGATION MEASURES

Impact #3.11-1 - 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:

Construction

Construction of the proposed Project would occur over approximately nine to twelve months and would include site preparation, grading, paving, building construction, and off-site improvements. Ground-borne noise and other types of construction-related noise impacts would predominantly occur during excavation activities of the grading phase. Additional temporary noise would be generated during the construction off-site improvements, including water and wastewater facilities expansions. During the construction phases of the Project, noise from construction activities would add to the noise environment in the immediate Project vicinity. Activities involved in construction would generate maximum noise levels, as indicated in Table 3.11-4, ranging from 76 to 88 dB at a distance of 50 feet. Construction activities would be

temporary in nature and are anticipated to occur during normal daytime working hours. Chapter 11 of the Madera Municipal Code restricts construction activities between the hours of 6:00 a.m. and 8:00 p.m.

Table 3.11-4
Construction Equipment Noise

Type of Equipment	Predicted Noise Levels, Lmax dB				Distances to Noise Contours (feet)	
	Noise Level at 50'	Noise Level at 100'	Noise Level at 200'	Noise Level at 400'	70 dB Lmax contour	65 dB Lmax 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.

Since the nearest sensitive receivers are located approximately 700 feet from the proposed nearest entrance to the Project site, the predicted maximum noise levels from construction would range between 55 dB and 68 dB, which is considerably less than the existing measured background noise levels. Ambient noise levels nearest the entrance to the Project site were measured at 73 dB to 91 dB, with an average value of 79.5 dB. The ambient noise level measured just west of the sensitive receptors was an average noise level of 58 dB (Appendix H, Table 1). Heavy truck traffic on S.R. 99 currently exceeds 10,000 vehicles per day, based upon Caltrans counts (Appendix H). Heavy truck traffic associated with the Project construction would not be any louder than the existing significant number of heavy trucks that contribute to the overall background noise environment. According to the Federal Highway Administration (FHWA, Construction Noise Handbook), heavy trucks would emit noise levels of approximately 80 dB at 100 feet, which would be approximately 60 dB at 800 feet distant, where the sensitive receptors are located.

Construction of the proposed Project could temporarily increase noise levels during construction in the immediate area; however, the increases in noise levels are not expected to affect any noise-sensitive uses because of their distance from the closest construction. Based upon Table 3.11-4, the maximum noise level due to construction activities would range between 55 dB and 67 dB at a distance of 700 feet, which is the nearest residence. These levels are equal to, or less than those which were measured during the ambient noise survey. Vibration levels would be less than 0.10 inches/second PPV, which would have no risk of architectural damage and would be below the threshold of annoyance.

Per the City's General Plan, Policy N-2, "no use regulated by the City shall be permitted to generate noise that would cause the ambient noise on any adjacent parcel to exceed the "completely compatible" 24-hour guidelines…" The "completely compatible noise level for the residential areas is less than 60 dBA (Appendix H, Table 4). During the construction period, the noise levels would be as high as 67 dB during nighttime hours. Although this level of noise does not meet the City's definition of "Completely Compatible," meaning that the specified land use is satisfactory and both the indoor and outdoor environments are pleasant, it does meet the definition of "Tentatively Compatible." At 60 to 70 dB, "tentatively compatible" means that noise exposure may be of concern, but common building construction practices will make the in-door living environment acceptable, even for sleeping quarters, and outdoor activities will not be unduly disturbed by noise (Appendix H). Due to the distance of approximately 700 feet from the areas where construction would occur, the temporary noise and vibration levels occurring during construction are not considered to be significant. Nor would they cause damage to structures.

Although construction noise impacts would be temporary, implementation of Mitigation Measure #3.11-1a would further reduce temporary impacts on sensitive receptors resulting from construction to a less-than-significant level.

Operations

Once operational, the proposed Project could expose existing or new receptors to noise levels due to on-site operations that may exceed the applicable stationary noise standards. The proposed Project includes a hotel as a part of the Project. The hotel patrons may be exposed to overall noise levels that exceed applicable transportation and stationary noise standards.

In order to determine the level of potential impacts, on-site noise sources were evaluated through noise measurements conducted at a similar type truck stop in Ripon, California. Similar to the proposed project site, the Ripon truck stop contains the primary noise sources, including truck parking areas, wash area, lube / tire shop and fueling islands. Noise level measurements included both short-term and continuous 24-hour noise level measurements. Noise measurements were conducted at varying distances from the truck parking areas (rest areas), wash bays, lube/tire shop and fueling areas. Noise measurements consisted of short-term noise level measurements and continuous 24-hour noise measurements. The results of the noise level measurements are shown in Table 3.11-5. The results of the noise level measurements indicated that the primary noise sources are the truck circulation on the site and idling of trucks at the rest areas during the morning hours.

Based upon the noise level measurements, a conservative hourly Leq of 70 dB Leq at a distance of 100 feet was applied. The nearest residences are located at a distance of 1,200 feet from the center of the Project site. Thus, the calculated hourly Leq is 49 dB at the nearest residences to the east. This does not account for additional shielding of noise from on-site facilities. Based on this analysis, the noise impacts to the existing residences would be considered less than significant.

Table 3.11-5
Measured Noise Levels at the Ripon Truck Stop Facility

Site - Location	Daytime (7:00 am - 10:00 pm)				Nighttime (10:00 pm – 7:00 am)		
	Ldn	**Leq**	**L_{50}**	**Lmax**	**Leq**	**L_{50}**	**Lmax**
Continuous 24-hour Noise Measurement Sites							
Site A – Adjacent to the Truck Sleeping Bays @ 100 feet	73.4 dB	67.8 dB	66 dB	81.9 dB	66.9 dB	66 dB	78.7 dB
Short-term Noise Measurement Sites					**Notes:**		
ST1 - Near Wash Bays	N/A	65.8 dB	62 dB	81.2 dB	Wash Bays and Truck Circulation		
ST2 - Fueling Islands	N/A	69.8 dB	69 dB	80.1 dB	Truck Circulation		
ST3 - Center of the Complex	N/A	66.4.dB	66 dB	78.1 dB	Wash Bays, Trucks Idling / Passbys		

1. Average values reported are the average of the hourly measured values over the daytime or nighttime period, respectively, February 4-5, 2015.
2. Continuous measurements are conducted for 1-hour intervals over the 24-hour measurement period.

Source: j.c. brennan & associates, Inc., 2015.

However, the proposed hotel would be located in closer proximity to these noise-generating sources. The primary transportation noise source that may affect the hotel includes railroad operations and traffic on SR 99. The continuous 24-hour noise measurements at Site B resulted in an overall Ldn of 79.5 dB associated with S.R. 99 and railroad operations. The hotel site is located further from S.R. 99 than the measurement Site B. However, future traffic is expected to increase and upper floors of the hotel will be exposed to exterior noise levels higher than the first floor rooms. Based upon these assumptions, the hotel could be exposed to traffic and railroad noise levels as high as 80 dB Ldn at the upper floors. Therefore, interior noise levels would need to have a 35 dB exterior to interior noise level reduction. Sleeping areas facing the interior of the Project site could be exposed to on-site noise levels of up to 75 dB Ldn. A typical facade construction will provide an exterior to interior noise level reduction of 25 dB. Therefore, as a means of reducing interior noise levels to meet the 45 dB Ldn interior noise level criterion, which is recommended by the EPA and the Federal Department of Housing and Urban Development (HUD 2009), Mitigation Measure # 3.11-1b is proposed. This measure would require that the Project proponent will conduct a Project-specific noise study and will either demonstrate that the Project will cause an interior noise level of no greater than 45 dB Ldn, or the Project will include windows of sleeping areas of the proposed hotel with a Sound Transmission Class (STC) rating that reduces the interior noise levels to 45 dB or less. The Society of Manufacturing Engineers (SME) has a STC integer rating for how a building partition such as a door or window attenuates sound. The higher the STC rating, the more effective that material is at reducing sound transmission of the most common frequencies.

Conclusion: This impact is considered to be ***potentially significant.***

Mitigation Measure #3.11-1a: The following shall be implemented by the Project proponent for the duration of Project construction:

a. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site;

b. The construction contractor shall locate the pile driver such that the rear of the vibratory pile driver faces toward the noise sensitive receptors when the machine is being utilized;

c. The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise sensitive receptors nearest the Project site during all Project construction;

d. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles; and

e. Project construction hours shall comply with the Chapter 11, Noise Control, §3-11.02 of the City Code of Ordinances.

Mitigation Measure #3.11-1b: Prior to issuance of building permits for the Project's proposed Hotel on Parcel 2, the Project proponent shall prepare a project-specific noise model which demonstrates to the satisfaction of the City of Madera Community Development Department that the Project will either: (1) cause an interior noise level of no greater than 45 dB Ldn, or (2) include windows in sleeping areas of the hotel with an STC rating that reduces interior noise levels to 45 dB Ldn or lower.

Effectiveness of Mitigation: Implementation of Mitigation Measures #3.11-1a and #3.11-1b would reduce the interior noise levels to 45 dB Ldn or lower and the impact would be ***less-than-significant***.

Impact #3.11-2 - Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels:

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 3.11-6, below, shows the typical vibration levels produced by construction equipment.

The primary vibration-generating activities associated with the Project would occur when the infrastructure such as grading, utilities, and foundations are constructed. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). These estimations of noise levels take into account the distance to the receptor, attenuation from molecular absorption and anomalous excess attenuation.

Table 3.11-6
Vibration Levels for Various 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
Pile Driving (Impact)	1.518	0.190
Pile Driving (Sonic)	0.734	0.092
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 most significant source of ground-borne vibrations during the Project construction would occur from the use of vibratory compactors. Vibratory compactors would generate typical vibration levels of 0.210 in/sec at a distance of 25 feet. Table 3.11-3, above, indicates that the threshold for architectural damage to buildings is 0.20 in/sec. The closest residential buildings to the Project site are located immediately east of the Project site at a distance of approximately 700 feet. Table 3.11-6 data also indicates vibratory compactors would not generate vibration levels exceeding safe levels at these distances; therefore this would be considered a ***less-than-significant*** impact.

Conclusion: This impact is considered to be ***less than significant.***

Mitigation Measures: No mitigation measures are required.

Impact #3.11-3 - A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project:

Traffic

Traffic generated by the proposed Project was analyzed based on comparisons to existing traffic, traffic in the year 2016, and the cumulative traffic in the year 2036. Table 3.11-7 shows the results of the analysis. As shown in Table 3.11-7, only Avenue 17 from SR 99 to Waldon Drive will experience an increase in traffic noise levels of 5dB Ldn or greater (a significant increase pursuant to Policy N-13) due to the Project. This occurs under the Existing + Project and the Year 2016 + Project scenarios. However, this segment of Avenue 17 does not have any noise-sensitive land uses adjacent to the roadway, as the nearest sensitive receptors from this location are approximately 250 feet north or south. At that distance, the noise levels would decrease approximately 12 decibels (noise levels decrease approximately 6 decibels each time the distance is doubled). At a noise level of 52 dB to 59 dB under the Existing + Project and Year 2016+ Project scenarios, the noise levels meet the General Plan criteria, and this would be a less-than-significant impact.

Table 3.11-7
Predicted Traffic Noise Levels and Project-Related Traffic Noise Level Increases

		L_{dn} @ 100 feet								
Roadway	**Segment**	**Exist**	**Exist + Project**	Δ	**2016**	**2016 + Project**	Δ	**Cum**	**Cum + Project**	Δ
Avenue 17	State Route 99 to Airport Dr	61 dB	62 dB	+1	62 dB	62 dB	0	68 dB	68 dB	0
Avenue 17	State Route 99 Waldon Dr	64 dB	71 dB	+ 7	65 dB	71 dB	+6	70 dB	74 dB	+4
Avenue 17	East of Waldon Dr	63 dB	64 dB	+ 1	64 dB	64 dB	0	69 dB	69 dB	0
Waldon Drive	South of Avenue 17	43 dB	43 dB	0	43 dB	43 dB	0	44 dB	44 dB	0
Waldon Drive	North of Avenue 17	53 dB	53 dB	0	53 dB	53 dB	0	55 dB	55 dB	0
Golden State Bl	North of Avenue 17	55 dB	55 dB	0	55 dB	55 dB	0	54 dB	54 dB	0
Airport Drive	South of Avenue 17	54 dB	54 dB	0	54 dB	54 dB	0	55 dB	55 dB	0
Sharon Blvd	South of Avenue 17	--	65 dB	N/A	--	65 dB	N/A	--	72 dB	N/A
Sharon Blvd Ex.	South of Project Entrance	--	--	--	--	--	--	61 dB	63 dB	N/A

Source: j.c. brennan & associates, Inc., FHWA RD-77-108 Traffic Noise Prediction Model - 2015

Operations

As noted in Impact #3.11-1 and Table 3.11-5, based upon the noise level measurements obtain at a similar type of facility, a conservative hourly Leq of 70 dB Leq at a distance of 100 feet was applied. The nearest residences are located at a distance of 1,200 feet from the center of the Project site. The calculated hourly Leq is 49 dB at the nearest residences to the east. However, this does not account for shielding of noise from on-site facilities. Based on this analysis, the operational noise impacts to the existing residences during the operations of the proposed Project would be considered ***less than significant***.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.11-4 - A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project:

The proposed Project would result in temporary increases in noise levels during construction. Additional temporary noise would be generated during the construction off-site improvements, including water and wastewater facilities expansions. Impact 3.11-1, above, discusses the temporary increase in noise anticipated to occur during construction of the proposed Project.

The closest sensitive receivers are located approximately 700 feet from the nearest entrance to the Project site. The predicted maximum noise levels from construction would range between 55 dB and 68 dB, which are considerably less than the existing measured background noise levels. Ambient noise levels nearest the entrance to the Project site were measured at 73 dB to 91 dB, with an average value of 79.5 dB. The ambient noise level measured just west of the sensitive receptors was an average noise level of 58 dB (Appendix H, Table 1). Heavy truck traffic on S.R. 99 currently exceeds 10,000 vehicles per day, based upon California Department of Transportation counts. Heavy truck traffic associated with the Project construction would not be any louder than the existing significant number of heavy trucks which contribute to the overall background noise environment. Activities involved in construction would generate maximum noise levels, as indicated in Table 3.11-4, ranging from 76 to 88 dB at a distance of 50 feet, which would be approximately 55 dB to 67 dB where the sensitive receptors are located. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Based upon Table 3.11-4, the maximum noise level due to construction activities would range between 55 dB and 67 dB at a distance of 700 feet, which is the nearest residence. These levels are equal to, or less than those which were measured during the ambient noise survey. Vibration levels would be less than 0.10 inches/second PPV, which would have no risk of architectural damage and would be below the threshold of annoyance. Due to the distance of approximately 700 feet from the areas where construction would occur, noise and vibration levels are not considered to be significant or would cause damage to structures. Chapter 11 of the City of Madera Municipal Code restricts construction activities between the hours of 6:00 a.m. and 8:00 p.m. Construction activities would adhere to these restrictions, and therefore impacts would be considered less than significant.

Conclusion: This impact is considered to be ***less than significant.***

Mitigation Measures: No mitigation measures are required.

Impact #3.11-5 - 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, the project would expose people residing or working in the area to excessive noise levels:

As discussed in Section 3.11.1, *Environmental Setting*, the Project site is located approximately one mile to the northeast of the Madera Municipal Airport and therefore, the Project is located within two miles of a public airport. However, the site is not located within any Compatibility Zone boundary identified for the Airport in the *Airport Land Use Compatibility Plan Madera*

County Airports (ALUCP). Additionally, based upon the ALUCP, the 60 dB CNEL contour associated with the airport operations is confined to the areas west of SR 99. The noise levels associated with the airport operations do not contribute significantly to the overall noise environment. Based on this analysis, impacts would be considered less than significant.

Conclusion: This impact is considered ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.11-6: For a project within the vicinity of a private airstrip, the project would expose people residing or working in the Plan Area to excessive noise levels

As noted in Section 3.8-6, *Hazards and Hazardous Materials*, Impact #3.11-6, the closest private airstrip to the Project site is the El Peco Ranch Airport, which is over eight miles to the southeast of the Project site. Therefore, the Project would not result in noise exposure to people residing or working within the vicinity of a private airstrip.

Conclusion: There is ***no impact***.

Mitigation Measures: No mitigation measures are required.

3.12 Public Services, Utilities, and Service Systems

This section provides an evaluation of the potential impacts to public services, utilities, and service systems that may be caused by implementation of the proposed Project, such as impacts resulting in the need for additional infrastructure (water, sewer, storm water) or public services (fire or police).

The analysis in this section includes data addressing comments contained in a letter from the Madera Irrigation District, dated March 13, 2015, provided in response to the Notice of Preparation for the Draft EIR.

3.12.1 ENVIRONMENTAL SETTING

Fire Protection

Fire protection and emergency medical services available to the proposed Project site will be provided by the Madera City Fire Department which is administered by the California Department of Forestry and Fire Protection (Calfire) through a cooperative fire protection agreement. The department currently has two fire stations located at 317 North Lake Street and 200 South Schnoor Street. The Division HQ Station #1 is located at 14225 Road 28 in Madera, CA. Services provided include: fire prevention and suppression, emergency medical assistance, rescue, public assistance, fire menace standby, safety inspections, and review of building plans for compliance with applicable codes and ordinances.

Police Enforcement

The City of Madera Police Department will provide law enforcement services to the proposed Project site. The Department's headquarters are located at 330 South 'C' Street. According to the 2014 City of Madera Police Department's Annual Report, the Department has 79 employees who serve the residents of Madera. This includes 57 Officers and 20 Civilian Support Personnel. In addition, the Department has approximately 10 Volunteers.

The Police Department handled 47,444 calls in 2014. The average time in 2014 for an emergency Priority 1 call was 3 minutes, 49 seconds. Priority 1 calls are emergency calls such as an armed robbery or a burglary in progress.

Emergency Medical Services

Ambulance services are provided by Pistoresi Paramedics, located at 113 North R Street in Madera. This company has three ambulatory units, 24-hours a day as well as one additional on-call unit.

Madera Community Hospital, a 100-bed health care institution featuring a 16-room emergency room and comprehensive medical care, is located on East Almond Avenue in Madera, southeast of the Project site off SR 99. Children's Hospital of Central California is located at 9300 Valley Children's Place in Madera, providing full medical care for children throughout the Central

Valley. Madera Convalescent Hospital, a 176-bed rehabilitation and convalescent care facility, is located at 517 South A Street in Madera, southeast of the proposed Project site.

Water Supply

The City of Madera's water system services residential and non-residential lands within the City limits. This service area includes:

- 7,730 acres of developed lands inside the City limits; and
- 1,921 acres of undeveloped lands inside the City limits.

At ultimate development of the General Plan, the City's water system is anticipated to service approximately 11,908 acres of residential land use, 12,324 acres of non-residential land use, and 38,442 acres of non-demand generating land use, for a total of 62,673 acres inside the Planning Area, not including Madera Acres (City of Madera 2014).

WATER QUANTITY

According to the City of Madera 2010 Urban Water Management Plan, the City currently receives potable water supplies exclusively from groundwater through 19 active wells. These wells pump from the 394,000 acre Madera Subbasin directly into the distribution system to meet all of the City's demands. The Madera Subbasin is an element of the San Joaquin Valley Groundwater Basin[1]. It consists of lands overlying the alluvium in Madera County. The subbasin is bounded on the south by the San Joaquin River, on the west by the eastern boundary of the Columbia Canal Service area, on the north by the south boundary of the Chowchilla Subbasin, and on the east by the crystalline bedrock of the Sierra Nevada foothills. Major streams in the area include the San Joaquin and Fresno Rivers. Average annual precipitation is 11 inches throughout the majority of the subbasin and 15 inches in the Sierran foothills. Further, detailed information regarding the Subbasins hydrogeologic and water quality characteristics is provided in the above-referenced California Department of Water Resources Bulletin 218, "California Groundwater" Figure 3.12-1 depicts the Subbasin boundaries.

The City does not currently use surface or imported water to meet system demands. Groundwater production figures for the Madera Subbasin from 2005 to 2010 are provided in Table 3.12-1.

Table 3.12-1
Madera Subbasin Production (2005-2010)

Annual Production (acre-feet)					
2005	**2006**	**2007**	**2008**	**2009**	**2010**
12,818	9,849	10,431	10,295	13,114	11,724

Source: City of Madera UWMP 2011.

[1] California's Groundwater, Bulletin 118, California Department of Water Resources, http://www.water.ca.gov/groundwater

The 2010 Urban Water Management Plan provides projections of the City's potable water consumption by land use type through 2035 (Table 3.12-2). It is projected that total water consumption in Madera will increase by 42.8 percent between 2010 and 2035.

Table 3.12-2
Historic and Projected Water Use (2010-2035)

Land Use	Historic and Projected Use (million gallons per year)					
	2010	**2015**	**2020**	**2025**	**2030**	**2035**
Single-Family Residential	11,014	11,604	12,015	14,064	16,463	19,272
Multi-Family Residential	1,262	1,329	1,376	1,611	1,886	2,207
Commercial/Institutional	2,216	2,335	2,417	2,830	3,312	3,877
Landscape Irrigation	492	518	537	628	735	861
Other	0	0	0	0	0	0
System Losses	1,128	1,188	1,230	1,440	1,686	1,973
Total	**16,111**	**16,974**	**17,576**	**20,573**	**24,083**	**28,191**

Source: City of Madera UWMP 2011.

Population and water demand in Madera have both grown steadily since 1990, although demand has tapered slightly in more recent years. This contrasts with the city's per capita consumption, which has decreased over the 20 year period. This decrease indicates that, while growth within the region has been consistent, average yearly water consumption for each person living in the city service area has gone down. Conservation and efficiency measures are expected to continue to lead to lower per capita water usage when compared with historical rates. Despite these per capital reductions, additional wells will need to be developed to accommodate the growth contemplated by the Madera General Plan.

The City of Madera Water System Master Plan (2014) evaluated the water system infrastructure requirements to service the City at buildout of the General Plan. The Master Plan included two alternatives for the City's future water supply. The first alternative continued construction of supply wells on the east and west sides of the city. The second alternative, which was influenced by the relatively poor groundwater conditions on the east side, restricted future supply wells to the west side of Madera. The second alternative was recommended and has been chosen for implementation by the City.

Additional information regarding the regional water table, including use and future sustainability of groundwater is contained in Section 3.9 Hydrology and Water Quality.

WATER QUALITY

Groundwater is mainly of a bicarbonate type throughout the most of the subbasin, transitioning from calcium and calcium-magnesium-bicarbonate water in the east and to sodium-bicarbonate water in the west (Madera County Groundwater Management Plan 2011). Sodium and chloride increases near the western edge of the subbasin which results in poor quality sodium-chloride type water. The average total dissolved solids concentration increases to 1,150 mg/L.

According to the 2014 City of Madera Water System Master Plan, Madera's water system currently meets State and federal guidelines for regulation of contaminants and monitoring

requirements. Water quality tests for City wells do not reveal contaminant levels in excess of established maximum contaminant levels (MCLs), or the wells are treated to remove such contaminants. Well No 21 and Well No. 33 have quantifiable amounts of DBCP, but do not exceed the MCL. Additionally, other wells in and around Madera have measurable levels of nitrate, but do not exceed the MCL.

Historically, dibromochloropropane (DBCP) was used as a nematocide, and its use was banned in California in 1977. However, residual areas with concentrations exceeding the maximum contaminant level (MCL) still exist in the area. Additionally, a brine plume generally south of Avenue 13, in the area of Road 26 exists from the former treatment ponds of the Oberti olive processing plant. Lastly, areas with nitrate have been found in groundwater test wells in the valley floor. Nitrate and DBCP detections were found predominantly in shallow groundwater tests, and wells drilled in these areas may potentially seal off contaminated groundwater.

Future water quality regulations on chromium-6 and 1,2,3 Trichloropropane (TCP) may impact the water supply for Madera. Public health goals for each of these have been established by the Office of Environmental Health Hazard Assessment. It is currently unknown what concentrations of these chemicals exist in the Madera groundwater; however, 1,2,3 TCP is a chemical that has been used in the agricultural industry for some pesticides, and may impact cities in the Central Valley, which include Madera.

Figure 5.2 of the City of Madera Water System Master Plan (2014) displays the approximate areas of groundwater contaminants in the Madera Planning Area. Brine plume, DBCP, and nitrate are shown on wells to the south of the Project site and to the east in Madera.

Water Conservation Standards

Continued drought conditions have prompted the Governor to declare a drought state of emergency. On April 1st of 2015, the Governor enacted a statewide, mandatory 25 percent water use reduction, with implementing regulations drafted by the State Water Resources Control Board. The City of Madera was identified as a water supplier mandated to reduce residential consumption on a per capita basis of 28 percent from 2013 consumption levels.

In May, 2015, the Madera City Council enacted a revised water conservation ordinance, and a resolution, restricting water usage for irrigation as follows:

> *Outdoor application of water for irrigation and recreation uses shall be restricted to the hours of 7:00 p.m. to 10:00 a.m., and restricted to usage on Sunday for parcels with even numbered street addresses and Saturday for parcels with odd numbered street addresses.*

The implementation of this usage restriction in addition to previous City water conservation efforts, has resulted in (June 2015) cumulative water use savings of 36 percent, exceeding the State-mandated 28 percent savings.

The adopted ordinance provides for the adoption of greater and additional conservation measures if deemed necessary by the City Council.

Site Water Supply

There is currently no water infrastructure at the Project site.

Wastewater

Sewer systems throughout the City are maintained by the Public Works Department. Over 130 miles of sanitary sewer mains ranging from six inches to 48 inches in diameter are maintained. Wastewater is gravity fed to five lift pump stations and transported to the City of Madera Wastewater Treatment Plant (MWTP) for treatment and disposal.

The MWTP is located at 13048 Road 21½ in Madera, approximately seven miles southwest of the Project site and beyond current and anticipated areas of urban expansion. The plant is a regional facility servicing the entire city, including approximately 10,000 residential, commercial, and industrial customers. Subsequent to treatment, wastewater is discharged to a series of 14, 20-acre percolation ponds where the effluent is allowed to evaporate as well as percolate into the soil.

Construction of the MWTP was completed in 1972. The facility provides primary and secondary treatment. The current average daily flow is approximately 10.1 mgd with a peak average flow of 15.1 mgd.

Storm Drainage

Stormwater runoff is a natural hydrologic process that occurs when precipitation collects on the surface of the earth and gravity forces the stormwater toward lower elevations. As the storm water moves along the surface of the earth, pollutants such as sediment, nutrients, bacteria, oil and grease, heavy metals, toxic chemicals, and debris are carried along with the storm water. The storm water and pollutants eventually enter streams, lakes, and oceans. Pollutant levels can increase in water to the point that it becomes harmful to the organisms that live in these water bodies, or to the people that use the water as a municipal source of water. Stormwater discharges are regulated under the federal Clean Water Act.

The City's existing stormwater conveyance facilities consist of storm drainage pipes varying in size from eight to 36 inches. Runoff discharges by gravity or is pumped into various irrigation canals and pipelines or the Fresno River, which carry storm water outside the urban area. The City currently maintains 22 storage retention basins that are located throughout Madera, and operates 22 storm water pump stations.

Solid Waste

Solid waste disposal for Madera is managed by the City of Madera Solid Waste and Recycling Department. The City provides all waste collection and transport services within the City limits, processing approximately 37,012 tons in 2000. Services include general waste pickup and green waste pickup. Disposal volumes for different uses on a per-employee basis are shown in Table 3.12-3.

Table 3.12-3
Industry Group Summary: Disposal, Waste Generation, and Diversion Rates

Industry Group	Disposal (pounds/ employee/ year)	Waste Generation (pounds/ employee/ year)	Diversion Rate
Food Stores	4,754	16,578	71.3%
Retail, Big Box Stores	2,866	7,798	63.3%
Non-Durable Wholesale Distributors	2,861	6,931	58.7%
Retail, Other Stores	1,719	3,714	53.7%
Durable Wholesale Distributors	2,460	4,719	47.9%
Anchor Stores at Shopping Malls *(pounds per 1,000 sq ft)*	2,103	3,520	40.3%
Fast-Food Restaurants	4,262	6,528	34.7%
Full-Service Restaurants	4,403	6,437	31.6%
Building Material & Gardening, Big Box Stores	6,343	9,031	29.8%
Public Venues & Events *(pounds per 100 visitors)*	172	244	29.0%
Building Material & Gardening, Other Stores	3,481	4,599	24.3%
Large Hotels	3,903	5,049	22.7%
Shopping Malls *(pounds per 1,000 sq ft)*	2,028	2,499	18.9%
Large Office Buildings *(pounds per 1,000 sq ft)*	1,866	1,998	6.6%

Source: Cascadia Consulting Group, 2006.

SITE SOLID WASTE

Solid Waste Reduction Programs

Fairmead Solid Waste Disposal Site serves the City of Madera and has a 9,400,000 cubic yard maximum permitted capacity. Currently, the landfill's remaining capacity is at 5,552,894 cubic yards. The Fairmead landfill also provides the City of Madera with a recycling program that eliminates the need for customers to separate their refuse. Once the refuse truck has dropped off its load at the landfill, the employees of the landfill sort through the refuse for recyclable material.

The Madera County Recycling Market Development Zone (RMDZ) includes all of the unincorporated areas and the incorporated cities of Madera and Chowchilla. The RMDZ emphasis will be placed on commercial and industrial areas along the SR 99 corridor and the eastern Madera County Highway 41 corridor.

Electric and Gas

Natural gas and electrical power in Madera are supplied by Pacific Gas and Electric Company (PG&E).

Telecommunications

Telephone service in Madera is provided by SBC Communications, Inc. and cable television is provided by Comcast Cable Television.

3.12.2 REGULATORY SETTING

Federal

UNIFORM FIRE CODE

Standards for fire protection are published in the Uniform Fire Code by National Fire Protection Association. The nationally recognized standards require that fire departments "have the capability to deploy an initial full alarm assignment within eight (8) minute response time to 90 percent of the incidents"

CLEAN WATER ACT

The Clean Water Act (CWA) is the principal federal law that addresses water quality. The primary objectives include the regulation of pollutant discharges to surface water, financial assistance for public wastewater treatment systems, technology development, and non-point source pollution prevention programs. The CWA also requires that states adopt water quality standards to protect public health and welfare and enhance the quality of water.

SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA), administered by the U.S. Environmental Protection Agency (EPA) in coordination with the states, is the main federal law that ensures the quality of drinking water. Under the SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Department of Public Health administers the regulations contained in the Act in the State of California.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

Section 402(p) of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES permit program. To implement Section 402(p), the State Water Resources Control Board (SWRCB) has adopted a statewide General Permit for all storm water discharges associated with construction activities. The General Permit for Construction Activities applies to all dischargers where construction activity disturbs one acre or more. Construction affecting more than one acre within the Project site will require compliance with the SWRCB's General Permit for Construction Activities.

ENVIRONMENTAL PROTECTION AGENCY LOW IMPACT DEVELOPMENT DESIGN PRINCIPLES

The EPA's Low Impact Development (LID) Design strategies are expected to be integrated into stormwater design and conveyance systems in conjunction with NPDES permit applications. LID emphasizes conservation and use of on-site natural features to protect water quality. This

approach implements engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, storing, evaporating, and detaining runoff close to its source.

State

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 has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

EMERGENCY RESPONSE/EVACUATION PLANS

State law authorizes 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. Noncompliance with SEMS could result in the State withholding disaster relief from the noncomplying jurisdiction in the event of an emergency disaster. The preservation of life, property, and the environment is an inherent responsibility of local, state, and federal government. The OES coordinates the responses of other agencies including the California Highway Patrol and the City of Madera Police and Fire departments.

FIRE HAZARD SEVERITY

California has enacted statewide laws aimed at reducing wildfire hazards in wildland-urban interface areas. These regulations, described in the Fire Hazard Zoning Field Guide, cover topics such as fire prevention, vegetation management, notification and penalties, fire hazard severity zones, defensible space, setbacks, and exemptions. For the complete text of the Fire Hazard Zoning Field Guide, the reader is referred to the Office of the State Fire Marshal's fire safety planning website.

CALIFORNIA PUBLIC RESOURCES CODE

The Public Resources Code includes the following laws related to fire safety.

Vegetation Management Program

CALFIRE has a fuel reduction program called the Vegetation Management Program (Calfire 2003). Limited funding is available to conduct fuel management activities primarily by burning on parcels or aggregates of parcels of 100 acres or more. The objective of the Vegetation Management Program is to prevent high-intensity wildfire through fuel modification. If brush can be kept at the medium fuel load level, then the intensity of fire can be reduced substantially.

California Fire Plan

The California Board of Forestry and Calfire have developed the California Fire Plan in an effort to reduce the overall costs and losses from wildfire in California. According to the California Fire Plan, the primary purpose of wildland fire protection in California is to protect human health and safety together with the wide range of assets found on California wildlands. These assets include timber, range, recreation, water and watersheds, plants, air quality, cultural and historic resources, unique scenic areas, buildings, and wildlife, plants, and ecosystem health.

The California Fire Plan defines a standard for measuring the level of fire protection service provided in an area, considers assets at risk, incorporates the cooperative interdependent relationships of wildland fire protection providers, provides for public stakeholder involvement, and creates a fiscal framework for policy analysis. A key product of the California Fire Plan is the development of wildfire safety zones to reduce the risks to residents and firefighters from future large wildfires. The California Fire Plan defines an assessment process for measuring the level of service provided by the fire protection system for wildland fire. This measure can be used to assess the department's ability to provide an equal level of protection to sites with similar land types, as required by Pubic Resources Code Section 4130. This measure is the percentage of fires that are successfully controlled before unacceptable costs are incurred. Knowledge of level of service will help define the risk to wildfire damage faced by public and private assets in wildlands.

SB 610 - WATER SUPPLY ASSESSMENT

Senate Bill 610 (SB 610), passed in 2001, amended the California Water Code, to require a written water supply assessment for projects of 500 or more residential units, 500,000 square feet of retail commercial space, or 250,000 square feet of office commercial space. A water supply assessment is not required because the Project is a proposed travel center consisting of fewer than 500,000 square feet of proposed floor space, contains no residential units, and uses less water than a residential development of more than 500 units would use.

AB 939 - CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties in California are required to divert 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000.

Solid waste plans are prepared by each jurisdiction to explain how each City's AB 939 plan is integrated with their respective county plan. The plans must promote in order of priority: source reduction, recycling and composting, and finally, environmentally safe transformation, and land disposal.

TITLE 24 - CALIFORNIA BUILDING STANDARDS CODE

Title 24 of the California Code of Regulations, known as the California Building Standards Code or just "Title 24," contains the regulations that govern the construction of buildings (both residential and non-residential) in California. Title 24 is composed of 12 "parts." Part 9, the California Fire Code, contains fire-safety-related building standards referenced in other parts of Title 24. This Code is preassembled with the 2000 Uniform Fire Code of the Western Fire Chiefs Association with necessary California amendments.

CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act (Section 10610-10656 of the California Water Code) requires that all urban water suppliers prepare urban water management plans and update them every five years.

AB 1327 CALIFORNIA SOLID WASTE REUSE AND RECYCLING ACCESS ACT

The Solid Waste Reuse and Recycling Access Act of 1991 requires each jurisdiction to adopt an ordinance by September 1, 1994 requiring each development project to provide an adequate storage area for collection and removal of recyclable materials.

CALIFORNIA PUBLIC UTILITIES COMMISSION

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to: assure California utility customers' safe, reliable utility service at reasonable rates; protect utility customers from fraud; and promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

GOVERNOR'S EXECUTIVE ORDER B-29-15

In April 2015, Governor Brown proclaimed a Continued State of Emergency to exist throughout California due to the ongoing drought. Executive Order B-29-15, issued pursuant to Government Code section 8567 and 8571, became effectively immediately. The Order directed the State Water Resources Control Board to implement mandatory water reductions in cities and towns across California to reduce water usage by 25 percent. The Order includes several measures which will be directed by the State Water Resources Control Board and other State agencies to save water, increase enforcement against water waste, invest in new technologies, and streamline State government response to the drought.

Local

CITY OF MADERA GENERAL PLAN

Planning for city services and infrastructure is typically accomplished through the Health and Safety Element and Circulation and Infrastructure Element of the City of Madera General Plan.

The City of Madera General Plan sets forth the following goals and policies relevant to public services and utilities:

HS-38: The City encourages the design of neighborhoods and buildings in a manner that discourages crime and provides security and safety for people and property.

Policy CI-53: Water supply and delivery systems shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

Policy CI-54: The City supports the use of reclaimed water for irrigation wherever feasible.

Policy CI-55: The City shall seek to protect the quality and quantity of groundwater resources, including those which serve households and businesses which rely on private wells.

Policy CI-56: The City shall require that water flow and pressure be provided at sufficient levels to meet domestic, commercial, industrial, and firefighting needs.

Policy CI-57: Development projects shall be served by a looped water system, whereby no less than two separate water mains (or ideally two water sources) are connected, thereby enabling adequate fire flow to be maintained should one water main be removed from service. The City may allow development to proceed without connection to a looped water system when it determines that such connection is infeasible based on the specific circumstances associated with the project, and where a water system analysis shows sufficient fire flow is available.

Policy CI-58: Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

Policy CI-60: The City shall strongly discourage the extension of sewer service into any area outside the Growth Boundary shown on the Land Use Policy Map. This policy shall not be construed to limit the ability of any agency to construct sewer lines whose only purpose is to carry sewage from other areas and which cannot be connected to the area outside the Growth Boundary.

Policy CI-63: The City itself will be a leader in promoting waste reduction and recycling through a variety of means when feasible, including:

- Adopting requirements for the use of recycled base materials (e.g., recycled raw batch materials, rubberized asphalt from recycled tires, and other appropriate materials), if practicable, in requests for bids for public roadway construction projects;

- Procurement policies and procedures, which facilitate purchase of recycled, recyclable, or reusable products and materials where feasible; and

- Requiring contractors to provide products and services to the City, including printing services, demonstrating that they will comply with the City's recycled materials policies.

Policy CI-65: The City will promote waste diversion and material recycling in private development, business and operations, and will encourage businesses or nonprofit entities to provide source reduction services.

Policy CON-1: The City will coordinate with local, regional, and state water suppliers and water resource managers to identify water management strategies and issues that ensure a clean and sustainable water supply.

Policy CON-2: The City supports the consideration and implementation of a broad range of strategies to ensure the long-term sustainability of its water supply, including strategies related to conservation, reclamation, recharge, and diversification of supply.

Policy CON-5: To reduce the need for groundwater, the City encourages water conservation and the use of reclaimed water.

Policy CON-7: The City encourages the use of gray water systems, and other water re-use methods in new development and renovation projects as consistent with state and local water quality regulations.

Policy CON-8: The City encourages Low Impact Development practices in all residential, commercial, office, and mixed-use discretionary projects and land division projects to reduce, treat, infiltrate, and manage runoff flows caused by storms, urban runoff, and impervious surfaces. Low impact development practices may include:

- Use of small scale stormwater controls such as bioretention, grass swales and channels, vegetated rooftops, rain barrels and cisterns;

- Reduction of impervious surfaces through site design and use of pervious paving materials;

- Retention of natural features such as trees and ponds on site; and

- The use of drought tolerant plant materials and/or water-conserving irrigation systems.

Policy CON-14: The City will endeavor to protect groundwater quality from pollution by point and non-point sources.

CITY OF MADERA STORM WATER QUALITY MANAGEMENT PROGRAM

The City's Storm Water Quality Management Program (SWQMP), adopted June 9, 2004, is intended to implement and enforce a series of Best Management Practices (BMPs) designed to reduce the discharge of pollutants from the municipal separate storm drain systems to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality

requirements of the CWA. These BMPs include public participation/involvement, public education and outreach, construction site runoff control, illicit discharge detection and elimination, pollution prevention/good housekeeping, and post-construction runoff control. The program also provides a series of measurable goals which are used to gauge the objectives of the program.

The City's SWQMP provides a NPDES permit for the area within Madera's legal boundaries except in areas that are covered under existing, separate permits. These areas include SR99 and SR145, which are included in Caltrans permitting; school districts, colleges, and the Madera Fairgrounds, which are each required to prepare a separate SWQMP; and the City of Madera Airport.

3.12.3 IMPACT EVALUATION CRITERIA

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including fire protection, police protection, schools, parks, and other public facilities;

b) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

c) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

d) 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;

e) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;

f) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

g) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or

h) Comply with federal, state, and local statutes and regulations related to solid waste.

3.12.4 IMPACTS AND MITIGATION MEASURES

Impact #3.12-1 - Expanded need for staff, vehicles, and equipment to adequately provide fire protection services to the project site:

The proposed Project includes a travel stop, restaurant, tire shop, hotel, and RV/Boat storage facility which may potentially increase demand for fire protection, prevention, and emergency medical services. Time is the critical component in fire/medical emergencies. Reductions in the emergency response time or the distance between fire/medical facilities and the site of an emergency would result in improved service, and saved lives and property. Fire Station 6 located at 317 North Lake services the proposed Project area and is located southeast of the Project site. The distance from this fire station to the proposed Project site is approximately three miles away.

All on-site construction, as well as the use and storage of construction materials, is required to conform to fire prevention/protection standards established by the Madera City Fire Department which is administered by the California Department of Forestry and Fire Protection (Calfire), or the State. These standards include (but shall not be limited to) smoke alarms; sprinklers; building and emergency access; adequate emergency notification; and hydrant sizing, pressure, and siting. Therefore, during construction of the proposed Project, impacts related to the provision of fire protection service and the need for additional facilities would be less than significant.

In its review of new development plans, the Madera City Fire Department evaluates project plans on its ability to provide proper fire protection to the development. Additionally, the proposed Project would be required to pay service and development fees to the City. Such fees would be used to fund capital costs associated with acquiring land for new fire stations, constructing new fire stations, purchasing fire equipment for new fire stations, and providing for additional staff as needed and as identified by the City.

The proposed Project would be designed, constructed, and operated per applicable fire prevention/protection standards established by Calfire and the City of Madera. Standards, as previously identified for the Project site, may include (but shall not be limited to) provisions for smoke alarms; sprinklers; building and emergency access; adequate emergency notification; and hydrant sizing, pressure, and siting. In addition to these on-site requirements, the Project is responsible for ensuring that equipment, including pipelines and pumps for the delivery of water used for fire suppression is sufficient to meet City and Uniform Fire Codes. The development of the proposed Project would not cause fire staffing, facilities, or equipment to operate at a deficient level of service. Additionally, because the proposed Project would be required to pay development impact fees to fund future fire facilities and services, impacts associated with fire protection services and facilities would not occur. The construction/operation of the proposed Project would not necessitate the construction of new or expanded fire facilities because the site is located within the current service area of the Madera City Fire Department. Accordingly, impacts to the environment resulting from new or expanded fire protection facilities would not occur, resulting in a ***less-than-significant*** impact. Based on information supplied by Lane Engineers' (2016) experience with hundreds of travel stops throughout the nation, the proposed Project is expected to use approximately 10,000 gallons per day (gpd) for the Travel Stop, Tire

Shop, and Restaurant. Based on conceptual landscape plan and landscape architect calculations (Lane Engineers 2016) landscaping for the entire site is expected to use 13,500 gpd of water. The applicant has estimated water usage of 5,300 gpd for the hotel (65 gpd per room) based on their experience with existing operations, and approximately 5,000 gpd for the second restaurant. Conservatively, then, the proposed Project would require a total of 33,800 gpd or 37.9 acre-feet per year of water.

Conclusion: This impact is ***less than significant.***

Mitigation Measures: No mitigation measures are required.

Impact #3.12-2 - Expanded need for staff, vehicles, and equipment to adequately provide police protection services to the project site:

The proposed Project includes a travel stop, restaurant, tire shop, hotel, and RV/Boat storage facility which may potentially increase demand for police protection services. Initially, crimes such as theft, graffiti, or vandalism during construction would be the potential major crime issue. However, private security would be utilized during the construction process, similar to other private security services that are utilized for other construction projects in the City. The proposed Project will operate 24 hours a day and 365 days per year, and will function as a complete travel center. Potential impacts would take the form of a need for expanded police protection services routinely associated with a 24 hour commercial operation. Although the proposed commercial operation would generate new employment opportunities, the new jobs that would be created by the proposed Project would not induce substantial population growth because most of the new jobs would likely be filled by residents of the City of Madera and surrounding areas.

The City of Madera Police Department had an average response time of 3 minutes and 49 seconds for Priority 1 calls for 2014. The City monitors staffing levels to ensure that adequate police protection continues to be provided as individual development Projects are proposed and on an annual basis as part of the City Council's budgeting process. Therefore, the proposed Project would not result in a significant deterioration in police response times due to the continual monitoring of police staffing levels by the City.

Funding for new police facilities commensurate with the increased demand for services in the City would be provided from capital improvement fees that are collected by the City to offset impacts associated with new development. These development impact fees (DIFs) are onetime charges applied to new development and are imposed to raise revenue for the construction or expansion of capital facilities located out of the proposed Project boundaries of a new development that benefit the area. Developers are also required to pay development fees per square foot of development to offset impacts associated with increased demand on law enforcement services. On-going service costs for police protection are accounted for by the City's General Fund each year.

The proposed Project would be designed and operated per applicable standards required by the City for new development in regard to public safety. In addition, the Project would be required to pay development fees used to fund capital costs associated with constructing new public safety

structures and purchasing equipment for new public safety structures. The construction/operation of the proposed Project would not necessitate the construction of new or expanded law enforcement facilities because the site is located with the current service area of the City of Madera Police Department. Accordingly, impacts to the environment resulting from new or expanded police facilities would not occur, resulting in a ***less-than-significant*** impact.

Conclusion: This impact is ***less than significant.***

Mitigation Measures: No mitigation measures are required.

Impact #3.12-3 - Increase in demand for water supply and construction of additional water supply infrastructure:

Based on information provided by the applicant, the proposed Project is expected to use approximately 10,000 gallons per day (gpd) for the travel stop, tire shop, and restaurant, and 13,500 gpd for landscaping. Information on water usage for the hotel and second restaurant comes from Pacific Institute, which shows approximately 5,300 gpd for the hotel (65 gpd per room indoor use) and 5,000 gpd for the second restaurant. Conservatively, then, the proposed Project would require a total of 33,800 gpd or 37.9 acre-feet per year of water.

Implementation of the Project will result in an increased demand for municipal water and require an extension of the existing city water system.

The Project proponent will construct a 24-inch water main beginning at its current terminus north of Avenue 17 and adjacent to SR 99 southeasterly to Avenue 17 (Figure 2-3). The water main will be extended easterly along Avenue 17, and then extended along the Sharon Boulevard alignment. In the event the extension of the water line does not accommodate domestic and fire flow requirements, other measures such as the installation of an on-site tank, booster pump or even a new well in the vicinity would need to be considered. The developer will need to perform a water system analysis to support the proposed design and connection to the water system improvements. Consistent with City policy, the Project proponent will be required to pay developer's fees in order to contribute toward the Project's fair share of capital improvement costs related to water supply that are constructed off the Project site and will be required to construct improvements if they are not already in place. All water and wastewater service infrastructure constructed on the Project site will be funded and constructed by Project developer.

As stated in Section 3.9, the Madera Subbasin is considered to be overdrafted. This is consistent with the comments contained in the letter from the Madera Irrigation District in response to the Notice of Preparation.

The Project would not result in a change in land use designation from that analyzed for the site in the most current General Plan EIR. As such, groundwater usage projected for this site was assumed and analyzed in the most current General Plan EIR. According to the City of Madera's EIR for the General Plan, "Implementation of the proposed General Plan would increase demand for water supply to the city, requiring increased groundwater production and potentially

worsening the overdraft condition of the Madera Subbasin. This is considered a potentially significant impact."

Conclusion: The proposed Project would require approximately 37.9 acre-feet of water use per year. As evidenced by continuing falling groundwater levels described in the City's General Plan EIR, the community usage of groundwater remains a significant impact. Inasmuch as the groundwater situation is a regional issue, the City alone does not have ability to affect it. Thus, with implementation of the proposed Project this impact will be ***significant***.

Mitigation Measure #3.12-3: As part of the Site Plan Review process, the applicant shall submit a water conservation plan to the City of Madera Planning Department for review and approval which demonstrates the landscaping and buildings will include available water conservation measures for both interior and exterior water usage that, after compliance with all existing federal, state and local regulations, will result in a reduction of an additional 10 percent over anticipated water demand for the Project.

Effectiveness of Mitigation: Even with mitigation, the potential impact remains ***significant and unavoidable.***

Impact #3.12-4 - Increase in demand for wastewater service and construction of additional wastewater infrastructure:

Wastewater is collected throughout Madera via a network of sanitary sewer collection pipelines ranging from 8 to 48 inches in diameter. With the aid of five sewer lift stations, the effluent is gravity-fed to the MWTP, located approximately seven miles west of the City limits. There are approximately 12,500 residential connections, each typically with a 4-inch sewer service connecting to the main. Commercial and industrial customers number just over 1,000 and are connected with service lines appropriate to handle their particular wastewater load. The average daily wastewater volume for 2013 was estimated to be approximately 5.19 million gallons per day (mgd). The City of Madera WWTP Facility provides primary and secondary treatment with a capacity of 10.1 million gallons per day. The plant has 320 acres of land for effluent incidental recharge and evaporation. (City of Madera et al 2015d).

Per the Draft Recycled Water System Feasibility Study (City of Madera 2011), the average effluent from the MWTP for years 2006 through 2010 was about 5.6 mgd. The average water demand for the same period was 11.2 mgd; thus, over that period, the total annual amount of effluent from the MWTP was approximately 50 percent of the total water demand. In 2040, total wastewater flow is expected to increase to 20.9 mgd. Based on these data, it is likely that there will be a sufficient quantity of effluent from the MWTP to meet the future recycled water demand (City of Madera 2014).

According to the applicant, a projected 33,800 gpd of water will be required on a daily basis. When 13,500 gpd required for landscaping is subtracted from this amount, a total of 20,300 gpd of wastewater will be generated from the site on a daily basis.

The Project proponent will construct a 24-inch sewer main in the proposed Sharon Boulevard roadway dedication from its current termination point north of Ellis Street for approximately 319

feet. The Project proponent will construct a 15-inch sewer main from the termination point of the 24-inch main to the Sharon Boulevard/Avenue 17 intersection. A sewer line will also be constructed along the Sharon Boulevard frontage.

Conclusion: The proposed Project will result in an increase of wastewater to the MWTP. However, the applicant would be required to comply with the City of Madera's regulation for the installation of the sewer main. According to the City of Madera Water System Master Plan (2014) and Madera Regional Groundwater Management Plan (City of Madera et al 2015), the City has adequate capacity for treatment of wastewater into the future. The impact is ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.12-5 - Increase in need for stormwater drainage facilities:

Storm water runoff will generally be directed, where feasible, to low-lying landscaped areas used as vegetated swales, or bioretention areas. The landscaped areas will likely store approximately six inches of water prior to overflowing into the storm drain system. The Project will implement volumetric treatment criteria and/or flow-based treatment criteria in accordance with Section E.12.e.ii.c of the SWRCB Phase II Small MS4, General Permit (Order No. 2013-0001-DWQ). In large storm events, storm water runoff will be directed to one or more temporary fenced retention basins at the southern end of the Project site. The temporary retention basin(s) will serve the site and public streets until such time permanent drainage facilities become available. The basin(s) will not store storm water runoff from the Project.

As required in Mitigation Measure #3.9-1b, the applicant shall also implement best management/sustainable practices for stormwater as summarized below:

- Gasoline and diesel fueling areas shall be covered by canopies and shall be surfaced with portland cement concrete. Diesel fueling areas shall be covered by canopies and shall have catch basins piped to an oil-water separator at each fueling bay to effectively preclude these areas from degrading storm water runoff. Storm water shall be precluded from entering catch basins due to covered canopies and grading design;

- Diesel fuel delivery areas shall have catch basins to capture any incidental spillage and shall be piped to an oil-water separator, and discharged to the sanitary sewer system. Catch basins shall not receive storm water runoff due to grading design;

- Above ground diesel tanks shall have a containment curb around them; and

- Maintenance bays in the tire shop shall be fully covered to preclude degradation of storm water runoff as a result of maintenance operations.

Conclusion: This impact is ***less than significant***.

Mitigation Measures: No mitigation measures are required.

Impact #3.12-6 - Increase in demand for solid waste services:

Based on the solid waste generation figures contained in Table 3.12-3, the solid waste disposal projection for the proposed Project total approximately 0.12 tons per year, or 244,862 per day for all employees. The addition of 0.12 tons per day represents a small percent increase in solid waste each day.

Conclusion: This impact is ***less than significant.***

Mitigation Measures: No mitigation measures are required.

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3.13 Transportation/Traffic

This section describes the environmental setting, affected environment and regulatory setting for transportation and traffic. It also describes the impacts on transportation and traffic that would result from implementation of the proposed Project and the mitigation measures that would reduce these impacts. Descriptions and analysis in this section are based on the Traffic Impact Study Report prepared for the proposed Project (VRPA Technologies Inc., 2015, Appendix I of this DEIR).

The analysis in this section addresses comments contained in a letter from the California Department of Transportation (Caltrans), dated March 20, 2015, provided in response to the Notice of Preparation for the Draft EIR.

3.13.1 ENVIRONMENTAL SETTING

Area Roadway Network

The Project is located near the northern edge of the Madera city limits, at the Avenue 17/State Route 99 (SR 99) interchange. SR 99 runs north-south and joins with Interstate (I) 5 north of the Los Angeles/Kern County line, and continues south into Los Angeles County. The local circulation system serving the Project site includes Avenue 17 and Sharon Boulevard (Figure 2-2).

The Circulation Element includes a City-wide diagram map that illustrates existing and future transportation infrastructure. The proposed Project site is located along Avenue 17, which is designated as a loop road/arterial roadway, and Sharon Boulevard, designated an arterial roadway, by Circulation Element of the Madera City General Plan.

Public Transit

The City of Madera is served by three different transit systems:

- Public transportation bus service is provided by Madera Area Express (MAX). MAX has a scheduled fixed route that operates within the Madera city limits;
- Dial-a-Ride and para-transit service extends throughout most of the City; and
- Regional transportation is operated by Madera County Connection, a fixed route bus service that connects Madera to Chowchilla, Fairmead, and communities in eastern Madera County.

Rail Transportation

Madera is served by two railroad lines running roughly parallel to SR 99. A major freight line and passenger train line, the Southern Pacific Railroad (SPRR) pass east of Madera and a

railroad station stop is available. There is also a spur line that extends into the industrial area in southwest Madera, as well.

Airport Facilities

The nearest public airport facility is the Madera Municipal Airport, located one mile to the west of the Project site. The general aviation airport serves personal and business aircraft. The airport has two paved runways and averages 139 aircraft operations per day (AirNav, 2015). Madera Airport does not offer regular passenger service. The closest available passenger service is Fresno Yosemite International Airport, about 30 miles south of Madera.

Bicycle Facilities

Currently, there are no bike paths, lanes, or routes located in the vicinity of the Project site. The closest road with a bike lane is Airport Drive, which is west of SR 99. Bike paths provide for bicycle travel on a right-of-way completely separated from any street or highway. Bike lanes provide for a striped lane for one-way travel on a street or highway. Bike routes provide for shared use with pedestrian or motor vehicle traffic. According to the *Madera County 2004 Regional Bicycle Transportation Plan*, bike facilities are planned for the study area surrounding the Project site and are projected to be constructed within 10 years.

Existing Conditions

EXISTING TRAFFIC COUNTS AND ROADWAY GEOMETRICS

Existing AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Intersection turning movement counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for all key intersections on Thursday, March 5, 2015. Twenty-four (24) hour street segment classification counts along Avenue 17 were also taken on March 5, 2015. Volumes along SR 99 were taken from the SR 99 Widening Project conducted in 2010 and multiplied by a growth rate of 2 percent per year to reflect 2015 values since other counts were taken in March 2015. Traffic count data worksheets are provided in Appendix I.

EXISTING FUNCTIONAL ROADWAY CLASSIFICATION SYSTEM

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The following are general descriptions of the roadway types shown on the City of Madera Circulation Master Plan:

Freeways – Limited-access facilities designed for high speed regional mobility. Freeways may include up to eight lanes (four lanes in each direction).

- **SR 99** – currently exists as a four-lane freeway with a posted speed limit of 65 miles per hour (mph) through the study area. According to the California Department of Transportation's (Caltrans) website, the AADT along SR 99 in 2013 was 63,000.

Madera Loop – This is a system of arterial streets intended to provide for easy intra-city travel by providing links along the perimeter to the city to the SR 99 corridor. The arterials on the Madera Loop will generally be up to four lanes wide (two in each direction). To help speed the flow of traffic and improve safety, direct access to the Madera Loop is more restricted than on other arterial roadways and interruptions such as signals will be reduced compared to other arterial roadways.

- **Avenue 17** – is part of the Madera Loop system and is designated as an arterial facility and currently exists primarily as a two-lane undivided roadway between Airport Drive-Golden State Boulevard and Walden Drive. Bike lanes are not present along the facility in the study area and the posted speed limit is between 45 and 50 mph.

Arterial – Streets that provide the principal network for traffic flow in the community, connecting areas of major activity to each other and to state highways and important County roads. Arterials will generally include up to four lanes (two in each direction), although total widths of six lanes may be appropriate in some locations. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

- **Sharon Boulevard (future roadway)** – will be designated as an arterial facility and is anticipated to be a four-lane divided roadway between Avenue 17 and Ellis Street.

Collectors – Streets which provide access and movement between residential, commercial, and industrial areas. The primary function of collector streets is to collect and distribute traffic between local streets and the arterial roadway system. Collectors will generally include up to four lanes (two in each direction). To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

- **Airport Drive** – is an undivided, multi-lane roadway with two southbound lanes; one northbound lane; one, two-way left turn lane (TWLTL), and a bike lane on the west side of the roadway.

- **Golden State Boulevard** – is a two-lane undivided roadway north of Avenue 17 without bike lanes.

Local/Branch Collector – Single lane streets which collect traffic from Local Streets and feed into the Collector and Arterial system. Design speeds are lower than for Collector roadways (potentially through the use of meanders, roundabouts, narrower road sections, etc.). To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Local Streets – Roadways which provide access to individual homes and businesses. Local streets have one lane in each direction. Local streets are shown on the Circulation Map for

informational purposes only; the General Plan does not define the desired alignments of local streets.

- **Walden Drive** – is a two-lane undivided roadway in the study area without bike lanes with a posted speed limit of 35 mph. Walden Drive at the intersection with Avenue 17 is within the jurisdictional boundaries of Madera County.

Affected Streets and Highways – Street and highway intersections and segments near and adjacent to the Project site were analyzed to determine level of service (LOS) utilizing the current edition of the Highway Capacity Manual (HCM)-based methodologies. The study intersections and street and highway segments included in this analysis are listed below.

Intersections –

Existing Intersections

- Avenue 17 / Airport Drive-Golden State Boulevard
- Avenue 17 / SR 99 SB Off-Ramp
- Avenue 17 WB / SR 99 SB On-Ramp
- Avenue 17 EB / SR 99 SB On-Ramp
- Avenue 17 / SR 99 NB Ramps
- Avenue 17 / Walden Drive

Future Intersections

- Avenue 17 / Yeager Drive
- Avenue 17 / Sharon Boulevard

Project Driveway Intersections –

- Avenue 17 / Access Driveway #1
- Avenue 17 / Access Driveway #2
- Sharon Boulevard / Access Driveway #3
- Sharon Boulevard / Access Driveway #4

Roadway Segments –

Existing Segments

- Avenue 17 between Airport Drive-Golden State Boulevard and SR 99 SB Off-Ramp
- Avenue 17 between SR 99 NB Ramps and Walden Drive

Future Segments

- Avenue 17 between Yeager Drive and Airport Drive-Golden State Boulevard

The existing lane geometry at key study area intersections is shown in Figure 3.13-1, below. All of the existing study intersections are currently unsignalized. Appendix I Figures 2-2 and 2-3 show existing traffic volumes for the AM and PM peak hours in the study area.

EXISTING INTERSECTION OPERATIONS

Tables 3.13-1 through 3.13-5 illustrate the existing conditions at the intersections that may be affected by the proposed Project.

Table 3.13-1
Existing Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING	
				DELAY	LOS
1. Avenue 17 / Airport Drive-Golden State Boulevard	Two-Way Stop Sign	C	AM	16.5	C
			PM	14.3	B
2. Avenue 17 / SR 99 SB Off Ramp	One-Way Stop Sign	C	AM	13.3	B
			PM	14.2	B
3. Avenue 17 (EB & WB) / SR 99 SB On-Ramp	Uncontrolled	C	AM	--	A
			PM	--	A
4. Avenue 17 / SR 99 NB Ramps	Two-Way Stop Sign	C	AM	**30.1**	**D+**
			PM	18.1	C
5. Avenue 17 / Walden Drive	Two-Way Stop Sign	C	AM	**29.8**	**D+**
			PM	**34.5**	**D+**

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

+ Does not meet peak hour signal warrants.

Table 3.13-2
Existing Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING	
					VOLUME	LOS
Avenue 17						
SR 99 NB Ramps to Walden Drive	1 lane	EB	C	AM	245	C
				PM	600	C
	1 lane	WB		AM	692	C
				PM	358	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Table 3.13-3
Peak Hour One-Way Volumes

Level of Service					
Lanes	Divided	B	C	D	E
State Roadways					
1	Undivided	**	830	880	**
2	Divided	**	1,910	2,000	**
3	Divided	**	2,940	3,020	**
4	Divided	**	3,970	4,040	**
Non-State Roadways					
1	Undivided	**	747	792	**
2	Divided	**	1,719	1,800	**
3	Divided	**	2,646	2,718	**
4	Divided	**	3,573	3,636	**

** Not applicable for that level of service letter grade. Volumes greater than level of service D become F because intersection capacities have been reached.

Table 3.13-4
Existing Merge/Diverge Operations

SR 99		AM Peak Hour (veh/hr)		PM Peak Hour (veh/hr)		Number of Lanes		TARGET LOS	AM Peak Hour		PM Peak Hour	
Location	Facility	Freeway	Ramp	Freeway	Ramp	Freeway	Ramp		LOS [1]	Density [2]	LOS [1]	Density [2]
Northbound												
SR-99 NB Off Ramp to Avenue 17	Diverge	2144	230	2265	440	2	1	C	B	16.4	B	17.7
SR-99 NB On Ramp from Avenue 17	Merge	2144	116	2265	85	2	1	C	B	17.5	B	18.3
Southbound												
SR-99 SB Off Ramp to Avenue 17	Diverge	2306	101	2776	172	2	1	C	B	16.2	C	20.9
SR-99 SB Loop On Ramp from WB Avenue 17	Merge	2306	498	2776	190	2	1	C	C	24.9	C	26.8
SR-99 SB On Ramp from EB Avenue 17	Merge	2804	95	2966	120	2	1	C	C	24.8	C	26.2

(1) LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded
(2) Density is expressed in passenger cars/mile per lane

Table 3.13-5
Existing Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS	
			AM Queue	PM Queue
Airport Dr-Golden State Blvd / Avenue 17	NB Left	50	0	3
	EB Left	75	0	0
	EB Right	125	0	0
	WB Left	75	8	3
	WB Right	100	0	0
SR 99 SB Off-Ramp / Avenue 17	SB Left	50	13	28
	SB Right	50	5	5
SR 99 NB Ramps / Avenue 17	NB Right	50	20	98
	EB Left	125	5	3
Walden Dr / Avenue 17	EB Left	200	3	10
	WB Left	200	0	0

Queue is measured in feet

3.13.2 REGULATORY SETTING

Federal

FEDERAL CLEAN AIR ACT

The Federal Clean Air Act and foreseeable legislation, requires that the Regional Transportation Plan integrate transportation and air quality during the planning process. The 1990 California

Clean Air Act (CCAA) Amendment requires the following stipulations in order to receive federal funding:

- Establish a permitting program that achieves no net increase in stationary source emissions;
- Develop a strategy to reduce vehicle trips, use and miles traveled;
- Increase average vehicle ridership to 1.5 persons per vehicle during commute hours;
- Establish Best Available Retrofit Control Technology (BARCT) requirements for all permitted sources; and
- Development of indirect and area source programs.

Failure to meet Federal and State requirements of the CAA may result in the following disciplinary actions:

- Limitations on the use of federal funds for highway construction;
- Cut off of federal grants for construction of sewage treatment plants; and
- Prohibition of development of new stationary sources of air pollution.

State

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

The Caltrans Guide for the Preparation of Traffic Impact Studies, dated December 2002, indicates that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state facilities (e.g., SR 99).

On State facilities a significant impact is recognized if a proposed Project will decrease the LOS below C or if a Project will exacerbate an existing intersection operating at LOS D, E, or F by decreasing the LOS at the intersection.

The Caltrans regulations below apply to the potential transportation and traffic impacts of the proposed Project.

- **California Vehicle Code, Division 15, Chapters 1 through 5 (Size, Weight, and Load)** include regulations pertaining to licensing as well as the size, weight, and load of vehicles that operate on State highways.
- **California Street and Highway Code Sections 660–711** require permits from Caltrans for any roadway encroachment. The sections also include regulations pertaining to the care and protection of State and County highways and provisions for the issuance of written permits, which are required when a load exceeds Caltrans' weight, length, or width standards for public roadways and State highways.

Madera County Transportation Commission

The Madera County Transportation Commission (MCTC) is the regional transportation planning agency, the designated metropolitan planning organization (MPO), the regional comprehensive planning agency and the local transportation commissions for Madera County.

MCTC's role is to foster intergovernmental coordination, undertake comprehensive regional planning with an emphasis on transportation issues, provide a forum for citizen input into the planning process, and provide technical services to its member agencies. In all these activities the commission works to develop a consensus among its members regarding multi-jurisdictional transportation issues.

REGIONAL TRANSPORTATION PLAN

The Madera County 2014 Regional Transportation Plan (RTP) was adopted by Madera CTC in July 2014 The 2014 RTP ensures that the County's transportation system and implementation policies/programs will safely and efficiently accommodate growth envisioned in the land use elements of Chowchilla, Madera and Madera County, through 2040.

SUSTAINABLE COMMUNITIES STRATEGY

Madera CTC has adopted, and is implementing its 2014 RTP and Sustainable Communities Strategy (SCS). The 2014 combined RTP and SCS document, called Your Madera 2040, reflects the horizon or "planning" year of 2040. Although the intent of the document is to ensure that the region's transportation system and implementation policies/programs will safely and efficiently accommodate growth envisioned in the Land Use Elements of the Cities of Chowchilla and Madera, and in Madera County, the RTP stated that targets could not be met by the SCS.. However, recent, revised traffic modeling improved the accuracy of the reduction projects, and, pursuant to SB 375, the SCS now shows how Madera CTC achieves State-mandated greenhouse gas reduction targets for the region.

Local

CITY OF MADERA GENERAL PLAN

The Circulation and Infrastructure Element addresses the movement of people and goods and the facilities needed to accommodate them, which include: roads, railroads, bicycle routes, sidewalks, public transportation, and airports. Policies that directly relate to transportation and traffic are the following:

Policy CI-1: Figure CI-1 of the Circulation and Infrastructure Element shows the Circulation Master Plan of the City of Madera. The City will implement this Master Plan through the policies contained in this and other Elements of the Madera General Plan.

Action Item CI-1.1: Require the dedication of right of way and the installation of roadway improvements as part of the review and approval of development Projects including requests for changes of land use designations.

Action Item CI-1.2: Prepare and adopt a comprehensive transit plan to complement the development of Village Centers and provide transit service throughout Madera. The plan should include:

- Feasibility of BRT facilities and guidelines for system development as appropriate;
- Residential, retail and employment thresholds and service targets for BRT and pedestrian village cores; and
- Other transit use enhancements such as additional buses, new routes, longer hours, greater headways, real-time boarding information, bus turn out lanes, queue jump lanes, exclusive transit lane improvement alignment, mixed flow/exclusive lane use, and "Express Bus" service for commuters.

Action Item CI-1.3: Identify and designate truck routes by resolution of the City Council and install signage to limit truck traffic to these routes to the extent permitted by state law.

Policy CI-3: The following are general descriptions of the roadway types shown on the Circulation Master Plan: Freeways:

Freeways: Limited-access facilities designed for high speed regional mobility. Freeways may include up to eight lanes (four lanes in each direction).

Madera Loop: This is a system of arterial streets intended to provide for easy intra-city travel by providing links along the perimeter to the city to the Freeway 99 corridor. The arterials on the Madera Loop will generally be up to four lanes wide (two in each direction). To help speed the flow of traffic and improve safety, direct access to the Madera Loop is more restricted than on other arterial roadways and interruptions such as signals will be reduced compared to other arterial roadways.

Arterial: Streets which provide the principle network for traffic flow in the community, connecting areas of major activity to each other and to state highways and important County roads. Arterials will generally include up to four lanes (two in each direction), although total widths of six lanes may be appropriate in some locations. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Collector: Streets which provide access and movement between residential, commercial, and industrial areas. The primary function of collector streets is to collect and distribute traffic between local streets and the arterial roadway system. Collectors will generally include up to four lanes (two in each direction). To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Local/Branch Collector: Single lane streets which collect traffic from Local Streets and feed into the Collector and Arterial system. Design speeds are lower than for Collector roadways (potentially through the use of meanders, roundabouts, narrower road sections, etc.). To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Local Streets: Roadways which provide access to individual homes and businesses. Local streets have one lane in each direction. Local streets are shown on the Circulation Map for informational purposes only; the General Plan does not define the desired alignments of local streets.

Action Item CI-3.1: The City shall maintain and implement Standards and Specifications defining details for each roadway type (overall right of way width, lane widths, etc.).

Policy CI-5: The City shall require the dedication or irrevocable offer of dedication of right of way for all arterials and collectors at the earliest opportunity in the development process in order to implement the Roadway Master Plan. Generally, the earliest opportunity to implement this policy will be the first of the following discretionary approvals which is available:

- Change of Zoning or General Plan Land Use Designation;
- Approval of a Comprehensive Plan, Specific Plan, or other master plan;
- Any subdivision map (such as a parcel map or tentative tract map);
- Conditional Use Permit; and
- Site plan or design approval.

If any of these discretionary approvals is not being sought, right of way dedication may be required as a condition of building permit approval.

Policy CI-6: The City shall protect future right-of-way needed for freeways, arterial and collector streets, and interchanges and railroad corridors and crossings from encroachment by development or other incompatible uses or structures.

Policy CI-7: In order to ensure adequate circulation capacity of collectors, arterials and larger streets, turning movements and driveway approaches to adjoining properties and onto local streets shall be limited so through traffic speeds are not reduced by more than 10 (ten) miles per hour based on the street design speed. This policy will not be applied where the City determines that existing land use patterns and unique site constraints make it impossible. Direct access to sites along arterial and larger streets should typically be provided from adjacent local streets or signalized shared access points.

This should be implemented as early as possible in development when zoning and parcels are established.

Action Item CI-7.1: Amend the City standards to limit the spacing of driveway approaches and turn lanes as called for in Policy CI-7

Policy CI-8: Priority will be given to upgrades on those streets where any of the following exist:

- High current and Projected traffic volumes are involved;
- Joint funding is possible;
- Significant contributions of private or assessment district funds are involved as part of the cost of developing adjacent lands;
- Where the rate of serious accidents has been high and where hazards to public safety are great; or
- Where circulation improvements can help stimulate economic growth consistent with this General Plan.

Policy CI-9: The City will work cooperatively with Caltrans to implement improvements to the state highway system in Madera.

Action Item CI-9.1: Review proposed development Projects with Caltrans to facilitate the acquisition of right of way for ultimate improvements and to avoid and/or minimize potential traffic conflicts between State facilities, city streets, and private drives.

Policy CI-10: The City will maintain a high level of coordination with the County of Madera and Caltrans, through the Madera County Transportation Commission, in implementing the Circulation Master Plan. The City will participate in the planning of regional roadway and transportation facilities, particularly those that indirectly or directly affect Madera, including the State Route 152-East/ Freeway 65 corridor.

Policy CI-11: Development Projects shall be required to provide funding or to construct roadway/intersection improvements to implement the City's Circulation Master Plan. The payment of established traffic impact or similar fees shall be considered to provide compliance with the requirements of this policy with regard to those facilities included in the fee program, provided that the City finds that the fee adequately funds all required roadway and intersection improvements. If payment of established fees is used to provide compliance with this policy, the City may also require the payment of additional fees if necessary to cover the fair share cost of facilities not included in the fee program.

Policy CI-12: New development shall provide funding acceptable to the City for the construction and permanent maintenance of all roadway facilities. Potential funding mechanisms may include assessment districts, community facility districts, or other methods.

Policy CI-13: Where the installation of a single-loaded street cannot be avoided (such as in locations where lands on one side of a roadway are not planned to be developed), the City will include funding in its impact fees to provide for the construction of the portion of the roadway located on lands which are not being developed.

Policy CI-17: Shared driveways, driveway consolidation, reciprocal access easements, and cross access easements to commercial centers shall be required along arterials and collector roads in

new development Projects and in the redevelopment or redesign of existing development to minimize traffic hazards associated with driveways and curb cuts.

Policy CI-20: To keep Local street volume within design capacity, street length (not block length) shall be kept under 1,600 feet or two blocks where possible unless interrupted by an arterial or collector street.

Policy CI-21: Installation and maintenance of curb, gutter, sidewalk and paving on Local streets shall be the responsibility of affected property owners.

Policy CI-22: The City shall seek to maintain LOS C at all times on all roadways and intersections in Madera, with the following exceptions:

a. On arterial roadways or roadways with at-grade railroad crossings that were experiencing congestion exceeding LOS C during peak hour travel times as of the date this General Plan Update is adopted the City shall seek to maintain LOS D or better;

b. This policy does not extend to freeways (where Caltrans policies apply) or to private roadways; or

c. In the Downtown District (as defined in the Land Use Element of this General Plan), the City shall seek to maintain LOS D.

Action Item CI-22.1: Consider, during the review of proposed development Projects, how to shift travel demand away from the peak period, especially in those situations where peak traffic problems result from a few major generators (e.g. outlying employment locations).

Action Item CI-22.2: Perform routine, ongoing evaluation of the efficiency of the urban street traffic control system, with emphasis on traffic signal timing, phasing and coordination to optimize traffic flow along arterial corridors. Use traffic control systems to balance arterial street utilization (e.g., timing and phasing for turn movements, peak period and off-peak signal timing plans).

Action Item CI-22.3: As funding allows, expand traffic signal timing and synchronization programs where emission reduction benefits can be demonstrated.

Policy CI-25: Parking for all uses shall be provided on-site and shall not require the use of parking spaces in the right of way of a public or private street to provide required parking. The following are exceptions to this policy:

- In the Downtown District, where limited space is available for off-street parking, a portion of required parking may be provided on-street or in parking lots or garages that may be established in the future; and

- Parking for non-standard uses (that is, those requiring either more or less parking than typical uses) may be determined and imposed on a case-by-case basis.

Action Item CI-25.1: Include a parking standard allowing the use of alternative, off-site parking arrangements in the Downtown District in either the Zoning Code or any future Downtown Plan.

Policy CI-26: Projects providing significantly more than the required amount of parking shall be allowed only when the City determines that there is a demonstrated need for additional parking.

Action Item CI-26.1: Amend parking and other standards in the Zoning Code to reflect a balance between the need for parking and the desire of the City to achieve its goals regarding efficient land utilization, walkability, and increased opportunities to create additional space for landscaping and other amenities.

Policy CI-23: Projects contributing traffic to roadways exceeding the desired level of service per Policy CI-22 may be required to fund system wide traffic improvements, including cumulative traffic mitigation at off-site locations (as applicable), and to assist in promoting non-vehicular transportation as a condition of Project approval.

Policy CI-28: New development areas shall include pedestrian and bicycle facilities and connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers, and high density residential areas.

Action Item CI-28.1: Establish a transit and/or multimodal impact fee to be applied to new development to fund public transit infrastructure and other multimodal accommodations.

Policy CI-33: The needs of pedestrians and bicyclists shall be routinely considered and, where practical, accommodated in all roadway construction and renovation Projects.

Policy CI-41: Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution and greenhouse gases.

Policy CI-47: All major development Projects shall identify the size and cost of all infrastructure and public facilities and identify how the installation and long-term maintenance of infrastructure will be financed consistent with the policies in this General Plan.

Policy CI-49: The City shall require secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications, or other appropriate mechanisms in order to provide for the completion of required major public facilities at their full planned widths or capacities in one phase. For the purposes of this policy, "major" facilities shall include the following:

- Any roadway of a collector size or above, including any roadway shown on the Circulation Plan in this General Plan;
- Wells, water transmission lines, treatment facilities, and storage tanks;
- All sewer trunk and interceptor lines and treatment plants or treatment plant capacity;
- Reclaimed water distribution lines; and
- Ongoing maintenance.

The City shall use its financial capacity to facilitate implementation of this policy if necessary, including, but not limited to:

- Issuing bonds or other forms of municipal financing as it deems appropriate;
- Using City funds directly, with repayment from future development fees;
- Creating special assessment districts, Mello-Roos Community Facility Districts, etc.;
- Fee programs;
- Developer financing.

3.13.3 IMPACT EVALUATION CRITERIA

Methodology

Descriptions and analysis are based on the Traffic Impact Study (TIS) Report prepared for the proposed Project (Appendix I). The study methodology is consistent with the guidelines of Caltrans, the City of Madera, and the City's General Plan. Terms and methodologies used are explained below.

- **LOS:** In analyzing street and intersection capacities the Level of Service (LOS) methodologies are applied. LOS standards are applied by transportation agencies to quantitatively assess a street and highway system's performance. Segment LOS is important in order to understand whether the capacity of a roadway can accommodate future traffic volumes. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the Modified HCM-Based LOS Tables (Florida Tables). The tables consider the capacity of individual road and highway segments based on numerous roadway variables (design speed, passing opportunities, signalized intersections per mile, number of lanes, saturation flow, etc.). These variables were identified and applied to reflect segment LOS conditions. See Tables 3.13-6 through 3.13-9 for details on LOS standards. Additional information is included in Appendix A of the TIS.

  Intersection LOS analysis was conducted using the Synchro 8 software program. Synchro 8 supports the Highway Capacity Manual (HCM) 2010 and 2000 methodologies and is considered an acceptable program by City of Madera staff for assessment of traffic impacts. Levels of Service can be determined for both signalized and unsignalized intersections. All of the existing study intersections are currently unsignalized. The signalized LOS standards applied to calculate intersection LOS are in accordance with the current edition of the Highway Capacity Manual (HCM). Intersection turning movement counts and roadway geometrics used to develop LOS calculations were obtained from field review findings and count data provided from the traffic count sources identified in Section 2.1 of the TIS.

  Roadway and intersection operating conditions are measured with respect to LOS, which is defined by categories ranging from A to F, with LOS A representing the best traffic flow conditions and LOS F representing poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with stop-and-go traffic and long

delays at intersections. The City of Madera considers levels of service C or better to be acceptable, while levels of service D, E, and F are considered unacceptable. Caltrans identifies a minimum LOS of C, except where the existing LOS is D or below, according to information specified in the Caltrans, *A Guide for Traffic Impact Studies.* Although the City's General Plan, Policy CI-22 (c) includes an exception ("In the Downtown District [as defined in the Land Use Element of this General Plan], the City shall seek to maintain LOS D), no portion of the Project area is within this Downtown District designation.

- **Traffic or Signal Warrant:** The Federal Highway Administration (MUTCD, 2009) states that, "The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions." Different factors are used for various traffic situations. For example Warrant 3 is used to determine Peak Hour warrants, and Warrant 9 is used for an intersection near a grade crossing. When the appropriate Warrant factors determine the need for a traffic control signal, the traffic signal warrant has been met. However, "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

  For unsignalized intersections, the City of Madera has determined that a significant impact will occur when both 1) an unacceptable LOS would result and 2) traffic signal warrants are met. When an unsignalized intersection does not meet acceptable LOS standards, the investigation of the need for a traffic signal shall be evaluated. The California Manual on Uniform Traffic Control Devices for Streets and Highways (California MUTCD) dated November 7, 2014 introduces standards for determining the need for traffic signals. The California MUTCD indicates that the satisfaction of one or more traffic signal warrants does not in itself require the installation of a traffic signal. In addition to the warrant analysis, an engineering study of the current or expected traffic conditions should be conducted to determine whether the installation of a traffic signal is justified. The California MUTCD Peak Hour Warrant (Warrant 3) was used to determine if a traffic signal is warranted at unsignalized intersections that fall below current LOS standards.

- **Pass-by:** Pass-by trips are made by traffic already using a roadway adjacent to a project site and enter the site as an intermediate stop on the way from another location to another ultimate destination. The trip may not necessarily be "generated" by the land use under study, and thus, not a new trip added to the transportation system. A 15 percent pass-by rate was applied (for autos only) to the Travel Stop and fast-food restaurant land uses. The Trip Generation Handbook supports as high as 62 percent pass-by for Land Use Code 945 (Gasoline/Service Station with Convenience market) and 50 percent pass-by for Land Use Code 934 (Fast food restaurant with drive-through window). The pass-by rate used for this analysis was reduced due to the limited background traffic adjacent to the Project on Avenue 17.

  The average Pass-By trip percentage of the sites surveyed is 49 percent for the AM peak hour and 50 percent for the PM peak hour. The site characteristics for each location evaluated in the tables referenced above are not provided, which creates some reservation

in utilizing a pass-by percentage of 50 percent. Furthermore, use of the Pass-By trip percentages listed above would represent roughly 25 percent of the existing peak hour traffic along Avenue 17. Given the existing land uses near/adjacent to Avenue 17 (primarily residential) it is not expected that the proposed Project would capture 25 percent of the existing traffic along Avenue 17 every day. As a result, a 15 percent trip reduction for "Pass-By" trips was applied and represents a conservative estimate of pass-by trips.

- **Passenger Car Equivalents (PCE):** The capacity analysis for all analysis scenarios was performed assuming a PCE of 2.5:1 for all Project truck trips entering and exiting the facility, which is consistent with Caltrans staff recommendations. This ratio indicates that for each truck trip entering and existing the facility, 2.5 passenger car equivalents would enter and exit.

The levels of traffic expected approximately twenty years after the assumed opening day of the Project will be directly related to the probable projects within the study area for the City of Madera and Madera County. The traffic growth rate over the past three years at the Avenue 17 and SR 99 Interchange will be used as a background growth in addition to the trips generated from viable projects in the study area. Based on traffic counts provided on Caltrans' website (along SR 99 near Avenue 17), the traffic growth from 2011 to 2013 is 1.75 percent per year.

The following intersections and roadway segments included in the TIS were determined in consultation with the City of Madera and the California Department of Transportation (Caltrans) and include:

Intersections

EXISTING INTERSECTIONS

- Avenue 17 / Airport Drive-Golden State Boulevard
- Avenue 17 / SR 99 SB Off-Ramp
- Avenue 17 WB / SR 99 SB On-Ramp
- Avenue 17 EB / SR 99 SB On-Ramp
- Avenue 17 / SR 99 NB Ramps
- Avenue 17 / Walden Drive

FUTURE INTERSECTIONS

- Avenue 17 / Yeager Drive
- Avenue 17 / Sharon Boulevard

PROJECT DRIVEWAY INTERSECTIONS

- Avenue 17 / Access Driveway #1
- Avenue 17 / Access Driveway #2
- Sharon Boulevard / Access Driveway #3
- Sharon Boulevard / Access Driveway #4

The TIS completed for the proposed Project includes LOS analysis for the following traffic scenarios:

- Existing Conditions;
- Existing Plus Project;
- Near-Term (Opening Year) No Project;
- Near-Term (Opening Year) Plus Project;
- Cumulative Year 2036 No Project; and
- Cumulative Year 2036 Plus Project.

Caltrans identifies a minimum LOS is C, except where the existing LOS is D or below, according to information specified in the Caltrans, *A Guide for Preparation of Traffic Impact Studies* (2002).

Table 3.13-6 through Table 3.13-9 illustrate target LOS for each intersection based upon its jurisdictional location.

Table 3.13-6
Signalized Intersections: Level of Service Definitions
(2010 Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for a minor street.	**≤ 10.0**
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.	**> 10.0 - 20.0**
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer.	**> 20.0 - 35.0**
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing.	**> 35.0 - 55.0**
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues.	**> 55.0 - 80.0**
F	Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs with over- saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist to allow minor traffic to cross the intersection safely.	**> 80.0**

Table 3.13-7
Unsignalized Intersections: Level of Service Definitions
(2010 Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	No delay for stop-controlled approaches.	**0 - 10.0**
B	Describes operations with minor delay.	**> 10.0 - 15.0**
C	Describes operations with moderate delays.	**> 15.0 - 25.0**
D	Describes operations with some delays.	**> 25.0 - 35.0**
E	Describes operations with high delays and long queues.	**> 35.0 - 50.0**
F	Describes operations with extreme congestion, with very high delays and long queues unacceptable to most drivers.	**> 50.0**

Table 3.13-8
Roadway Segment: Level of Service Definitions
(2010 Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.

Table 3.13-9
General Plan Target LOS by Intersection

INTERSECTION	JURISDICTION	TARGET LOS[1]
1. Avenue 17 / Airport Drive-Golden State Boulevard [2]	City of Madera	C
2. Avenue 17 / SR 99 SB Off Ramp [3]	Caltrans	C *
3. Avenue 17 WB / SR 99 SB On-Ramp [4]	Caltrans	C *
4. Avenue 17 EB / SR 99 SB On-Ramp [4]	Caltrans	C *
5. Avenue 17 / SR 99 NB Ramps [3]	Caltrans	C *
6. Avenue 17 / Walden Drive [2]	City of Madera	C
7. Avenue 17 / Yeager Drive (Future Intersection)	City of Madera	C
8. Avenue 17 / Access Driveway #1 (Future Intersection)	City of Madera	C
9. Avenue 17 / Access Diveway #2 (Future Intersection)	City of Madera	C
10. Avenue 17 / Sharon Boulevard (Future Intersection)	City of Madera	C
11. Sharon Boulevard / Access Driveway #3 (Future Intersection)	City of Madera	C
12. Sharon Boulevard / Access Driveway #4 (Future Intersection)	City of Madera	C

(1) Based on respective jurisdiction General Plan Standards
(2) Two-Way Stop Intersection.
(3) One-Way Stop Intersection.
(4) Uncontrolled Movement.
* Caltrans identifies' a minimum LOS is C, except where the existing LOS is D or below

EXISTING TRAFFIC COUNTS AND ROADWAY GEOMETRICS

The first step toward assessing Project traffic impacts is to assess existing traffic conditions. Existing AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Intersection turning movement counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for all key intersections on Thursday, March 5, 2015. Twenty-four (24) hour street segment classification counts along Avenue 17 were also taken on March 5, 2015. Volumes along SR 99 were taken from the SR 99 Widening Project conducted in 2010 and multiplied by a growth rate of 2 percent per year to reflect 2015 values since other counts were taken in March 2015. Traffic count data worksheets are provided in Appendix I. The existing lane geometry at key Project site intersections is shown in 3.13-1. All of the existing study intersections are currently unsignalized. Figures 2-2 and 2-3 in Appendix I show existing traffic volumes for the AM and PM peak hours in the study area.

Level of Service

Intersection Capacity Analysis

All intersection LOS analyses were estimated using Synchro 8 Software, utilizing Highway Capacity Manual (HCM) 2010 methodology. Various roadway geometrics, traffic volumes, and properties (peak hour factors, storage pocket length, etc) were input into the Synchro 8 Software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the 2010 HCM outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

Lane Geometry

- Storage lengths for turn lanes for existing intersections were either measured in the field or obtained from aerial photos and rounded to the nearest 25 feet. Figure 3.13-1 illustrates the existing lane geometry at key study area intersections.

Traffic Conditions

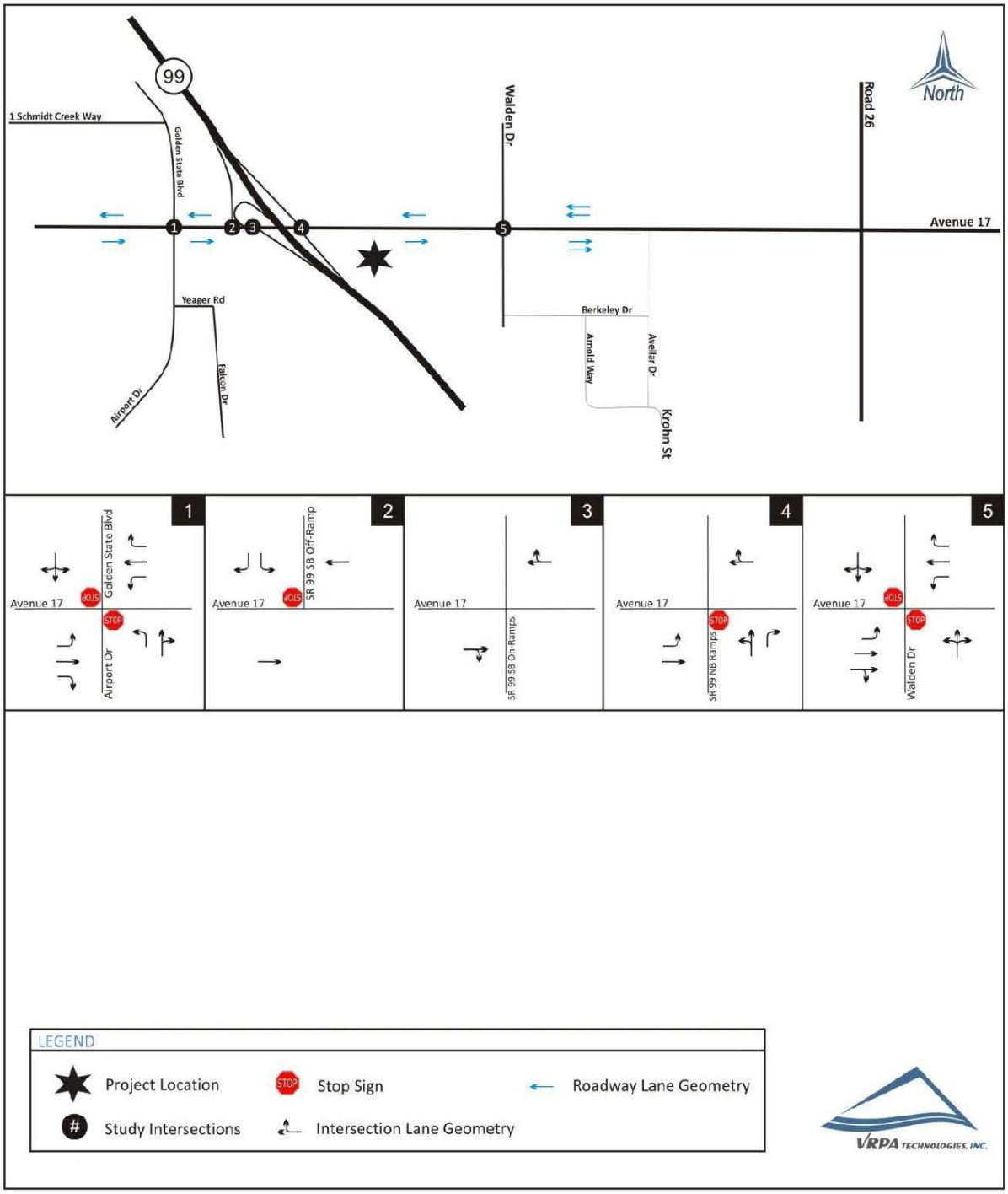
- The peak hour factor used for Existing conditions was determined from the existing counts.

- Heavy vehicle percentages were applied as follows and are based on the HCM default, traffic counts, or Caltrans' parameters:

    - SR99 – 16 percent;
    - Avenue 17 – 3 percent (ADT counts showed 2 percent of Heavy Vehicles); and
    - All other roadways – 3 percent.

Roadway Segment Capacity Analysis

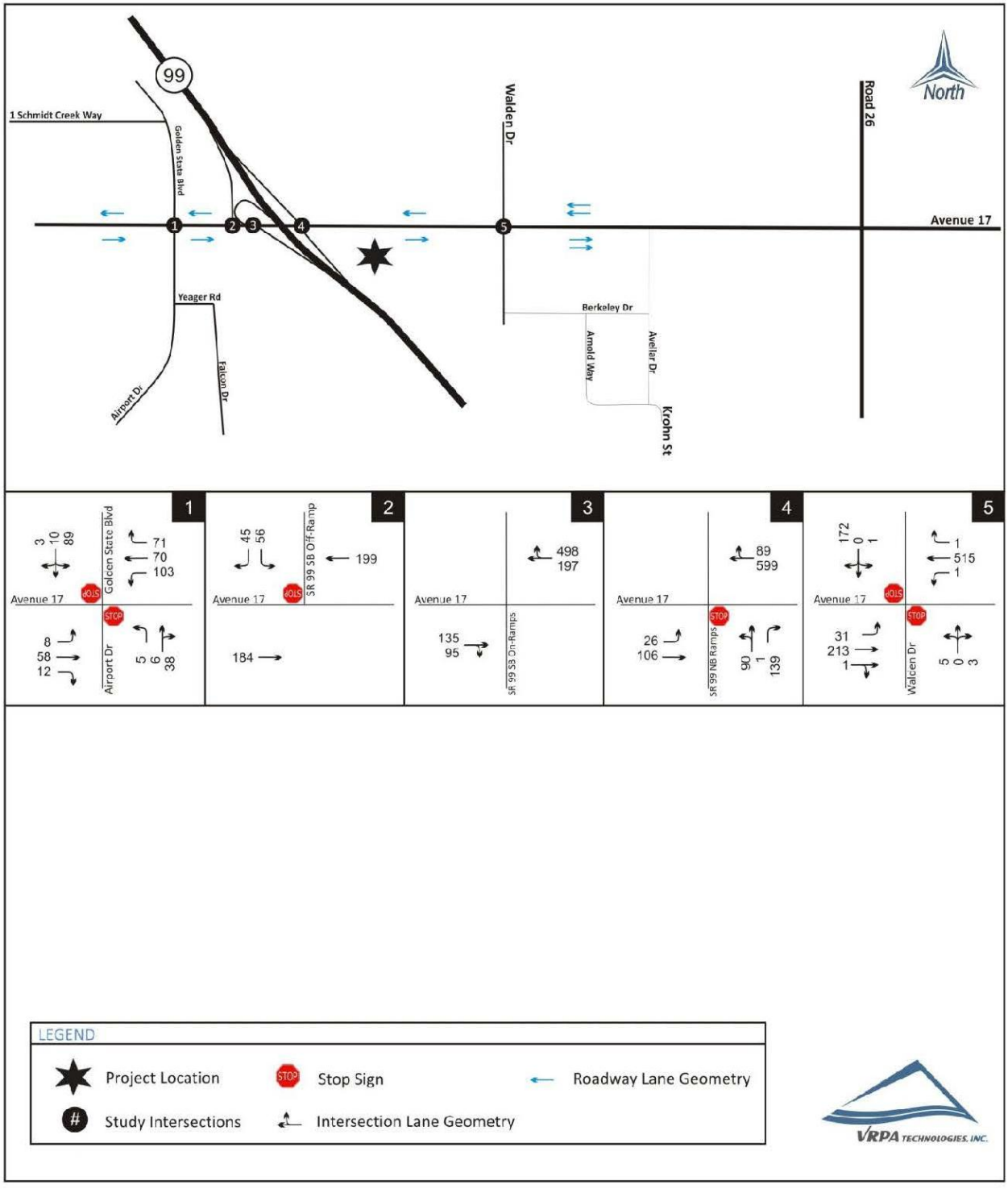
Results of the AM and PM peak hour LOS segment analysis along the existing street and highway system are reflected in Table 3.13-2, above. Roadway segment analysis was based on the Florida Department of Transportation, Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas (Non-State Roadways, Major City/County Roadways), which are commonly utilized in the Central Valley. Table 3.13-3 presents the specific volume thresholds used in this analysis. Results of the analysis show that all of the study roadway segments are operating at acceptable LOS.



Quad Knopf

Existing Lane Geometry

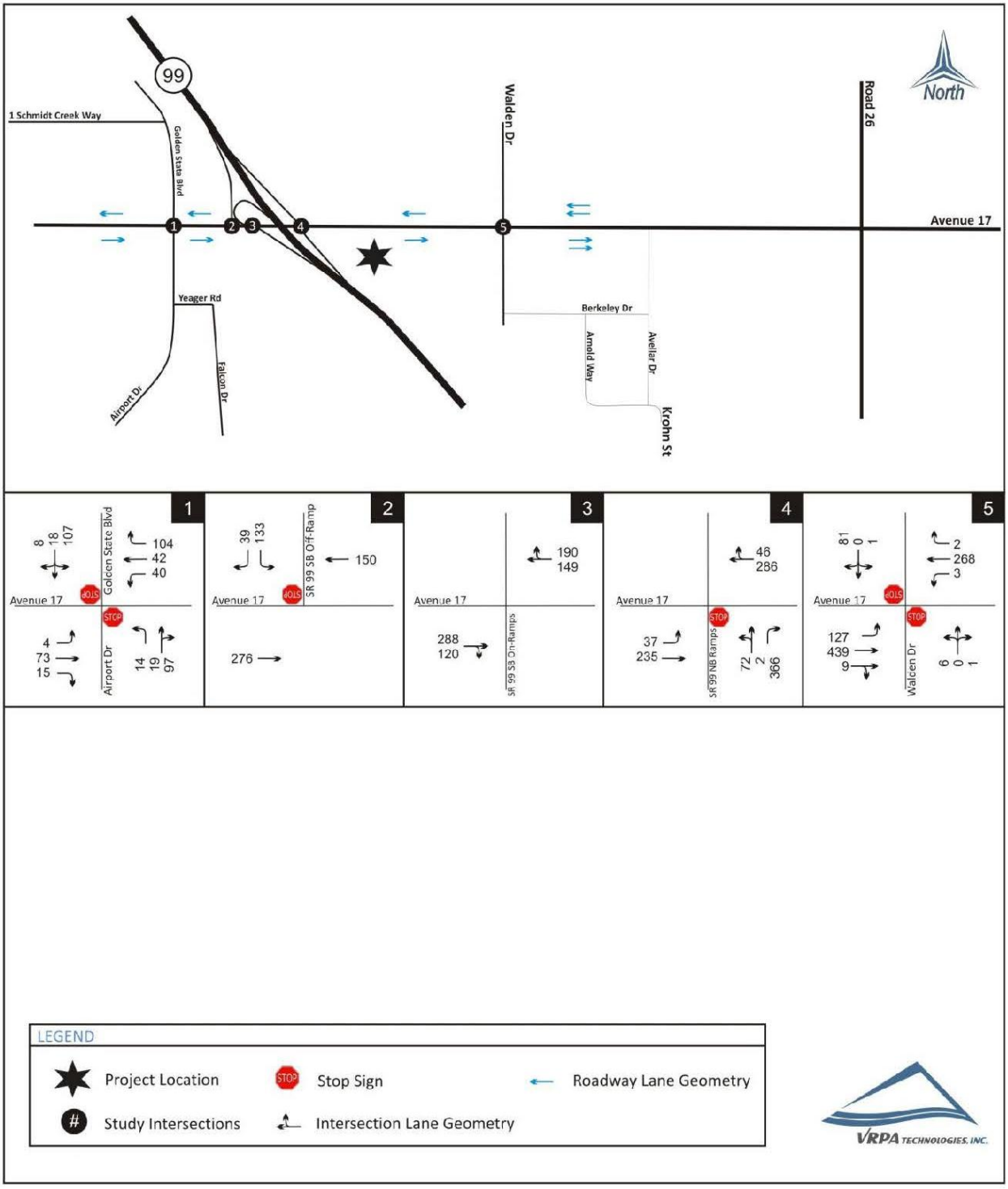
Figure 3.13 - 1



Quad Knopf

Existing AM Peak Hour Traffic

Figure 3.13 - 2



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Existing PM Peak Hour Traffic

Figure 3.13 - 3

Queuing Analysis

Table 3.13-4 provides a queue length summary for left and right turn lanes at the study intersections for the Existing scenario. The Synchro queuing analyses results for the study intersections are contained in the Synchro LOS worksheets found in Appendix I.

Queuing analysis was completed using information found in the Synchro outputs, provided in Appendix I. Synchro provides the 95th percentile maximum vehicular queue for unsignalized intersections. The vehicular queue presented in the Synchro outputs was then multiplied by 25 feet to estimate the total length of the queue in feet. The queue results shown in Table 3.13-4 represent the approximate queue lengths for the respective lane movements.

Ramp Merge/Diverge Analysis

The ramp merge/diverge analysis for the SR 99/Avenue 17 interchange was based on the 2010 HCM and assumed the following inputs and parameters for the AM and PM peak hours:

- Free-flow speed (FFS) was set to 65 miles per hour (mph) for SR99;
- Peak hour factor (PHF) was set to 0.92 for the SR99 mainline. All other PHF's used are reflective of traffic counts conducted for this analysis;
- Terrain was set to "level" for the SR 99 mainline, while a "grade" was applied to the ramps; and
- Trucks/buses percentage was set to 16 percent along the SR99 mainline.

Results of the AM and PM peak hour ramp merge/diverge analysis at the SR 99/Avenue 17 interchange are reflected in Table 3.13-5 and indicate the interchange is currently operating at acceptable LOS with the exception of a few locations along the SR 99 mainline in the southbound direction. HCS 2010 Worksheets are included in Appendix I.

Diverted Link Trips and Pass-by Rates

Project trips from SR 99 are characterized as "Diverted Link" trips, which are trips that will be added to Avenue 17 and Sharon Boulevard as a result of the Project. In essence, the proposed Project will attract passing traffic on SR 99 given the Project's close proximity to SR 99 and the planned land uses that will exist on the Project site. Without the presence of the proposed Project, the trips would remain on the SR 99 mainline. Even with the Project, these diverted-link entering the site from SR 99 via Avenue 17 and Sharon Boulevard will return to SR 99 without using any additional City or County roadways other than Avenue 17 and Sharon Boulevard.

Additionally, the number of generated by the Project was determined, based on the various land uses proposed (Appendix F, pages 39-41). A 15 percent trip reduction was applied to automobile trips to the Travel Stop and fast-food restaurant for "pass-by" trips. Not all of the trips to the Project site represent new trips added to the roadways. This is due to "pass-by" trips.

Pass-by trips are made by traffic already using the adjacent roadway (Avenue 17, in this case) and enter the site as an intermediate stop on the way from another destination. The trip may not necessarily be "generated" by the land use under study, and thus, not a new trip added to the transportation system. A pass-by factor of 15% was applied (for automobiles only) to the the trip generation estimate.

Thresholds of Significance

Consistent with Appendix G of the *CEQA Guidelines*, the proposed Project is considered to have a significant impact on the environment if it will:

a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways;

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

e) Result in inadequate emergency access; or

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

3.13.4 IMPACTS AND MITIGATION MEASURES

Impact #3.13-1 - Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit:

An important goal is to maintain acceptable levels of service (LOS) along the highway, street, and road network. To accomplish this, the City of Madera and Caltrans adopt minimum LOS in an attempt to control congestion that may result as new development occurs. The City of Madera General Plan considers LOS C or better to be acceptable, while LOS D, E, and F are considered unacceptable (see Table 3.13-9). At unsignalized intersections where a substandard level of service exists, traffic signals would be recommended only if warrants for traffic signals are satisfied. Caltrans identifies a minimum LOS as C, except where the existing LOS is D or

below, according to information specified in *A Guide For Traffic Impact Studies* (Caltrans 2002).

In order for the Project to be consistent for all applicable policies given the LOS standards of the two agencies in the Project area, the goal of the Project is to provide LOS results that meet the acceptable criteria of the individual agencies for intersections and street segments under their jurisdiction.

Proposed Project Improvements

There will be two (2) full access driveways and two (2) limited access driveways for the proposed Project. There will be one (1) full access driveway (signalized) and one (1) right-in/right-out driveway along Avenue 17. The driveways along Avenue 17 will be limited to auto access only. The proposed Project includes right-of-way dedication for, and construction of, Sharon Boulevard, beginning at Avenue 17 and extending to a temporary cul-de-sac at the southern end of the Project site. There will be one (1) full access driveway and one (1) right-in driveway along Sharon Boulevard. Truck traffic will enter and exit the Project site on Sharon Boulevard at the full access driveway located south of Avenue 17. A full median break will be constructed in Sharon Boulevard to provide unrestricted movement out of the site. Access to the RV/Boat Storage area will be provided via a right-in one-way entrance. Exiting from the RV/Boat Storage area will utilize the full access driveway along Sharon Boulevard described above.

Trip Generation

As noted in Chapter 2, Project Description, the proposed Project components include the following:

- Travel Center with gas pumps and fast food restaurant;
- Stand alone rrestaurant;
- Tire Care;
- Hotel; and
- RV/Boat/Storage.

To assess the impacts that the Project may have on the surrounding street and highway segments and intersections, the first step is to determine Project trip generation. The most similar land uses to the project for which trip generates are provided in the 9th Edition is Land Use 945 "Gasoline Service Station With Convenience Market," Land Use 934 "Fast-Food Restaurant With Drive-Through Window," and Land Use 933 "Fast-Food Restaurant Without Drive-Through Window." Kimley-Horn and Associates, Inc. (KHA) prepared a traffic analysis in August 2012 for a proposed Love's Travel Stop in Flag City, California. As part of this study, KHA collected trip generation surveys at three similar travel center facilities in California (Ripon, Lost Hills, and Coachella) (see Appendix I). To ensure that the trips generated by the proposed Travel Center are representative for this project, the average number of observed rates for these facilities was applied to the proposed Project. The Project's trip generation for all other uses beside the travel

center was estimated using trip generation rates per the Institute of Transportation Engineers' (ITE*)* Trip Generation Manual, 9th Edition (2012).

The ITE trip generation manual is based on hundreds of trip generation surveys nationwide for a range of land use types. It is the most commonly accepted data source for trip generation rates. Generally, examining those numbers based on the peak-hour conditions are used in traffic assessments. An analysis of peak-hour conditions results in a more accurate identification of site traffic impacts. The ITE Manual provides a process for use by transportation professionals when estimating vehicular trip generation in built-up urban areas, incorporating the effects of site-specific, local, and area-wide land use and transportation characteristics on estimates of vehicular trip generation for proposed infill development. This process is based on the development and application of mode share and vehicle occupancy adjustment factors applied to conventional trip generation estimates using ITE-published rates. The ITE 9th Edition includes trip rates for a "Truck Stop" land use; however, these rates are based on just three samples from the State of Florida and are lower than empirical trip generation rates collected at truck stops in California. The most similar land uses to the project for which trip generates are provided in the 9th Edition is Land Use 945 "Gasoline Service Station With Convenience Market," Land Use 934 "Fast-Food Restaurant With Drive-Through Window," and Land Use 933 "Fast-Food Restaurant Without Drive-Through Window." The Project's estimated Daily, AM peak hour, and PM peak hour trips are shown in Table 3.13-10.

An Internal Trip Capture rate was applied to the proposed Project in accordance with the ITE Trip Generation Handbook (3rd Edition) (see Appendix I). The National Cooperative Highway Research Program (NCHRP) 684 Internal Capture Estimation spreadsheet was used as recommended in determining the internal capture rate that would be applied to the Project. Based on this method, the internal capture for the Love's Travel Center is 12 percent for the AM peak hour and 14 percent for the PM peak hour. These values were utilized in this study. Table 3.13-10 estimates an internal trip reduction of 12% for the AM peak hour and 14 percent for the PM peak hour considering reductions for multi-use or "captured" trips, which are trips that are "internal to the site" resulting in reductions at entrances, at adjacent intersections, and on adjacent roadways.

Table 3.13-10
Project Trip Generation

LAND USE	Quantity	DAILY TRIP ENDS (ADT)		AM PEAK HOUR					PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Travel Stop[1]	11,981 sq.ft	470 [2]	5,631	31.00	51:49	189	182	371	39.00	51:49	238	229	467
Auto Trips[3]			*3,942*			*142*	*147*	*289*			*169*	*158*	*327*
Truck Trips[4]			*1,689*			*47*	*35*	*82*			*69*	*71*	*140*
Fast Food with Drive Thru Restaurant (934)	4,400 sq.ft	496.12	2,183	45.42	51:49	102	98	200	32.65	52:48	75	69	144
Hotel (310)	81 Rooms	8.17	662	0.53	59:41	25	18	43	0.60	51:49	25	24	49
RV and Boat Storage Facility (151)	307 Storage Spaces	0.25	77	0.02	50:50	3	3	6	0.02	48:52	3	3	6
Truck Tire Shop (848)[5]	8,073 sq.ft	7.46	60	0.87	63:37	4	3	7	1.25	43:57	4	6	10
Subtotal Trip Generation			**8,613**			**323**	**304**	**627**			**345**	**331**	**676**
Subtotal Auto Trips			*6,864*			*272*	*266*	*538*			*272*	*254*	*526*
Subtotal Truck Trips			*1,749*			*51*	*38*	*89*			*73*	*77*	*150*
Internal Trip Reduction (12% AM / 14% PM)[6]			**1,034**			**39**	**36**	**75**			**48**	**46**	**95**
Internal Auto Trips			*824*			*33*	*32*	*65*			*38*	*36*	*80*
Internal Truck Trips			*210*			*6*	*5*	*11*			*10*	*11*	*15*
TOTAL TRIP GENERATION			**7,579**			**284**	**268**	**552**			**297**	**285**	**581**
Subtotal Auto Trips			*6,040*			*239*	*234*	*474*			*234*	*218*	*452*
Subtotal Truck Trips			*1,539*			*45*	*33*	*78*			*63*	*66*	*129*
Pass-By (15%)[7]			**808**			**32**	**32**	**64**			**31**	**29**	**60**

1 Trip rates are based on a survey of Love's Travel Stops in Coachella, Lost Hills, and Ripon, California

2 Daily trip rates based on ratio of P.M. Peak hour to Daily rates for Land Use 945 "Gasoline Service Station with Convenience Market" from ITE Trip Generation 9th Edition.

3 Passenger Vehicle percentages were obtained from a survey of a Love's Travel Stop in Ripon California. Based on the survey, 75%/81% of the inbound/outbound traffic in the a.m. peak hour and 71%/69% of the inbound/outbound traffic in the p.m. peak hour were passenger vehicles.

4 Truck percentages were obtained from a survey of a Love's Travel Stop in Ripon California. Based on the survey, 25%/19% of the inbound/outbound traffic in the a.m. peak hour and 29%/31% of the inbound/outbound traffic in the p.m. peak hour were trucks.

5 The ITE rate was reduced by 70% since the tire shop is for semi-trailer trucks only. The overall split between auto's and trucks generated by the Love's Travel Stop in Ripon, California is 70%/30% respectively. All trips generated by the Truck Tire Shop were assumed to be truck trips.

6 Internal trip percentage was estimated based on the ITE Trip Generation Handbook (3rd Edition).

7 A 15% Pass-By rate was applied (auto's only) to the Travel Stop and Fast-Food Restaurant Land Uses. The Trip Generation Handbook (3rd Edition) supports as high as 62% Pass-By for Land Use Code 945 and 50% Pass-By for Land Use Code 934. The Pass-By rate used for this analysis was reduced due to limited background traffic adjacent to the Project.

Without Mitigation

Implementation of the proposed Project will result in an increase in traffic that would exceed the target LOS standards as identified in the General Plan for various scenarios at multiple intersections. Intersections Projected to operate below or have movements Projected to operate below the adopted LOS standard are shown in Table 3.13-11.

Table 3.13-11
Intersection Operations

INTERSECTION	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM (YEAR 2016) NO PROJECT		NEAR-TERM (YEAR 2016) PLUS PROJECT		CUMULATIVE YEAR 2036 NO PROJECT		CUMULATIVE YEAR 2036 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. Avenue 17 / Airport Drive-Golden State Boulevard	C	AM	17.6	C	17.5	C	18.8	C	11.8	B	11.9	B
		PM	15.4	C	16.3	C	17.7	C	22.2	C	22.8	C
2. Avenue 17 / SR 99 SB Off Ramp	C	AM	20.7	C	13.9	B	23.0	C	4.1	A	5.1	A
		PM	24.5	C	15.8	C	**31.4**	**D***	5.7	A	7.4	A
3. Avenue 17 (EB & WB) / SR 99 SB On-Ramp	C	AM	--	A	--	A	--	A	--	A	--	A
		PM	--	A	--	A	--	A	--	A	--	A
4. Avenue 17 / SR 99 NB Ramps	C	AM	**>50.0**	**F***	**36.7**	**E***	**>50.0**	**F***	14.2	B	17.0	B
		PM	**>50.0**	**F***	21.8	C	**>50.0**	**F***	**45.2**	**D**	**71.3**	**E**
5. Avenue 17 / Walden Drive	C	AM	**31.6**	**D***	**32.2**	**D***	**34.7**	**D***	**>50.0**	**F+**	**>50.0**	**F+**
		PM	**36.9**	**E***	**39.0**	**E***	**42.1**	**E***	**>50.0**	**F+**	**>50.0**	**F+**
6. Avenue 17 / Project Driveway #1	C	AM	6.6	A			6.7	A	7.8	A	17.3	B
		PM	5.2	A			5.3	A	**35.9**	**D**	**66.4**	**E**
7. Avenue 17 / Project Diveway #2	C	AM	9.6	A			9.7	A			13.8	B
		PM	11.4	B			11.7	B			**32.0**	**D***
8. Avenue 17 / Sharon Boulevard	C	AM	**33.1**	**D***			**36.4**	**E***	24.9	C	29.0	C
		PM	**>50.0**	**F***			**>50.0**	**F+**	30.1	C	**50.1**	**D**
9. Sharon Boulevard / Project Driveway #3	C	AM	9.3	A			9.3	A			17.1	C
		PM	10.0	B			10.0	B			**28.0**	**D+**
10. Sharon Boulevard / Project Driveway #4	C	AM	--	A			--	A			--	A
		PM	--	A			--	A			--	A
11. Avenue 17 / Yeager Drive (Future Intersection)	C	AM							**>50.0**	**F+**	**>50.0**	**F+**
		PM							**>50.0**	**F+**	**>50.0**	**F+**

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded
For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled
+ Meets peak hour signal warrants.
* Traffic signal not warranted.
Note: Shaded cells signify intersection does not exist during analysis scenario.

Traffic conditions without the Project in the Year 2016 (Project Opening Day) were estimated by interpolating between the existing traffic volumes and the Cumulative Year 2036 No Project traffic volumes developed for this Project. However, improvements are planned at two intersections that improve the LOS in 2036. The following improvements at the Avenue 17 and SR 99 Interchange and the Avenue 17 at Sharon Boulevard intersection were assumed in accordance with the Project Study Report (PSR) prepared by Caltrans and the Sharon Boulevard infrastructure study.

- Widening the existing Avenue 17 overcrossing and overhead structures from an existing two-lane bridge to a six-lane bridge including the railroad bridge at the Southern Pacific Railroad. Avenue 17 would be widened to six-lanes from Airport Drive-Golden State Boulevard and Sharon Boulevard.

- Increase the off ramp storage and queuing capacity by adding lanes and lengthening the turn lane storage and signalizing the off ramp intersections.

- Reconfigure the Airport Drive/Golden State Boulevard intersection. This intersection is proposed to be right-in and right-out only; no left turn movements would be permitted.

- Signalization of the Avenue 17 at Sharon Boulevard intersection and ultimate intersection improvements.

In order to mitigate the Project's impacts, the Project may be required to build improvements that are identified under the 'Existing Plus Project' and 'Near-Term (Year 2016) Plus Project' conditions to improve identified LOS deficiencies. In addition, the proposed Project will be required to contribute a fair-share towards the costs of improvements that are identified for the Cumulative Year 2036 scenarios. It should be noted that Avenue 17 at Sharon Boulevard is the only study intersection that is included within the City's fee program.

Table 3.13-12 shows roadway segments that are expected to be below acceptable operating conditions for various scenarios. Results of the analysis show that one of the three roadway segments will fall below acceptable LOS through the year 2036. Potential mitigation measures are discussed below. The results of the analysis show that the proposed Project will significantly impact the Avenue 17 roadway segment between Sharon Boulevard and Walden Drive when comparing the Cumulative Year 2036 No Project and Plus Project scenarios.

Segment analysis was not completed for the short segments along Avenue 17 between Airport Drive and SR 99 SB Off-Ramp, SR 99 SB Off-Ramp and SR 99 NB Ramps, and SR 99 NB Ramps and Sharon Boulevard. HCM 2010 methodologies for segment analysis are typically applied to roadway segments that are 0.25 miles or greater in length. Roadway segment analysis for segments less than 0.25 miles in length is not generally accepted due to the proximity of intersections. The LOS experienced on roadway segments less than 0.25 miles is consistent with LOS operations at adjacent intersections. Therefore, results of the intersection analyses in the study area will determine the number of travel lanes on each segment given the short distance of the segments (less than 0.25 miles).

Impacts of the proposed Project would be considered ***potentially significant***.

Table 3.13-12
Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM (YEAR 2016) NO PROJECT		NEAR-TERM (YEAR 2016) PLUS PROJECT		CUMULATIVE YEAR 2036 NO PROJECT		CUMULATIVE YEAR 2036 PLUS PROJECT	
					VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Avenue 17														
SR 99 NB Ramps to Walden Drive	1 lane	EB	C	AM			265	C						
				PM			662	C						
	1 lane	WB		AM			713	C						
				PM			383	C						
Sharon Boulevard to Walden Drive	1 lane	EB	C	AM	259	C			279	C	616	C	630	C
				PM	617	C			668	C	1,659	C	1,677	C
	1 lane	WB		AM	708	C			729	C	**1,356**	**F**	**1,372**	**F**
				PM	373	C			401	C	**1,108**	**F**	**1,126**	**F**
Yeager Road to Airport Drive-Golden State Boulevard	1 lane	EB	C	AM							489	C	505	C
				PM							845	C	864	C
	1 lane	WB		AM							609	C	624	C
				PM							740	C	757	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

The ramp merge/diverge analysis for the SR 99/Avenue 17 interchange was based on the 2010 HCM and assumed the following inputs and parameters for the AM and PM peak hours:

- Free-flow speed (FFS) was set to 65 miles per hour (mph) for SR-99;
- Peak hour factor (PHF) was set to 0.92 for the SR 99 mainline. All other PHF's used are reflective of traffic counts conducted for this analysis; and
- Trucks/buses percentage was set to 16% along the SR 99 mainline

Results of the AM and PM peak hour ramp merge/diverge analysis at the SR 99/Avenue 17 interchange for all the study scenarios show that four of the five Merge/Diverge points at the SR 99 and Avenue 17 interchange will fall below acceptable levels of service through the year 2036. However, Cumulative Year 2036 impacts at four of the five Merge/Diverge points would occur due to cumulative growth, and would occur with or without the Project. HCS 2010 Worksheets are provided in the TIS (Appendix D of Appendix I).

With Mitigation

The existing roadway network may be mitigated to ease many of the impacts of the Project and projected future traffic through the year 2036. In two cases, impacts from the projected future traffic growth and Project traffic cannot be reduced with mitigation to acceptable LOS because of design constraints at specific intersections.

Recommended Roadway Improvements

INTERSECTIONS

Avenue 17 at SR 99 SB Off Ramp

- Existing Plus Project and Near-Term (Year 2016) Plus Project scenarios:
    - No improvements are recommended to achieve acceptable levels of service

This intersection is forecasted to operate at unacceptable LOS 'D' under 'Near-Term (Year 2016) Plus Project' conditions; however, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. Therefore, no improvements are recommended for the Project's contribution to traffic at the intersection.

Avenue 17 at SR 99 NB Ramps

- Existing Plus Project scenario:
    - No improvements are recommended to achieve acceptable levels of service
- Near-Term (Year 2016) Plus Project scenario:
    - No improvements are recommended to achieve acceptable levels of service
- Cumulative Year 2036 Plus Project scenario:
    - Widen the northbound approach to two left turn lanes and three right turn lanes (adding one right turn lane)

This intersection is forecasted to operate at unacceptable LOS 'F' under 'Existing Plus Project' and 'Near-Term (Year 2016) Plus Project' conditions; however, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. Therefore, no improvements are recommended for the Project's contribution to traffic at the intersection.

The improvements identified for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet Caltrans' acceptable LOS standard of 'C', with the exception of the PM peak hour for the 'Cumulative Year 2036 Plus Project' scenario. The improvements identified above will achieve an unacceptable LOS of 'D' during the PM peak hour for the Plus Project scenario. Though the improvement does not achieve Caltrans' acceptable LOS standard, it should be noted that the average delay in the PM peak hour for the Cumulative Year 2036 Plus Project scenario is 37.6 seconds, which is 2.6 seconds above the LOS 'C' threshold. An additional right turn lane would be needed to achieve an acceptable LOS. However, four (4) right turn lanes is not feasible since Avenue 17 (eastbound) to the east of the interchange would need

to be widened to four (4) travel lanes to accommodate the additional right turn lane. It is not anticipated that Avenue 17 would be widened beyond six (6) lanes according to the Project Study Report (PSR) prepared for the SR 99 at Avenue 17 interchange and various traffic impact studies.

Avenue 17 at Walden Drive (within Madera County jurisdiction)

- Existing Plus Project scenario:
    - No improvements are recommended to achieve acceptable levels of service
- Near-Term (Year 2016) Plus Project scenario:
    - No improvements are recommended to achieve acceptable levels of service
- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Install Traffic Signal

The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet the City of Madera's acceptable LOS standard of 'C'.

This intersection is forecasted to operate at unacceptable LOS 'D' (AM) and 'E' (PM) under 'Existing Plus Project' and 'Near-Term (Year 2016) Plus Project' conditions; however, this intersection does not meet the peak hour traffic signal warrant because the minor approaches do not carry enough traffic to justify signalization. Therefore, no improvements are recommended for the Project's contribution to traffic at the intersection for the 'Existing Plus Project' and 'Near-Term (Year 2016) Plus Project' condition.

Avenue 17 at Yeager Drive (future intersection)

- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Install Traffic Signal

Because Avenue 17 at Yeager Drive is a future intersection, there is no existing or near-term analysis. The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet the City of Madera's acceptable LOS standard of 'C.'

Avenue 17 at Project Driveway #1

- Cumulative Year 2036 Plus Project scenario:
    - Widen the southbound approach to one left turn lane, one through lane, and one right turn lane with overlap phasing (adding one right turn lane and overlap phasing)

This intersection at Avenue 17 and Project Driveway #1 was assumed to be signalized as described in the TIS, and was therefore initially analyzed with a signal. The improvements identified above for the Cumulative Year 2036 Plus Project scenario are sufficient to meet the City of Madera's acceptable LOS standard of 'C.'

Avenue 17 at Project Driveway #2

No improvements are recommended to achieve acceptable levels of service.

This intersection is forecasted to operate at unacceptable LOS 'D' (PM) under the 'Cumulative Year 2036 Plus Project' condition; however, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. It should be noted that the mirror approach at this intersection is on private property, so that any LOS deficiency will not occur on the public street. Therefore, no improvements are recommended for the Project's contribution to traffic at the intersection. The LOS deficiency is experienced in the northbound right movement (25 PM Peak hour vehicles exiting the development).

Avenue 17 at Sharon Boulevard

- Near-Term (Year 2016) Plus Project scenario:
  - Install Traffic Signal
- Cumulative Year 2036 Plus Project scenario:
  - Install an eastbound right turn overlap phase
  - Install a southbound right turn overlap phase

The improvements identified above for the Near-Term (Year 2016) Plus Project and Cumulative Year 2036 Plus Project scenario are sufficient to meet the City of Madera's acceptable LOS standard of 'C.'

This intersection is forecasted to operate at unacceptable LOS 'D' (AM) and 'F' (PM) for the 'Existing Plus Project' condition; however, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. Therefore, no improvements are recommended for the Project's contribution to traffic at the intersection for the 'Existing Plus Project' condition. The intersection, however, does meet the peak hour traffic signal warrant for the 'Near-Term (Year 2016) Plus Project' condition, and accordingly, improvements are recommended as noted above.

Sharon Boulevard at Project Driveway #3

- Cumulative Year 2036 Plus Project scenario:
    - Install Traffic Signal

The improvements identified above for the Cumulative Year 2036 Plus Project scenario are sufficient to meet the City of Madera's acceptable LOS standard of 'C.'

Sharon Boulevard at Project Driveway #3 will also provide access to a future commercial development located east of Sharon Boulevard. As a result, the storage length for the southbound left movement of the future commercial development was evaluated. It was estimated that the future commercial development would include approximately 300,000 square feet of building space. Utilizing Land Use Code 820 (Shopping Center) from the ITE Trip Generation Manual, it was determined that the future commercial development would generate approximately 288 AM Peak hour trips and 1,113 PM Peak hour trips. It was further estimated that approximately 21% of traffic generated from the future development would access the site via the southbound left turn movement at Sharon Boulevard and Project Driveway #3. As a result, it is estimated that approximately 38 AM Peak hour trips and 112 PM peak hour trips would utilize the southbound left movement. Utilizing the storage length methodology contained in Chapter 400 of Caltrans' Highway Design Manual, the southbound left storage length should be approximately 150-200 feet.

ROADWAY SEGMENTS

Avenue 17

- Cumulative Year 2036 No Project and Plus Project scenarios:

Sharon Boulevard to Walden Drive

Widen the westbound segment to two travel lanes (adding one travel lane)
The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet the City of Madera's acceptable LOS standard of 'C.'

SR 99 FREEWAY AND RAMPS

SR 99 SB Loop On-Ramp

- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Widen the ramp to accommodate two ramp lanes (adding one lane)
    - Widen the SR 99 mainline to three travel lanes in the southbound movement (adding one travel lane)

The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet Caltrans' acceptable LOS standard of 'C.'

SR 99 NB On-Ramp

- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Widen the ramp to accommodate two ramp lanes (adding one lane)

The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet Caltrans' acceptable LOS standard of 'C.'

SR 99 SB Off-Ramp

- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Widen the ramp to accommodate two ramp lanes (adding one lane)

The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet Caltrans' acceptable LOS standard of 'C.'

SR 99 SB On-Ramp

- Cumulative Year 2036 No Project and Plus Project scenarios:
    - Widen the SR 99 mainline to three travel lanes in the southbound movement (adding one travel lane)

The improvements identified above for the Cumulative Year 2036 No Project and Plus Project scenarios are sufficient to meet Caltrans' acceptable LOS standard of 'C.'

Table 3.13-13 illustrates the 2036 LOS for intersection operations Table 3.13-14 shows the 2036 LOS for road segment operations for which implementation of the recommended roadway improvements and mitigation measures apply.

Table 3.13-13
Intersection Operation with Mitigation

INTERSECTION	TARGET LOS	PEAK HOUR	NEAR-TERM (YEAR 2016) PLUS PROJECT		CUMULATIVE YEAR 2036 NO PROJECT		CUMULATIVE YEAR 2036 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS
Avenue 17 / SR 99 NB Ramps	C	AM			12.8	B	14.5	B
		PM			27.6	C	**37.6**	**D***
Avenue 17 / Walden Drive	C	AM			31.4	C	33.1	C
		PM			21.4	C	22.7	C
Avenue 17 / Project Driveway #1	C	AM			7.4	A	15.8	B
		PM			24.8	C	31.4	C
Avenue 17 / Sharon Boulevard	C	AM	7.7	A			24.3	C
		PM	7.7	A			29.2	C
Sharon Boulevard / Project Driveway #3	C	AM					4.7	A
		PM					6.2	A
Avenue 17 / Yeager Drive (Future Intersection)	C	AM			18.6	B	18.7	B
		PM			31.7	C	32.0	C

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

* With all reasonable improvements considered, the intersection does not meet the target LOS.

Table 3.13-14
Segment Operations with Mitigation

STREET SEGMENT	DIRECTION	TARGET LOS	PEAK HOUR	CUMULATIVE YEAR 2036 NO PROJECT		CUMULATIVE YEAR 2036 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS
Avenue 17							
Sharon Boulevard to Walden Drive	EB	C	AM				
			PM				
	WB		AM	1,356	C	1,372	C
			PM	1,108	C	1,126	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

In order to reduce the proposed Project's contribution to cumulative impacts to traffic, it is recommended that the Project contribute traffic impact fees, as determined by the City of Madera and Caltrans policy for the Cumulative Year 2036 scenarios. The payment of these fair-share fees would be used to help fund the applicant's fair-share percentage of the improvements discussed below to mitigate the proposed Project's contribution to cumulative traffic impacts to less-than-significant levels. Table 3.13-15 illustrates the equitable share responsibility for LOS improvements related to roadway capacity to the City of Madera and Caltrans facilities as described above. Table 3.13-16 illustrates the Project's contribution for the two Project driveways #1 and #3, which were determined by the City of Madera to be the sole responsibility of the proposed Project and the planned future development on the other side of the street.

Table 3.13-15
Equitable Fair-Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2036 PLUS PROJECT	FAIR SHARE PERCENTAGE
Avenue 17 / SR 99 SB Off Ramp	AM	484	175	1,583	15.9%
	PM	598	198	2,523	10.3%
Avenue 17 / SR 99 NB Ramps	AM	1,050	545	3,393	23.3%
	PM	1,044	644	5,125	15.8%
Avenue 17 / Walden Drive	AM	943	30	2,009	2.8%
	PM	937	36	2,811	1.9%
Avenue 17 / Sharon Boulevard	AM	933	252	3,021	12.1%
	PM	933	369	4,561	10.2%
Avenue 17 / Yeager Drive	AM	156	31	1,265	2.8%
	PM	156	36	1,858	2.1%
ROADWAY SEGMENTS					
Avenue 17					
Sharon Boulevard to Walden Drive	AM	692	16	1,372	2.4%
	PM	358	18	1,126	2.3%
SR 99 FREEWAY AND RAMPS					
Avenue 17					
SR 99 SB Loop On-Ramp	AM	498	128	1,153	19.5%
	PM	190	160	1,153	16.6%
SR 99 NB On-Ramp	AM	116	114	310	58.8%
	PM	85	142	430	41.2%
SR 99 SB Off-Ramp	AM	101	144	325	64.3%
	PM	172	162	536	44.5%
SR 99 SB On-Ramp	AM	95	0	249	0.0%
	PM	120	0	390	0.0%

Table 3.13-16
Equitable Fair-Share Responsibility at Project Driveways

INTERSECTION	PEAK HOUR	PROJECT TRIPS	TRIPS FROM FUTURE DEVELOPMENT THAT SHARE THE DRIVEWAY	TOTAL OF DEVELOPMENT TRIPS	PROJECT'S FAIR SHARE PERCENTAGE
Avenue 17 / Project Driveway #1	AM	580	356	936	62.0%
	PM	677	1,559	2,236	30.3%
Sharon Boulevard / Project Driveway #3	AM	221	89	310	71.3%
	PM	346	345	691	50.1%

Based on this analysis of traffic impacts related to the development of the Project site, it is anticipated that implementation of the proposed Project would exceed the acceptable LOS at several identified roadways operations. Mitigation Measures #3.13-1 through #3.13-3 are required to reduce impacts of the proposed Project. In some instances, with implementation of these measures, traffic would be reduced to acceptable LOS and, therefore, impacts would be reduced to a less than significant level. However, results of this analysis also indicate that because of design constraints at several intersections, implementation of traffic improvements in those locations would be infeasible and impacts from the projected future traffic growth plus Project traffic cannot be reduced to acceptable LOS. Therefore, implementation of the proposed Project is anticipated to reduce the effectiveness of the performance of the circulation system at those identified intersections.

It should also be noted that the improvements identified in the PSR for the Avenue 17 and SR 99 Interchange are, in large part, capacity increasing improvements. As identified in Section 3.5 of the TIS, there are several large developments that are approved or are pending in close proximity to the interchange which have yet to be constructed. These projects are projected to generate approximately 47,571 daily trips in addition to the underlying traffic growth in the Project area and the trips generated by the Project. In the absence of those developments, major improvements to the interchange would not be necessary. If funding through federal, state, or local taxes, fees assessments is not available when fees are assessed for these projects, all of the future development impacting the interchange would be responsible for constructing the improvements. Each development project would be required to contribute a fair-share towards the costs of improvements identified in the PSR. The City would calculate and assess a fair-share for each subsequent project based on the specific characteristics of that property. Alternatively, though no program currently exists, the City may choose to include the improvements in a broader fee program applied to new development.

Conclusion: This impact is ***significant***.

Mitigation Measure #3.13-1a: Prior to the occupancy, the Project applicant shall provide evidence to the Madera Community Development Department that the following road improvements have been completed to address Project-related traffic impacts during Existing Plus Project and Near-Term (Year 2016) Plus Project scenarios as follows:

Avenue 17 at Sharon Boulevard

- Near-Term (Year 2016) Plus Project scenario:
    - Install Traffic Signal

Mitigation Measure #3.13-1b: Prior to the issuance of building permits, the Project applicant shall provide the proposed Project's pro rata funding toward the affected roadways and intersections as required by the City of Madera, the County of Madera, and Caltrans. The proposed Project's proportionate share responsibility for the cost of the installation of all required road improvements in the year 2036 is calculated as follows:

Equitable Share = (Project Trips)/(Cumulative Year 2036 Plus Project Traffic – Existing Traffic)

Pro rata funding shall be paid to the City of Madera Engineering Department for implementation in the City Development Impact Fees Program of the County, as appropriate. A copy of the payment receipts shall be provided to the City of Madera Community Development Department.

Table 3.13-15 shows the equitable share responsibility for improvements to City of Madera and Caltrans facilities as described above. The equitable share responsibility shown in Table 3.13-15 is the result of LOS enhancements related to capacity. Avenue 17 at Sharon Boulevard is the only study intersection that is included within the City of Madera's fee program.

Traffic signals and other related improvements identified for the Avenue 17 at Project Driveway #1 and Sharon Boulevard at Project Driveway #3 intersections are only necessary to accommodate Project site access to the adjacent roadway network. There is planned future development on the other side of Avenue 17 and Sharon Boulevard that will also be served by the improvements identified at Project Driveway #1 and #3. City of Madera staff has indicated that the traffic signals and other related improvements at Project Driveway #1 and #3 shall be the sole responsibility of the proposed Project and the planned future development on the other side of each street. As a result, Table 3.13-16 has been prepared for the purpose of identifying the proposed Project's fair-share of improvements identified at Project Driveway #1 and #3.

Effectiveness of Mitigation: Implementation of the above mitigation measures will reduce impacts as the measures are completed. Because some traffic signal warrants will not be met under the 2016 scenario, these intersections may not meet the LOS of 'C' in that year, but would improve with implementation of mitigation measures. However, as shown in Table 3.13-13, one intersection will exceed applicable standards even after mitigation and no feasible improvements are available to reduce the traffic at that intersection to acceptable LOS. Moreover, except for the Avenue 17 at Sharon Boulevard intersection, which is included within the City of Madera's fee program, the additional improvements necessary to mitigate the Project's contributions to cumulative impacts at the locations identified in Table 3.13-15 for which the Project would pay its fair-share are either (1) not programmed into the City traffic impact fee program or any other funding program and therefore would rely on funding from sources other than the project applicant that have yet to be identified in order to be constructed, or (2) the intersections/roadways are under the jurisdiction of Caltrans, and the City of Madera cannot assure that necessary improvements would be installed as contemplated. Therefore, it cannot be assured that these impacts would be fully mitigated. This impact will remain ***significant and unavoidable***.

Impact #3.13-2 - Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways:

Construction

During temporary construction activities, it is estimated that the proposed Project would require a maximum of nine off-road equipment trips, approximately 148 worker trips, and 26 vendor delivery trips (including heavy trucks), per day (VRPA, pers. comm., 2015). It is not anticipated that the construction-related traffic would exceed capacity of the existing roadways; however, there is the potential to disrupt roadway services with the additional vehicles as well as slow-moving trucks delivering heavy equipment, especially during detention personnel shift changes. This is a potentially significant impact.

Operations

As noted in Impact 3.13-1 Table 3.13-10, illustrates that once operational the proposed Project would generate approximately 3,942 car trips and 1,689 truck trips on a daily basis. The additional proposed Project components (i.e., a fast food restaurant, truck tire shop and an RV/Boat storage facility) would generate an estimated 2,922 car trips and 60 truck trips daily. The total number of trips estimated with the implementation of the Project is anticipated to exceed the capacity of the identified circulation system even when the roadways are built to the identified standards. Mitigation Measures #3.13-1a, and #3.13-1b have been recommended to reduce Project-related operational traffic impacts. However, even with the implementation of the identified mitigation the impact remains significant.

Conclusion: The long-term operational impact is ***significant.***

Mitigation Measure #3.13-2: Prior to the issuance of grading, the Project applicant shall:

Prepare and submit a Construction Traffic Control Plan to City of Madera Community Development Department and the California Department of Transportation offices for District 6, as appropriate for any traffic control in Caltrans right-of-way, for review and approval. The Construction Traffic Control Plan shall be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and shall include, but not be limited to, the following issues:

- Timing of deliveries of heavy equipment and building materials;
- Directing construction traffic with a flag person;
- Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
- Ensuring access for emergency vehicles to the Project site;
- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;

- Maintaining access to adjacent property; and

- Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

Obtain all necessary permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize City-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the issued permits shall be submitted to the City of Madera Community Development Department.

Effectiveness of Mitigation: Mitigation Measure #3.13-2 would require the approval of a Construction Traffic Control Plan that would include timing large equipment deliveries before or after peak hours. With implementation of Mitigation Measure #3.13-2, construction at the project site would result in a less-than-significant increase in traffic in relation to the existing traffic load and capacity of the street system because of the anticipated extended construction schedule, the temporary nature of construction vehicle trips, and the projected low project trip generation potential during the construction phase for the site. Impacts to traffic during the construction phase of the proposed Project would be considered ***less than significant***.

With respect to operations, even with implementation of the above mitigation measure, due to design constraints at several intersections, impacts from the projected future traffic growth and Project traffic cannot be reduced to acceptable LOS. Also, the additional improvements necessary to mitigate the Project's contributions to cumulative impacts at the locations identified in Table 3.13-15 for which the Project would pay its fair-share are either (1) not programmed into the City traffic impact fee program or any other funding program and therefore would rely on funding from sources other than the project applicant that have yet to be identified in order to be constructed, or (2) the intersections/roadways are under the jurisdiction of Caltrans, and the City of Madera cannot assure that necessary improvements would be installed as contemplated. Therefore, although the need for mitigation is based on construction of all the proposed projects in the study, it cannot be assured that these impacts would be fully mitigated. Therefore, implementation of the proposed Project is anticipated to reduce the effectiveness of the City's congestion management plan at identified intersections. As such, traffic impacts would be considered ***significant and unavoidable***.

Impact #3.13-3 - Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks:

As discussed in Section 3.8 *Hazards and Hazardous Materials*, the Project site is located approximately one mile to the northeast of the Madera Municipal Airport. As noted in Section 3.8-6, Impact #3.8-6, the closest private airstrip to the Project site is the El Peco Ranch Airport, which is over eight miles to the southeast of the Project site. Implementation of the proposed Project will not result in a change in air traffic patterns.

Conclusion: ***No impact*** has been identified.

Mitigation Measures: No mitigation measures are required.

Impact #3.13-4 - Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment):

No obstacles to sight distance are expected to result from the proposed Project construction. No new design or features would be introduced that would result in transportation-related hazards or safety concerns. The traffic study prepared for the proposed Project as well as subsequent work by traffic engineers did not identify any traffic hazards that would result from implementation of the proposed Project. The Project site and surrounding area are relatively flat and the roads that will provide access to the site (Avenue 17 and Sharon Boulevard) are relatively straight, providing adequate sight distance for vehicles entering and leaving the site. Additionally, left turn lanes, signals and other roadway improvements will be installed where necessary to maintain traffic safety with the anticipated increase in vehicle trips.

During construction, the proposed Project would require the delivery of heavy construction equipment and building materials using area roadways, some of which may require transport by oversize vehicles. The use of oversize vehicles during construction could create a hazard to the public by limiting motorist views on roadways and by the obstruction of space, which is considered a potentially significant impact.

The need for and number of escorts, California Highway Patrol escorts, as well as the timing of transport, would be at the discretion of Caltrans and the City of Madera, and would be detailed in respective oversize load permits. To ensure that construction-related oversize vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles, mitigation has been included.

Conclusion: The use of oversize vehicles during construction could create a hazard to the public by limiting motorist views on roadways and by the obstruction of space, which is considered a ***potentially significant impact***.

Mitigation Measures: Implement Mitigation Measure #3.13-2; no additional mitigation is required.

Effectiveness of Mitigation: Mitigation Measure #3.13-2 would require that all oversize vehicles used on public roadways during construction obtain required permits and approval of a Construction Traffic Control Plan, as well as identify construction delivery times and vehicle travel routes in advance to minimize construction traffic during a.m. and p.m. peak hours. Travel planning would further reduce construction-related traffic and roadway hazards that would otherwise affect motorists on the public highways in the vicinity of the Project site. With mitigation the impact will be reduced to a level that is ***less than significant.***

Impact #3.13-5 - Result in inadequate emergency access:

The proposed Project includes right-of-way dedication for, and construction of, Sharon Boulevard, beginning at Avenue 17 and extending to a temporary cul-de-sac at the southern end of the Project site. Other Project design features include a dedicated right-turn pocket into the Project site on Avenue 17, and additional street improvements along the Avenue17 frontage, including installation of signalized intersections on Avenue 17, are also proposed. These road improvements will allow for easy access to the facility by first responders and emergency equipment. Additionally, all Project designs and engineering are required to comply with the Uniform Fire Code and City building regulations and standards to ensure adequate emergency access. The site plan will be reviewed by City staff and any necessary design revisions will be made to ensure adequate access to the facility.

In order to prevent or lessen potential traffic congestion and parking problems on the surrounding public streets that might impede emergency access to the facility by first responders, the proposed Project will comply with the off-street parking requirements of the Madera Zoning Ordinance Chapter 10-3.1202. Review of the final site plan by City staff will ensure that adequate parking is provided on the Project site. As noted in Chapter 2, Project Description, a total of 302 parking spaces will be provided, as follows:

- Restaurant: 66 spaces;
- Hotel: 70 spaces;
- RV Storage Facility: 9 spaces; and
- Travel Stop: 56 car spaces and 98 truck spaces.

As identified in Mitigation Measure #3.13-2, a Construction Traffic Control Plan would be required prior to construction of the proposed Project. The Construction Traffic Control Plan would, among other things schedule equipment deliveries outside peak traffic hours, and be devised so that construction would not interfere with emergency response or evacuation plans. The proposed Project would not interfere with emergency response or evacuation plans and emergency access to the Project site as a result of the proposed Project implementation.

Conclusion: With implementation of Mitigation Measure #3.13-2, this impact is considered ***less than significant***.

Mitigation Measures: Implement Mitigation Measure #3.13-2; No additional mitigation measures are required.

Impact #3.13-6 - Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks):

The proposed Project focuses on the construction and operation of a travel center, which would cater to the traveling public, as well as local residents. Proposed amenities include a hotel, restaurants, vehicle and tire repair shops, etc. Additionally, an RV and boat storage facility is planned on the site. As noted in Chapter 2, Project Description, the southwest corner of Avenue 17 and Sharon Boulevard will include a pedestrian plaza. Three 24-foot square, composition

shingled roof covered log pavilions with benches will provide rest and shelter for the city residents and visitors. The Project also proposes to construct curb, gutter and sidewalks along Sharon Boulevard.

The City of Madera has a comprehensive transportation system that includes a well developed system of pedestrian and bicycle routes throughout the city (Madera, 2009). As such, the proposed Project will support the city's alternative transportation plan, and encourage pedestrian and bicycle use in the area. Therefore, implementation of the proposed Project would not conflict with City adopted policies, plans or programs to support alternative transportation, would not result in an impact to alternative transportation.

Conclusion: This impact is ***less than significant***.

Mitigation Measures: No mitigation measures are required.

CHAPTER FOUR

EVALUATION OF ALTERNATIVES

CHAPTER FOUR – EVALUATION OF ALTERNATIVES

4.1 Introduction

CEQA requires that alternatives to the proposed project be discussed in the EIR. The analysis of this section is consistent with *CEQA Guidelines* Section 15126.6. The primary purpose of this section is to provide decision makers and the general public with a reasonable number of feasible project alternatives that could attain most of the basic project objectives, while avoiding or reducing any of the project's significant adverse environmental effects. Important considerations for these alternatives analyses are noted below (as stated in CEQA Guidelines Section 15126.6).

Section 15126.6(a) of the CEQA Guidelines requires EIRs to describe "... a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of CEQA also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis, as follows: "...because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."

According to *CEQA Guidelines* Section 15126.6(c), the range of potential alternatives to the proposed project:

> …shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record.

CEQA Guidelines Section 15126.6(f) observes that the range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. Alternatives that fail to meet fundamental project purpose

need not be addressed in detail in an EIR. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165-1167.) The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

In defining "feasibility" (e.g.," ... feasibly attain most of the basic objectives of the project ..."), CEQA Guidelines Section 15126.6(f)(1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the Madera City Planning Commission (or the City Council, upon an administrative appeal from the Planning Commission). (See Pub. Resources Code, § 21081(a)(3).) At the time of action on the project, the Planning Commission or City Council may consider evidence beyond that found in this EIR in addressing such determinations. The Commission or Council, for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint, and may reject an alternative on that ground provided that the Commission or Council adopts a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 998.)

4.2 Project Objectives

The range of alternatives selected is guided primarily by the need either to reduce or eliminate project impacts, and to achieve project objectives. The objectives of the Project are used to identify certain alternatives. As described in Chapter Two of this Draft EIR, the Project objectives are as follows:

The underlying purpose of the proposed project is to construct a Travel Center and related land uses on an approximately 25-acre parcel within the city limits of Madera abutting State Route (SR) 99, a major thoroughfare, to serve travelers and truck traffic already using SR 99 and to serve other potential customers within nearby areas. More specific project objectives include:

- To effectuate land use decisions embodied in the City of Madera General Plan and Zoning Ordinance by developing uses on Assessor's Parcel 013-240-003 consistent with, or conditionally permitted by, those contemplated by those planning documents;

- To develop a property of sufficient size to accommodate all of the following: a Travel Center of approximately 11,981 square feet that consists of a convenience store, drive-through restaurant with seating for 45 people, restrooms, and auto and truck fuel dispensing area able to accommodate approximately 2,000 cars and 600 semi-trucks per day; an 81-room hotel on one acre; a freestanding, drive-through restaurant of 4,400 square feet with indoor seating for approximately 32 people; an approximately 125,000 square foot RV/Boat/Self storage facility; and an approximately 8,073 square foot tire care facility;

- To provide visitor-serving facilities that maximize the benefits of the project site's proximity to SR 99 for all buildings and tenants and thereby minimize traffic generation on local streets and total vehicle miles traveled (and attendant air pollution and greenhouse gas generation) by visitors exiting and reentering that highway;

- To construct a facility with access to adequate existing or anticipated utility infrastructure to support planned operations;

- To create new jobs that can be filled wholly or partly by local residents; and

- To maximize tax revenues to the City of Madera.

4.3 Alternatives Selection

In accordance with the *CEQA Guidelines*, alternatives should be selected in order to reduce or fully mitigate potentially significant environmental impacts associated with the project as proposed. The proposed project would result in the following significant unavoidable impacts:

- Greenhouse gas emissions associated with ongoing operations;
- Water supply impacts associated with ongoing operations; and
- Traffic impacts associated with ongoing operations.

Accordingly, alternatives to the proposed Project were chosen specifically for their ability to address, and reduce to the extent feasible**,** these potential significant environmental impacts.

4.3.1 ALTERNATIVES CONSIDERED AND REJECTED

This Draft EIR has considered and rejected the offsite, or alternative site, alternative as both infeasible and unnecessary from an impact reduction standpoint. The following excerpts from the *CEQA Guidelines* provide direction relative to the analysis of an alternative site. *CEQA Guidelines* Section 15126.6(a) states:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessens any of the significant effects of the project…

CEQA Guidelines Section 15126.6(f)(2) provides the following specific guidance as to when an EIR must include alternative locations.

> 2) Alternative locations.
>
> (A) Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
>
> (B) None feasible. If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location.
>
> (C) Limited new analysis required. Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 573).

The only alternative considered but rejected was an alternative site. The an alternative site was considered and rejected due to the key objective of the proposed Project, which is to construct travel center that caters to motorists, particularly drivers of tractor trailers, and must be located within the city limits of Madera immediately adjacent to SR 99 and must be located in an area zoned for heavy commercial use. Because of this, developing the same proposed Project on an alternative site within the City of Madera result in the same or similar impacts to traffic, air quality, and water supply/groundwater and, therefore, would be unlikely to avoid or lessen any of the significant and unavoidable impacts of the proposed Project. Further, the applicant determined that the travel center needs to located in an area where it could maintain a target distance from other similar travel centers. Given the limited number of highway interchanges in the City of Madera and the unincorporated county, the proximity of similar facilities in the area, and in light of zoning considerations, no alternative site options were identified that would reduce the proposed Project's significant impacts and meet the Project objectives.

4.4 Alternatives Analyzed

The following sections present a description of the alternatives considered and an analysis of the alternatives in the context of the *CEQA Guidelines*. This EIR includes an evaluation of the following alternatives:

- No Project Alternative;
- Reduced Traffic Alternative; and
- Reduced Water Demand Alternative

These alternatives are summarized in the next section and compared with the proposed Project. For each resource topic there is a description of how the potential environmental impact compares to that of the proposed Project. The difference is characterized as either ***less*** impact, ***similar*** impact, or ***greater*** impact. This chapter includes an analysis of the comparative environmental superiority of the various alternatives, as required by CEQA.

4.4.1 NO PROJECT ALTERNATIVE

CEQA Guidelines Section 15126.6(e) requires every EIR to include a "No Project Alternative." "The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." In general, this alternative should discuss "existing conditions…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The manner in which a No Project Alternative shall be composed depends on the nature of the project at issue. "When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the 'no project' alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan" (*CEQA Guidelines*, Section 15126.6(e)(3)(A)).

In contrast, "[i]f the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment" (Section 15126.6(e)(3)(B)).

For this analysis, the No Project Alternative is not preservation of the Project site in its current undeveloped condition. That is considered a highly unlikely outcome, since the site is zoned for commercial use, is located at a major interchange along SR 99, and previous proposals for commercial development have been submitted, including certification of an EIR. The City fully anticipates that, in the event the Madera Travel Center project is not approved or the application is withdrawn, another application would be submitted in the near future proposing commercial development. As such, this alternative is based in the assumption that the No Project alternative would consist of a development application whose components are limited to those uses identified in the Madera Zoning Ordinance as Permitted Uses (no use permit required) in either the C-1 or C-2 zoning districts. These uses include: bakery, bank, barber shop, department store, drug store, florist, food store, hardware store, hobby supplies and crafts, pharmacy, service station, restaurant, and automobile parts and supply store.

Aesthetics

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would likely include more building coverage than is included in the proposed project, as the proposed project includes extensive areas for auto and large truck travel and parking, as well as RV and boat storage. However, all buildings and site design would be subject to the City's design review process. Therefore, potential aesthetic impacts would be ***similar*** to those of the proposed Project. Potential impacts on scenic resources would be ***less than significant***. Potential impacts related to light and glare would be ***less than significant with mitigation***.

Agriculture and Forestry Resources

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would have ***similar*** impacts as the proposed Project, as no changes would occur to lands zoned for agricultural use. Potential impacts on farmlands and on Williamson Act lands would be ***less than significant***, as would impacts on forestry resources. Farmland conversion impacts would also be ***less than significant***.

Air Quality

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would result in different air quality impacts than those associated with the proposed Project. Under the No Project alternative, a mix of primarily retail commercial uses would occupy the site, and patrons would be shoppers primarily traveling in light duty vehicles, rather than tractor trailer trucks. The proposed Project would have greater emissions of diesel particulates and other toxins from the tractor trucks than the emissions from light duty, gasoline vehicles. Therefore, although the No Project alternative could be a destination that would attract a greater number of local residents, diesel emissions would be lower and less toxic than with the proposed Project. For example, in a comparison of heavy duty gasoline vehicles and the same sized diesel vehicles (USEPA 2008), the gasoline vehicle produces approximately 0.051 grams per mile of PM10, while the diesel vehicle produces 0.219 grams per mile of PM10. The comparison is even more significant when light duty gasoline vehicles are compared with trailer trucks using diesel. The air quality impact of the No Project alternative is ***less*** than that of the proposed Project for all factors. The No Project alternative is ***less than significant*** for all factors.

Health Risk Assessment

The Health Risk Assessment found that the proposed project would generate TAC emissions from diesel truck operations and gasoline fuel station operations. TAC emissions would also occur if one of the restaurants included char broiling, which is not anticipated. The proposed project is expected to generate 1,539 daily truck trips and 6,040 daily automobile trips generated from the Truck Stop. It is likely that under the No Project alternative, a fewer number of truck trips and greater number of automobile trips would be generated. Therefore, particulates associated with diesel vehicles would be reduced, although TAC emissions from automobiles could increase. The Health Risk Assessment prepared for the proposed Project calculated the cancer risk from TAC emissions at the nearby homes would be as high as 37.3 per million persons. Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would have ***less*** impacts as the proposed Project. Therefore, the No Project alternative would result in a ***less than significant*** cancer risk impact with the implementation of mitigation measures.

It should also be noted that the Health Risk Assessment also analyzed the local criteria pollutant concentrations of NOx, ROG, PM10, PM2.5, and CO and found that all pollutants would result in less than significant concentrations at the nearby homes. The No Project alternative would be anticipated to reduce the local criteria pollutant concentrations and would also result in ***less than significant*** concentrations at the nearby homes.

Biological Resources

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would result in the majority of the site being covered with buildings and pavement – possibly more than under the proposed Project - leaving only limited landscaped areas. The potential impacts to existing biological resources of the site would be ***similar*** to those of the proposed Project. Potential adverse impacts on biological resources would be ***less than significant with mitigation*** under the No Project alternative. The No Project alternative would have ***no impacts*** on riparian/sensitive habitat, wetlands, migratory fish and wildlife, or any other biological issue.

Cultural Resources

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would result in the majority of the site being covered with buildings and pavement, leaving only limited landscaped areas. The potential impacts to heretofore undiscovered (i.e., buried) cultural resources of the site would be ***similar*** to those of the proposed Project. The No Project alternative would have impacts on historic resources, archaeological resources, paleontological, and human remains that are ***less than significant with mitigation***.

Geology, Soils and Seismicity

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would result have ***similar*** impacts to geology, soils, and seismicity as the proposed Project. The No Project alternative would have ***no impact*** related to unstable soils and mineral resources.

Potential impacts related to seismicity would be ***less than significant***, and potential impacts related to erosion would be ***less than significant with mitigation***.

Greenhouse Gases

As identified in Section 3.7, with mitigation, based on the available SJVAPCD standards, the proposed Project would reduce greenhouse gas emissions over the 29 percent from business as usual (BAU) threshold. However because this standard is under review, the Project impacts are conservatively considered to be significant and unavoidable. If the site were developed with retail operations without any project design features (PDFs), the affects to greenhouse gas emissions could be greater than the Project. However, the No Project Alternative would have a ***similar*** impact as the proposed Project with the implementation of PDFs that would typically be applied to any development proposed on the site. For the same reasons identified with respect to the proposed project itself, development under the No Project alternative would also have ***significant and unavoidable impacts*** related to the generation of greenhouse gases.

Hazards and Hazardous Materials

Development of the site with permitted uses allowed in the C-1 and C-2 zoning districts would allow a variety of uses, some of which may handle and sell routine household hazardous materials. Development under the No Project alternative would result in potentially ***greater*** hazards and hazardous materials impacts as the proposed Project, since the uses might cater more to the need for homeowner supplies as might be found in a home improvement center or hardware store. The No Project alternative would have potential hazards and hazardous materials impacts that are ***less than significant with mitigation***. Because of its location, and the types of development that could occur if the Project were not developed, the No Project alternative would have ***no impact*** to schools and airstrips, and ***less than significant*** impacts to a listed hazardous site, an airport, an adopted emergency plan, and wildland fire.

Hydrology and Water Quality

Development of the site under the No Project alternative would likely result in the majority of the site being converted to impervious surfaces like the proposed Project; therefore, construction impacts would be similar to the proposed Project. From an operational perspective, development under the No Project alternative would result in fewer diesel tractor trailers being on the site with reduced potential for routine diesel spills; however, site patrons would travel to the site using other types of motor vehicles, which would also have potential water quality impacts. As with the proposed Project, all potential water quality impacts would be mitigated by standard requirements. As such hydrology and water quality impacts would be ***similar***. The No Project alternative would have potential water quality and drainage impacts that are ***less than significant with mitigation*** and ***less than significant*** flood hazards. There would be ***no impact*** related to 100-year flood zones and potential inundation. Potential impacts on groundwater supplies would be ***significant and unavoidable***.

Land Use and Planning

The project site is zoned C-2 for heavy commercial uses. Any proposed development would be required to comply with the zoning ordinance, making potential impacts to land use and planning ***similar*** to that of the proposed project. The No Project alternative would have ***no impact*** on habitat conservation plans and natural community conservation plans and would have a ***less than significant*** impact associated with division of a community or conflict with a land use plan.

Noise

Development of the site with uses that are consistent with the C-1 and C-2 zoning districts would involve grading and construction activities comparable to that of the proposed project. Regarding long-term operations, the No Project alternative would result in a wide range of uses, many of which could result in increased noise impacts. The No Project alternative would significantly reduce the volume of diesel-powered tractor trailers, thereby resulting in ***less*** vehicle noise impacts compared to the proposed Project. Potential impacts associated with exposure to excessive noise would be ***less than significant with mitigation*** for the No Project alternative. Other potential noise impacts would be ***less than significant***. There would be ***no impact*** associated with noise from a private airstrip.

Public Services and Utilities

Under the proposed Project, impacts associated with long-term water demand were determined to be significant and unavoidable, even with mitigation. While development of the site with uses allowed by the C-1 and C-2 zoning district will have high water demands associated with landscaping and potable needs, should the site be developed with uses that have relatively lower water demands than the restaurant and hotel proposed. The No Project alternative would have ***less*** impact than the proposed Project. However, if retail operations are developed, as is assumed elsewhere for this alternative, the impact to water supply would be ***greater,*** and would remain ***significant and unavoidable.***

Any project would be required to pay development fees for police and fire services to offset the increased need. Retail development would be likely to include more businesses operating during only daylight hours, and with the possible exception of restaurants, fewer late-night or over-night businesses. These services would be expected to require less of an increase in police services than would the Project. However, the need for fire services could remain at the same level as the proposed Project, depending on building size and use. The need for fire and police services would have ***similar*** impact to that of the Project, and would remain ***less-than-significant impact.*** The No Project alternative would result in a decreased need for wastewater facilities, as retail use would require less wastewater than the Project. The No Project alternative would have ***less*** impact than the Project. The impact would be ***less than significant.*** Storm water drainage is subject to State and federal regulations, which typically require the installation of on-site retention basins of other facilities. The No Project alternative would have ***less*** impact than the Project. This impact is ***less than significant***.

Transportation and Traffic

Under the proposed Project, traffic on the northbound SR 99 ramps would operate at LOS 'D' (PM peak hours) in 2036. Because the intersection does not meet the peak hour traffic signal warrant, no improvements are recommended here. Development of the site with uses allowed under the C-1 and C-2 zoning district would likely attract motorists from SR 99, like the proposed Project, but would also likely attract a higher percent of traffic from the surrounding community. Those traffic patterns going to and leaving the site would be similar to that of the proposed Project, with perhaps less SR 99 ramp traffic volume and greater volume from local streets. Although this would be likely to result in less trailer truck traffic, it could result in greater passenger car traffic. It is therefore likely that the same mitigation measures would be required, and conflict with transportation plan and congestion plans would remain ***significant and unavoidable***. Under the scenario described under the Air Quality impacts, the No Project alternative would likely result in ***similar*** traffic level of service impacts to the proposed Project for air traffic patterns (***no impact***), and hazard design and emergency response (***less than significant***).

Summary and Determination

Impacts to aesthetics, agriculture and forestry, biological resources, cultural resources, geology/soils/seismicity, greenhouse gases, hydrology/water quality, land use, and traffic are similar under the No Action alternative as they would be under the proposed Project. The No Action alternative would have greater hazards and water supply impacts and fewer air quality, noise, public utility, and traffic impacts. The No Action alternative would meet project objectives to develop uses on the site consistent with, or conditionally permitted by, the City of Madera General Plan and Zoning Regulations. This alternative also meets the objectives to construct a facility with access to adequate existing or anticipated utility infrastructure, as well as to create new jobs. Depending on the types and density of development under the No Project alternative, it could potentially meet the objective to maximize tax revenues to the City of Madera. Because the No Project alternative is likely to include businesses that appeal to both visitors and residents, there could be greater automobile traffic on local streets from residents traveling to and from the site. The businesses on the project site are likely to attract fewer large trucks from SR 99, but would likely have more automobile traffic. However, this alternative would neither reduce total vehicle miles traveled nor reduce air pollution and greenhouse gases. Neither will the No Project alternative meet the objective to construct a Travel Center that could serve 2,000 autos and 600 trucks daily with fuel and a tire care facility in addition to hotel, restaurant, and convenience store facilities.

4.4.2 REDUCED TRAFFIC ALTERNATIVE

Chapter Three of this EIR identified significant and unavoidable impacts to traffic resulting from the proposed Project. Because the traffic signal warrant would not be met, no mitigation measures were identified sufficient to reduce impacts to a less-than-significant level at the Ave 17/SR 99 interchange northbound ramps in 2016. The northbound ramps have an existing LOS of 'D' (AM peak hour) and 'C' (PM peak hour), and with the Project would have an LOS of 'F' in year 2016 (see Table 3.13-11). The Reduced Traffic alternative is intended to improve the

LOS to 'E' (AM peak hour) and 'D' (PM peak hour) in 2016, which will also improve the LOS through 2036. To achieve the necessary reduction in vehicle trip generation sufficient to meet this goal, this alternative would reduce the size of the proposed Project to a travel center of one-half the original size (to 5,990 square feet), with no hotel and no stand alone restaurant with drive through. The tire shop, truck area, RV and boat storage facility, and other Project features would remain the same.

Aesthetics

Under the Reduced Traffic alternative the amount of building coverage on the site would be reduced. However, since all architecture and site design will be subject to City design guidelines and design review, the impact will be ***similar*** to that of the proposed Project. Potential impacts on scenic resources would be ***less than significant***. Potential impacts related to light and glare would be ***less than significant with mitigation***.

Agriculture and Forestry Resources

The Reduced Traffic alternative would allow for development of the same parcel as the proposed Project. Therefore, although structures would be smaller and fewer in number than with the Project alternative, the Project site would not be available for use for agricultural purposes. Instead, it is currently designated as "Urban and Built-up Land" by the FMMP, which is land used for residential, industrial, institutional, or other non-agricultural purposes. It is also zoned by the City as C2 or Heavy Commercial use, which precludes agricultural use. Development of the site with less building square footage would have ***similar*** impacts as the proposed Project on agricultural and forestry resources. Potential impacts on farmlands and on Williamson Act lands would be ***less than significant***, as would impacts on forestry resources. Farmland conversion impacts would also be ***less than significant***.

Air Quality

The Reduced Traffic Alternative was devised to reduce traffic impacts at the Avenue 17/SR 99 northbound ramps associated with the proposed Project by eliminating the hotel and the stand alone restaurant, and by decreasing the size of the travel center. With these changes to the proposed Project, air emissions from vehicle exhaust, odors, and light and glare would be ***less*** than those of the proposed Project. Potential adverse impacts on air quality, odors and light/glare would be ***less than significant*** under the Reduced Traffic alternative.

Health Risk Assessment

The Health Risk Assessment found that the proposed Project would generate TAC emissions from diesel truck operations, gasoline fuel station operations, and from restaurant cooking activities. The Reduced Traffic alternative would generate 796 daily truck trips, which equates to a 51 percent reduction when compared to the 1,539 daily truck trips generated from the proposed Project. The Reduced Traffic alternative would result in the Travel Stop generating 1,971 daily automobile trips, which equates to 32.6 percent of the 6,040 daily automobile trips generated from the Truck Stop in the Preferred Alternative. Therefore, the Reduced Traffic alternative would be anticipated to generate approximately less than 50 percent of the TAC

emissions associated with gasoline fuel station operations. In addition, the Reduced Traffic alternative would result in one less fast food restaurant, which would reduce potential cooking-related TAC emissions by approximately 50 percent.

As detailed above, each source of TAC emissions would be reduced by a minimum of 50 percent. The Health Risk Assessment prepared for the Preferred Alternative calculated the cancer risk from TAC emissions at the nearby sensitive receptors would be as high as 37.3 per million persons. Based on a 50 percent reduction of TAC sources for the Reduced Traffic alternative, it is anticipated that the maximum cancer risk would be as high as 18.7 per million persons, which is within the SJVAPCD's cancer risk threshold of 20 per million persons. Therefore, the Reduced Traffic alternative would result in a ***less than significant*** cancer risk impact and Mitigation Measures 1, 2, and 3 would not be required for the Reduced Traffic alternative.

It should also be noted that the Health Risk Assessment also analyzed the local criteria pollutant concentrations of NOx, ROG, PM10, PM2.5, and CO and found that all pollutants would result in less than significant concentrations at the nearby homes. The Reduced Traffic alternative would be anticipated to reduce the local criteria pollutant concentrations by approximately 50 percent as well and would also result in ***less than significant*** concentrations at the nearby homes.

Biological Resources

While development under the Reduced Traffic alternative would result in less building square footage and potentially more landscaped area, the majority of the site would be graded and covered with buildings and pavement, leaving only limited landscaped areas. There would be no appreciable increased benefit to biological resources. The potential impacts to existing biological resources of the site would be ***similar*** to those of the proposed project. Potential adverse impacts on biological resources would be ***less than significant with mitigation*** under the Reduced Traffic alternative. The Reduced Traffic alternative would have ***no impacts*** on riparian/sensitive habitat, wetlands, migratory fish and wildlife, or any other biological resource.

Cultural Resources

Development of the site under the Reduced Traffic alternative would result in the majority of the site being graded and covered with buildings and pavement. The potential impacts to heretofore undiscovered (i.e., buried) cultural resources at the site would be ***similar*** to those of the proposed Project. The Reduced Traffic alternative would have impacts on historic resources, archaeological resources, and human remains, and paleontological resources that are ***less than significant with mitigation***.

Geology, Soils and Seismicity

Development of the site under the Reduced Traffic alternative would have slightly ***less*** impact to geology, soils, and seismicity than the proposed Project because there would be less ground disturbance and construction, and fewer buildings and occupants would be subject to seismic impacts. The Reduced Traffic alternative would have ***no impact*** related to unstable soils and mineral resources. Potential impacts related to seismicity would be ***less than significant***. Potential impacts related to erosion would be ***less than significant with mitigation***.

Greenhouse Gases

Reduction in the size and number of buildings would reduce potential operational greenhouse gases. The proposed Project's impacts were reduced through mitigation and the Reduced Traffic alternative would also be required to implement mitigation measures to reduce greenhouse gas emissions. The Reduced Traffic alternative would result in potential impacts that are ***less*** than those of the proposed Project. Development under the proposed project would have ***significant and unavoidable impacts*** related to the generation of greenhouse gases. Even though the Reduce Traffic Alternative would generate fewer GHGs, the impacts would be ***significant and unavoidable*** for the same reasons provided for the proposed project.

Hazards and Hazardous Materials

Development of the site under the Reduced Traffic alternative would allow a variety of uses, some of which may handle and sell routine hazardous materials. While there would be less square footage of buildings on the site, potential impacts would be ***similar*** to those of the proposed Project. The Reduced Traffic alternative would have potential hazards and hazardous materials impacts that are ***less than significant with mitigation***. Because of its location, and the types of development that could occur if the Project were not developed, the No Project alternative would have ***no impact*** to schools and airstrips, and ***less than significant*** impacts to a listed hazardous site, an airport, an adopted emergency plan, and wildland fire.

Hydrology and Water Quality

Development of the site under the Reduced Traffic alternative would have ***less*** impacts to hydrology, water quality, and groundwater recharge than the proposed Project because there would be less ground disturbance and construction, and fewer buildings, reducing run-off and potential for water quality impacts. Additionally, the Alternative would have ***less*** impact to groundwater recharge if there were smaller and fewer construction pads, and therefore less impervious surface area. With implementation of mitigation measures, the Project would have ***less than significant*** impacts to violation of water quality standards; would not alter drainage patterns; or create or contribute runoff or otherwise degrade water quality. The Reduced Traffic alternative would have ***less than significant impacts with mitigation*** and ***less than significant*** for flood hazards. There would be ***no impact*** related to 100-year flood zones and potential inundation. The proposed Project water use included 10,000 gallons per day (gpd) for the Travel Center, 5,000 gpd for the second restaurant, 5,300 gpd for the hotel, and 13,500 gpd for all outside (landscaping) use. It is estimated that, with no hotel, no stand alone restaurant, and a travel center one-half the size of the proposed Project, instead of a total need for 20,300 gallons per day (gpd) of water (see Section 3.12) for indoor use, water use would be reduced to approximately 5,000 gpd for indoor use: a reduction of almost 75 percent. The need for water for landscaping, estimated at 13,500 gpd under the proposed Project, would also be reduced significantly. However, the Project would still require increased groundwater production and would therefore contribute to overdraft of the Madera Subbasin. Potential impacts on groundwater supplies would be ***significant and unavoidable***.

Land Use and Planning

The project site is zoned C-2 for heavy commercial uses. Under the Reduced Traffic alternative all proposed development would be required to comply with the zoning ordinance, making potential impacts to land use and planning ***similar*** to that of the proposed Project. The Reduced Traffic alternative would have ***no impact*** on habitat conservation plans and natural community conservation plans and would have a ***less than significant*** impact associated with division of a community or conflict with a land use plan.

Noise

Development of the site under the Reduced Traffic alternative would result in less building square footage, so that the construction duration would be somewhat less. Because reducing of traffic volumes by one half will generally result in a 3 dBA decrease in traffic noise, the reduction of noise during the construction phase are estimated to be approximately 0.5dBA. By reducing building square footage, there is generally a reduction in vehicle traffic and associated noise during the operations phase of approximately 1.0 dBA. Potential operational noise impacts would generally be ***less*** than under the proposed Project. Potential impacts associated with exposure to excessive noise would be ***less than significant with mitigation*** for the Reduced Traffic alternative. Other potential noise impacts would be ***less than significant***. There would be ***no impact*** associated with noise from a private airstrip.

Public Services and Utilities

By reducing building size, the Reduced Traffic alternative would reduce demand for public utilities. The potential impacts of this alternative are therefore ***less*** than those of the proposed Project. The Reduced Traffic alternative would have potential impacts on police and fire services, stormwater, and solid waste that are ***less than significant***. Because of the decreased use of water, impacts of wastewater would be ***less than significant.*** Despite a 70 percent reduction in water, and because the Project will still contribute to the overdraft condition of the Madera Subbasin, the potential impacts associated with increased water demand would remain ***significant and unavoidable***.

Transportation and Traffic

The Reduced Traffic alternative was devised in part to reduce traffic impacts at the Avenue 17/SR 99 northbound ramps associated with the proposed Project by reducing the square footage of the Travel Center structure, and eliminating the hotel and stand alone restaurant on the site. The potential traffic LOS impacts of this alternative were improved from 'F' to 'E' during AM peak hours and from 'F' to 'D' during PM peak hours for the Existing Plus Project scenario. Traffic LOS would be improved under this scenario, and therefore, impacts to LOS are ***less*** than those of the proposed Project. Under this alternative, daily Project AM trips would be reduced from 545 to 175 and daily Project PM trips would be reduced from 644 to 215. However, the City's target LOS is 'C' and current conditions without the Project are 'D': therefore, although the impacts to LOS would be less under this alternative than under the proposed Project, the LOS would still be negatively affected by the Project. Therefore, the impact to traffic will remain

significant and unavoidable under this alternative, even with the implementation of mitigation requiring the payment of a fair share for impacts to intersections (see Table 4-1).

Table 4-1
Intersection Operations with Mitigation

INTERSECTION	TARGET LOS	PEAK HOUR	NEAR-TERM (YEAR 2016) PLUS PROJECT		CUMULATIVE YEAR 2036 NO PROJECT		CUMULATIVE YEAR 2036 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS
Avenue 17 / SR 99 NB Ramps	C	AM			12.8	B	14.5	B
		PM			27.6	C	**37.6**	**D***
Avenue 17 / Walden Drive	C	AM			31.4	C	33.1	C
		PM			21.4	C	22.7	C
Avenue 17 / Project Driveway #1	C	AM			7.4	A	15.8	B
		PM			24.8	C	31.4	C
Avenue 17 / Sharon Boulevard	C	AM	7.7	A			24.3	C
		PM	7.7	A			29.2	C
Sharon Boulevard / Project Driveway #3	C	AM					4.7	A
		PM					6.2	A
Avenue 17 / Yeager Drive (Future Intersection)	C	AM			18.6	B	18.7	B
		PM			31.7	C	32.0	C

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded
For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.
* With all reasonable improvements considered, the intersection does not meet the target LOS.

Summary and Determination

Compared to the proposed Project, the Reduced Traffic alternative results in reduced impacts in seven topic areas: air quality (including health risks), geology/soils/seismicity, greenhouse gas, hydrology/water quality, noise, public services and utilities, and traffic and transportation. There are similar impacts in six topic areas: aesthetics, agricultural and forestry, biological, cultural, hazards/hazardous materials, and land use. The alternative would result in no increased environmental impacts. It would meet all but two of the project objectives. One objective it does not fully meet would be partially met: a travel center would be developed, but the size of it would be reduced below the size described in the objectives, with no hotel and stand alone restaurant. Additionally, if the proposed Project is intended to maximize tax revenues to the City of Madera, the less intensive use of the site under the Reduced Traffic alternative would not accomplish this objective.

4.4.3 REDUCED WATER DEMAND ALTERNATIVE

Chapter Three determined that, even with water conservation measures proposed by the applicant and after mitigation included in Section 3.12, the impact on water demand would remain significant and unavoidable. The proposed Project is expected to use a total of 33,800 gpd or 37.9 acre-feet per year of water, including approximately 5,300 gpd for the hotel (65 gpd per room indoor use). This alternative is intended to specifically address water impacts by

further reducing demands associated with operation of the proposed Project. This alternative is intended to respond to the Governor's April Drought Declaration and statewide water usage limitations per Executive Order B-29-15; be consistent with the Madera Regional Groundwater Management Plan; the Integrated Regional Water Management Plan; and with rules or regulations adopted by the Madera Groundwater Authority, pursuant to AB 3030, the Sustainable Groundwater Management Act. (Water Code, § 10750(a)). This alternative would reduce the size of the hotel from 81 to 40 rooms and would further reduce water demand associated with the project's landscape irrigation. Reducing the number of hotel rooms would achieve water savings by reducing water used for daily laundry, cleaning, showers, and other uses. Based on the estimates provided above an average of 65 gallons per room or 2,600 gallons would be saved daily. To reach a goal of a 10 percent water reduction under this alternative, an additional 1,500 gallons of water per day would need to be reduced through reducing the square footage of landscaped areas that require regular irrigation, using efficient irrigation systems, and using only drought-tolerant plant species (e.g. xeriscape). These actions would reduce peak water usage by 10 percent beyond that which can be achieved through the existing State's 2015 Model Water Efficient landscape Ordinance (MWELO). The Project proponent would be able to select one or more water conservation methods associated with building operation or landscaping to meet the target usage reduction.

Aesthetics

The Reduced Water Demand Alternative was devised to specifically reduce operational water demand associated with long term use of the site. Reducing the size of the hotel and altering the landscape design would change the appearance of the site, but would have no change in aesthetic impacts, since the City's design review requirements would apply. With careful design and use of artificial turf and/or hardscaping, aesthetics would not be impacted. However, reducing the type and amount of landscaping could have noticeable negative aesthetic impacts, and could conflict with the City's design guidelines for landscaping of commercial projects. Potential impacts on scenic resources would be ***less than significant***. Potential impacts related to light and glare would be ***less than significant with mitigation***. This alternative would have aesthetic impacts that are ***greater*** than those of the proposed Project.

Agriculture and Forestry Resources

There are no agricultural resources within the project area. The Reduced Water Demand Alternative would have ***similar*** impacts on agriculture and Forestry resources as the proposed Project. Impacts to farmland, including that under Williamson Act contract, and to forestry resources would be ***less than significant.***

Air Quality

The Reduced Water Demand Alternative, by reducing building square footage, could reduce both construction and operation air emissions. As a result, this alternative would have slightly fewer emissions and therefore, ***les*****s** impact than those of the proposed Project. The smaller hotel would only reduce CO2 hotspots, and would not have a noticeable, overall reduction of air emissions. Impacts would be ***less than significant*** in conflicting with or violating an air quality plan, exposure to sensitive receptors, or creating objectionable odors. It is anticipated that the Reduced

Water Demand alternative would also have a ***less than significant*** impact on cumulative air emissions**.**

Health Risk Assessment

Reduction in the size of the hotel building would result in no changes to the TAC emissions created from the project as there are no sources of TAC emissions associated with typical hotel operations. The Reduced Water Demand alternative would result in a ***significant*** cancer risk impact. Mitigation Measures 1, 2, and 3 provided in the Health Risk Assessment would reduce the impact to ***less than significant*** levels. The Reduced Water Demand alternative would result in only a nominal reduction in local criteria pollutant concentrations at the nearby homes and the impacts would remain at ***less than significant*** levels.

Biological Resources

The Reduced Water Demand alternative could result in less developed area and more open space; however, the habitat value would continue to be degraded due to the high level of activity on the remainder of the site. As such, this alternative would have ***similar*** impacts on biological resources as the proposed Project. Potential adverse impacts on special status species would be ***less than significant with mitigation***. The Reduced Water alternative would have ***no impacts*** on riparian/sensitive habitat, wetlands, migratory fish and wildlife, or any other biological issue.

Cultural Resources

The Reduced Water Demand alternative would have ***similar*** impacts on cultural resources as the proposed Project. The Reduced Water Demand alternative would have ***similar*** impacts on historic resources, archaeological resources, human remains, and paleontological resources, and impacts to these resources would remain ***less than significant with mitigation***. There would be ***no impacts*** on paleontological resources.

Geology, Soils and Seismicity

Development of the site under the Reduced Water Demand alternative would result have slightly ***less*** impacts to geology, soils, and seismicity than the proposed Project because there would be less ground disturbance and construction, and fewer hotel rooms and occupants would be subject to seismic impacts. The Reduced Water Demand alternative would have impacts on seismic activity that are ***less than significant***, and impacts on erosion and soil instability that are ***less than significant with mitigation,*** as there would be more hardscaping but less building space. There would be ***no impacts*** on mineral resources.

Greenhouse Gases

Reduction in the size of the hotel building would slightly reduce potential operational greenhouse gases. The proposed Project's impacts were less than significant with regard to conflicts with plans, policies, and regulations, but significant and unavoidable impacts with regard to generation of greenhouse gas emissions. The Reduced Water Demand alternative would result in ***less*** impact. Development under the Reduced Water Supply alternative would

have ***less than significant*** impact related to conflict with plans, policies and regulations. However, assuming the Reduced Water alternative utilized the same standards as with the Project, development, this alternative would continue to have ***significant and unavoidable*** impacts with regard to generation of greenhouse gases.

Hazards and Hazardous Materials

The Reduced Water Demand alternative would have ***similar*** impacts on hazards and hazardous materials compared to that of the proposed Project. Although the size of the hotel would be smaller, potential impacts from construction and operations of the fueling islands, fuel storage tanks, and other structures would not greatly reduce amounts of hazardous materials on the site. The Reduced Water Demand alternative would have potential hazards and hazardous materials impacts that are ***less than significant with mitigation***.

Hydrology and Water Quality

The Reduced Water Demand Alternative would have slightly reduced impacts on hydrology and water quality, and ***less*** impact to groundwater recharge, because less soil would be disturbed or made impervious compared to that of the proposed Project. The potential impacts are ***less*** than those of the proposed Project. The Reduced Water Demand alternative would have potential water quality and drainage impact that are ***less than significant with mitigation*** and ***less than significant*** flood hazards. There would be ***no impact*** related to 100-year flood zones and potential inundation. Although less groundwater would be needed, and groundwater recharge might increase with use of pavers or hardscaping, potential impacts on groundwater supplies would remain ***significant and unavoidable***.

Land Use and Planning

The Reduced Water Demand alternative would have ***similar*** land use and planning impacts as the proposed Project. The Reduced Water Demand alternative would have ***no impact*** on habitat conservation plans and natural community conservation plans and would have ***less than significant*** impact associated with division of a community or conflict with a land use plan.

Noise

Development of the site under the Reduced Water Demand alternative could result in less building square footage, resulting in a shorter construction duration and slightly ***less*** associated noise during the construction phase. Also, reducing long-term vehicle traffic by reducing the number of hotel guests and employees, and associated equipment for heating, cooling, and cleaning would reduce associated noise slightly. Potential noise impacts would be ***less*** than that of the proposed Project by approximately 1 dBA. Potential impacts associated with exposure to excessive noise would be ***less than significant with mitigation*** for the Reduced Water Demand alternative. Other potential noise and vibration impacts would remain ***less than significant***. There would be ***no impact*** associated with noise from a private airstrip.

Public Services and Utilities

Impacts on water supply would be ***less*** under the Reduced Water Demand alternative. Each hotel room is estimated to use 65 gpd of water, with a net decrease of 2,600 gpd under this alternative. Impacts associated with wastewater and solid waste would also be reduced proportionally. Impacts associated with all other public services, including police, fire, and emergency services would be only slightly less, as the project footprint would remain essentially the same. The Reduced Water Demand alternative would have potential impacts on police and fire services, wastewater, stormwater, and solid waste that are ***less than significant***. Although potential impacts associated with increased water demand would be less than under the Project alternative, they would remain ***significant and unavoidable***.

Transportation and Traffic

The Reduced Water Demand alternative was devised to reduce water demand through a combination of reduced building square footage and changes in landscaping. By reducing building size, traffic impacts at the Avenue 17/SR 99 northbound ramps associated with the proposed Project could be reduced under this alternative; however, the reduction would be minimal. The location of the hotel at the western edge of the site would be likely to affect traffic volume at the Sharon Boulevard to Walden Drive street segment. VRPA estimated that in 2016, eastbound AM trips would remain the same (see Table 4-1) at 279 trips, and PM trips would fall from 668 to 670 trips; in the westbound lane, AM trips would decrease by one trip (to 728) and PM trips would decrease by three (to 398). Results in the 2036 year were very similar to those of 2016. The potential impacts of this alternative are therefore ***similar*** to those of the proposed Project. There would be no impact to air traffic patterns, impacts to emergency response and alternative transportation would remain ***less than significant***, and impacts to hazardous design would remain ***less than significant with mitigation.*** Although there would be a slight decrease in traffic to the site, the LOS along this segment would remain the same, and impacts related to conflicts with transportation and congestion plans would remain ***significant and unavoidable.*** Additionally, because mitigation requiring the payment of a fair share for impacts to other intersections will not be affected by the Reduced Traffic alternative, this impact will remain ***significant and unavoidable.***

Summary and Determination

Compared to the proposed Project, the Reduced Water Demand alternative results in reduced impacts in six topic areas, similar impacts in six topic areas, and an increased impact in one topic area. Overall, it would result in less impact to air quality; geology/soils/ seismicity, greenhouse gas, hydrology/water quality, noise, utilities and services; and some transportation topics. It could result in greater impacts to aesthetic resources. It would meet all but two of the project objectives. One objective it does not fully meet would be partially met: a travel center would be developed; however, it could be reduced in size, although the hotel and its amenities would be reduced in size, and landscaping could be reduced. These changes from what is envisioned in the proposed Project could reduce the viability of the proposed travel center. Additionally, if the proposed Project is intended to maximize tax revenues to the City of Madera, the less intensive use of the site under the Reduced Traffic alternative would not accomplish this objective.

4.5 Environmentally Superior Alternative

CEQA Guidelines section 15126.6(E)(2) provides that "[i]f the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Table 4-2 compares the three alternatives to the Project in terms of the 13 impact areas that were analyzed in this Draft EIR in Chapter Three. As described above, compared to the proposed Project, the Reduced Traffic alternative results in reduced impacts in seven topic areas: air quality (including health risks), geology/soils/seismicity, greenhouse gas emissions, hydrology/water quality, noise, public services and utilities, and traffic and transportation. There are similar impacts in six topic areas: aesthetics, agricultural and forestry, biological, cultural, hazards/hazardous materials, and land use. When comparing this alternative to the proposed Project and other alternatives, the Reduced Traffic alternative results in less impacts (overall) to the greatest number of resources. Therefore the Reduced Traffic Alternative would be considered the environmentally superior alternative.

Table 4-2
Significance of Environmental Effects under Alternatives
Compared to Proposed Project

Impact Topic	Proposed Project	No Project Alternative	Reduced Traffic Alternative	Reduced Water Demand Alternative
Aesthetics				
3.3-1 - Adverse affect on scenic vista	LTS	LTS/S	LTS/S	LTS/G
3.1-2 - Damage scenic resources	LTS	LTS/S	LTS/S	LTS/G
3.1-3 - Substantial light and glare	LTSM	LTSM/S	LTS/S	LTSM/G
Agricultural and Forestry Resources				
3.2-1 – Convert farmland	LTS	LTS/S	LTS/S	LTS/S
3.2-2 – Conflict with Williamson Act	LTS	LTS/S	LTS/S	LTS/S
3.2-3 – Conflict with forestry zoning	LTS	LTS/S	LTS/S	LTS/S
3.2-4 – Loss of forest land	LTS	LTS/S	LTS/S	LTS/S
3.2-5 – Other agriculture/forestry changes	LTS	LTS/S	LTS/S	LTS/S
Air Quality				
3.3-1 – Conflict with air quality plan	LTS	LTS/L	LTS/L	LTS/L
3.3-2 – Violate air quality plan	LTS	LTS/L	LTS/L	LTS/L
3.3-3 - Cumulatively considerable increase	LTS	LTS/L	LTS/L	LTS/L
3.3-4 – Expose sensitive receptors	LTSM	LTS/L	LTS/L	LTS/L
3.3-5 – Create objectionable odors	LTS	LTS/L	LTS/L	LTS/L
Health Risks	LTSM	LTSM/L	LTS/L	LTSM/S
Biological Resources				
3.4-1 – Adverse effect	LTSM	LTSM/S	LTSM/S	LTSM/S
3.4-2 – Riparian/sensitive habitat impact	N	N/S	N/S	N/S
3.4-3 – Wetlands impact	N	N/S	N/S	N/S
3.3-4 – Migratory fish/wildlife	N	N/S	N/S	N/S
3.3-5 – Local policies/ordinances	N	N/S	N/S	N/S
3.3-6 – Adopted HCP or NCCP	N	N/S	N/S	N/S
3.3-7 – Reduce fish/wildlife habitat	N	N/S	N/S	N/S
3.3-8 - Reduce fish/wildlife populations	N	N/S	N/S	N/S
3.3-9 – Reduce number/range of species	N	N/S	N/S	N/S
Cultural Resources				
3.5-1 – Significant historic resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-2 – Archaeological resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-3 – Paleontological resource	LTSM	LTSM/S	LTSM/S	LTSM/S
3.5-4 – Disturb human remains	LTSM	LTSM/S	LTSM/S	LTSM/S
Geology, Soils, and Seismicity				
3.6-1 – Fault rupture/seismic effects	LTS	LTS/S	LTS/L	LTS/L
3.6-2(a) – Erosion/soil instability onsite	LTSM	LTSM/S	LTSM/L	LTSM/L
3.6-2(b) - Erosion/soil instability offsite	LTSM	LTSM/S	LTSM/L	LTSM/L
3.6-3 – Unstable soil	N	N/S	N/S	N/S
3.6-4 – Affect mineral resource	N	N/S	N/S	N/S
Greenhouse Gases				
3.7-1 – Generate significant GHG	SU	SU/S	SU/L	SU/L
3.7-2 – Conflict with plan, policy, or reg.	LTS	LTS/S	LTS/L	LTS/L

Impact Topic	Proposed Project	No Project Alternative	Reduced Traffic Alternative	Reduced Water Demand Alternative
Hazards and Hazardous Materials				
3.8-1 – Transport, use, disposal hazard	LTSM	LTSM/G	LTSM/S	LTSM/S
3.8-2 – Accidental release of materials	LTSM	LTSM/G	LTSM/S	LTSM/S
3.8-3 – Impact on schools	N	N/S	N/S	N/S
3.8-4 – Listed hazardous site	N	LTS/G	LTS/S	LTS/S
3.8-5 – Within two miles of an airport	LTS	LTS/G	LTS/S	LTS/S
3.8-6 – Near a private airstrip	N	N/G	N/S	N/S
3.8-7 – Impair adopted emergency plan	LTS	LTS/G	LTS/S	LTS/S
3.8-8 – Wildland fire	LTS	LTS/G	LTS/S	LTS/S
Hydrology and Water Quality				
3.9-1 – Violate water quality standards	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-2 – Deplete groundwater supplies	SU	SU/S	SU/L	SU/L
3.9-3 - Alter existing drainage -siltation	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-4 – Alter existing drainage – flooding	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-5 – Exceed drainage system capacity	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-6 – Degrade water quality	LTSM	LTSM/S	LTSM/L	LTSM/L
3.9-7 – Place housing in 100-year flood zone	N	N/S	N/S	N/S
3.9-8 – Structures impede 100-year flood	N	N/S	N/S	N/S
3.9-9 – Exposure to flood hazard	LTS	LTS/S	LTS/S	LTS/S
3.9-10- Contribute to inundation	N	N/S	N/S	N/S
Land Use and Planning				
3.10-1 – Physically divide community	LTS	LTS/S	LTS/S	LTS/S
3.10-2 – Conflict with land use plan	LTS	LTS/S	LTS/S	LTS/S
3.10-3 – Conflict with HCP or NCCP	N	N/S	N/S	N/S
Noise				
3.11-1 – Exposure to excessive noise	LTSM	LTSM/L	LTSM/L	LTSM/L
3.11-2 – Exposure to excessive vibration	LTS	LTS/L	LTS/L	LTS/L
3.11-3 – Permanent increase in noise	LTS	LTS/L	LTS/L	LTS/L
3.11-4 – Temporary or period noise increase	LTS	LTS/L	LTS/L	LTS/L
3.11-5 – Noise impact from airport	LTS	LTS/S	LTS/L	LTS/S
3.11-6 – Noise impact from private airstrip	N	N/S	N/S	N/S
Public Services and Utilities				
3.12-1 - Need for expanded fire services	LTS	LTS/S	LTS/L	LTS/S
3.12-2- Need for expanded police services	LTS	LTS/S	LTS/L	LTS/S
3.12-1 – Increased water demand	SU	SU/G	SU/L	SU/L
3.12-4 – Increased wastewater demand	LTS	LTS/L	LTS/L	LTS/L
3.12-5 – Increased stormwater	LTS	LTS/L	LTS/L	LTS/S
3.12-6 – Increased solid waste	LTS	LTS/L	LTS/L	LTS/L
Transportation and Traffic				
3.13-1 – Conflict with transportation plan	SU	SU/S	SU/L	SU/L
3.13-2 – Conflict with congestion plan	SU	SU/S	SU/L	SU/L
3.13-3 – Change in air traffic patterns	N	N/S	N/S	N/S
3.13-4 – Increase in hazardous design	LTSM	LTSM/S	LTSM/L	LTSM/S
3.13-5 – Inadequate emergency response	LTS	LTS/S	LTS/L	LTS/S
3.13-6 – Alternative transportation conflict	LTS	LTS/S	LTS/L	LTS/S

Acronyms:
N= No impact
LTS = Less than significant
LTSM = Less than significant with mitigation
SU = Significant and unavoidable
S = Similar impact to proposed project
L = Less impact than proposed project
G = Greater impact than proposed project

CHAPTER FIVE

CUMULATIVE IMPACTS

CHAPTER FIVE – CUMULATIVE IMPACTS

Introduction

CEQA requires that an EIR examine the cumulative impacts associated with a project. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (*CEQA Guidelines*, § 15355; see also Pub. Resources Code, § 21083, subd. (b).) Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with *other projects* causing related impacts." (*CEQA Guidelines*, § 15130, subd. (a)(1) (emphasis added).)

CEQA Guidelines Section 15130 requires the consideration of cumulative impacts within an EIR when a project's incremental effects are cumulatively considerable. Cumulatively considerable means that ". . . the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." This formulation indicates that particular impacts may be less-than-significant on a project-specific basis but significant on a cumulative basis, because their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable.

In accordance with CEQA Guidelines Section 15130(b), " . . . the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone." The discussion should be guided by standards of practicality and reasonableness, and it should focus on the cumulative impact to which the identified other projects contribute rather than on the attributes of other projects that do not contribute to the cumulative impact. The project's cumulatively considerable contribution to a cumulative impact is not considered significant if the project's contribution to the cumulative impact can be mitigated to below the level of significance through mitigation, including providing improvements and/or contributing funds through adopted fee-payment programs. The EIR must examine "reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project" (*CEQA Guidelines*, Section 15130).

The *CEQA Guidelines* allow for the use of one of two alternative methods to determine the scope of projects for the cumulative impact analysis:

- List Method – 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 (Section 15130 (1)(A)); and/or

- General Plan Projection Method – 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 (Section 15130 (1)(B)).

Although the List Method was selected to conduct the cumulative impact analysis for this Draft EIR, it is important to note that certain cumulative impacts such as effects of the proposed

Project on air quality (regional air basin) and greenhouse gas emission (worldwide) must consider a much larger geographic area than the area comprised of the projects constituting the "list" of projects in the general vicinity of the proposed Project.

The following section summarizes projects in the vicinity of the proposed Project.

5.1 Cumulative Projects

Table 5-1 identifies related projects and other possible development in the Project vicinity determined as having the potential to interact with the Project to the extent that a significant cumulative effect might be expected to occur. Those project locations are depicted in Figure 5-1. Any proposed project within the Project vicinity for which an application had been filed at the time of the NOP for the Project was considered a probable future project.

Of particular note is the Madera Town Center Project, located directly across Avenue 17 from the proposed Project. This proposed retail commercial development would include 795,000 square feet of floor area on a 100-acre site. An EIR was certified in 2006, but no entitlements have been approved. According to City staff, it is unlikely that Madera Town Center will be constructed during the construction period described in Chapter Two of this EIR for the Madera Travel Center project. (David Merchen, pers. comm.).

As stated in the introduction to this section unlike other resources, cumulative impacts related to regional air quality and global climate change are not limited to consideration of the immediate geographic vicinity of the proposed Project.

5.2 Cumulative Impacts Analysis

5.2.1 AESTHETICS

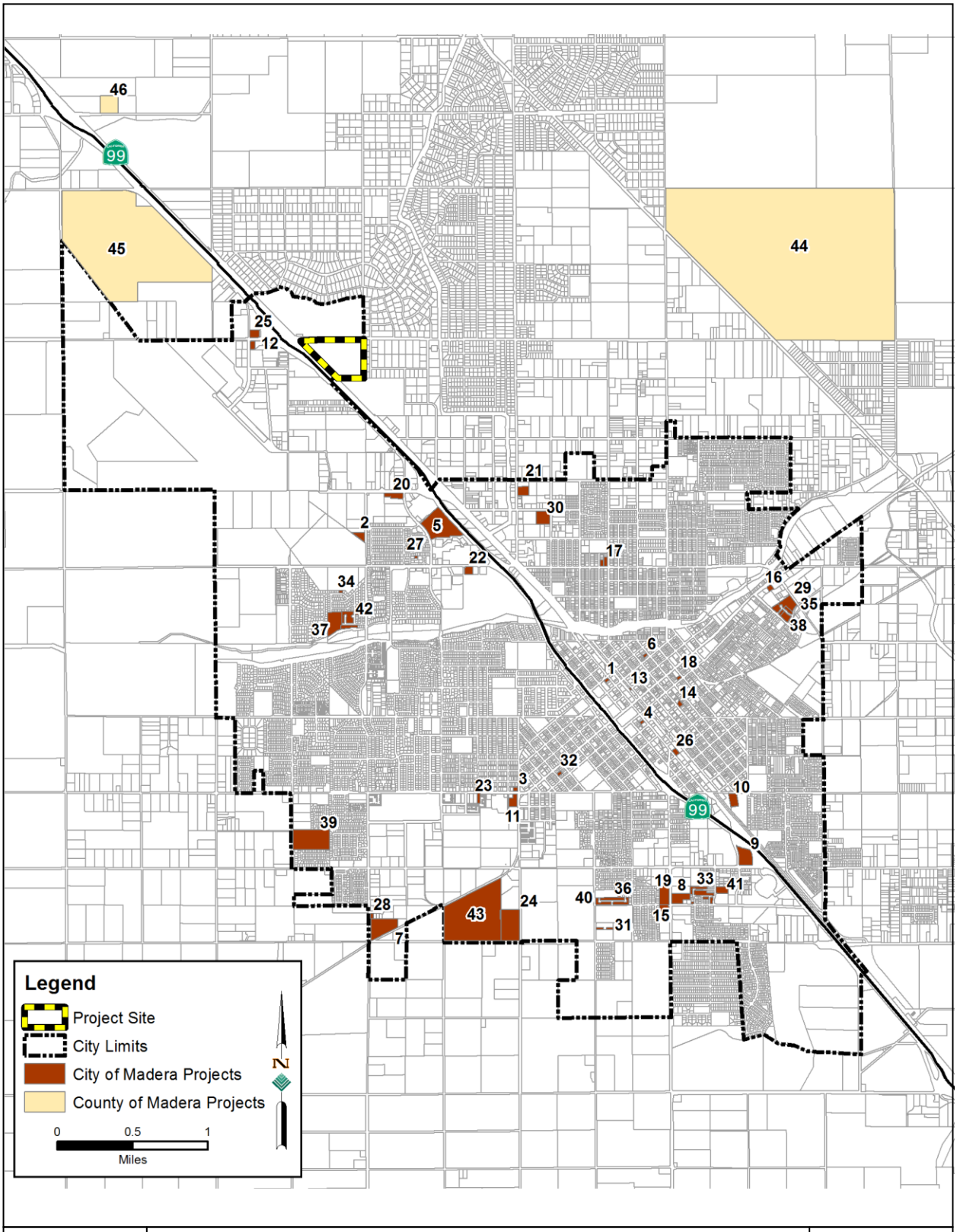
The landscape along SR 99 within the city limits of Madera has been changing over the years from one of predominately rural open space and agricultural grazing land to urban uses. Implementation of the proposed Project will change the existing visual character of the property from a vacant lot that has a few miscellaneous remnants of the prior operation, which included a holding facility for storage containers and earth moving equipment to a commercial use. Mitigation measures for landscaping and lighting will reduce impacts. The cumulative effect on scenic vistas from the proposed project would be less than significant, with the implementation of design measures as discussed in Section 3.1. Also, the conversion of this site to the Madera Travel Center has the potential to create views that may be considered an improvement over past and existing uses. The two closest projects to the site, according to the Figure 5-1, are the Subway addition to an existing store on Golden State Boulevard, and a convenience store, gas station and car wash located on Airport Drive: however the latter project has yet to be built. Compliance with the City's General Plan standards and the City's Municipal Code standards, as they relate to visual design, would ensure that the proposed Project, in combination with other projects in the area, would not result in significant impacts upon scenic vistas, scenic resources, and visual character. Therefore, with mitigation, aesthetic impacts would be ***less than cumulatively considerable***.

Table 5-1
List of Past, Present, and Probable Future Projects

Map #	Project Description	Street	Status	Final Approval Date	Year Built	Comments
1	Gateway Retail Center	Gateway Drive & 3rd Street	Completed	3/24/09	2011	2000 sf
2	VFW Hall	Granada Drive	Completed	5/12/09	2010	8,000 sf
3	Singh/Sekhon Commercial Development	NWC of Howard Road & Pine Street	Approved by PC	3/13/10	2014	6600 sf
4	Taqueria Mexico	Gateway Drive	Completed	11/2/09	2011	4,500 sf
5	Schnoor & Foxglove Retail Center	Schnoor Street		2012	Not Built	191,000 sf
6	RDA/DMP B Street Apartments	B Street			2010	6,000 sf
7	Color Box Addition	NEC of Road 25 and Pecan Avenue				7000 s.f. Covered storage
8	Madera County Office of Education Admin Center	Gary Lane & Hwy 145			2012	47,500 sf
9	Pistoresi Shopping Center	Gateway Drive & Almond Avenue			Pending	20,000 sf
10	A&S Metal Recycling	Olive Avenue			2012	12,000 sf Bldg & Yard
11	CVS Pharmacy	SWC of Pine Street & Howard Road	Completed		2014	15,000 sf
12	Singh Convenience Store, fuel islands, carwash	Airport Drive	Completed		Not Built	4,000 sf
13	Ochoa Transmission Repair	E Street	Completed	12/14/11		No new construction
14	Super Auto Sales Off-Site Service/Detail Garage	C Street	Completed	12/2/11		No new construction

Map #	Project Description	Street	Status	Final Approval Date	Year Built	Comments
15	Dollar General	SWC of Madera Avenue and Gary Lane	Completed	4/13/12	2012	14,000 sf
16	Family Dollar	Yosemite Avenue	Completed		2013	10,000 sf
17	Food Fair Market Site Expansion	D Street	Completed	10/9/12	2014	9000 sf
18	Camarena Health Centers - New Construction	A Street	Completed		2013	16,000 sf
19	Gill Cadillac Buick GMC Showroom	Madera Avenue	Completed	7/9/13	2014	6000 sf
20	Les Schwab Tire Company	Kennedy Avenue	Completed	9/10/13	2014	12,000 sf
21	Tractor Supply Company	SEC Adell Street and Country Club Drive	Completed	2/11/14	2014	20,000 sf
22	Grocery Outlet Grocery Store	Cleveland Avenue	Completed	6/14/14	2014	12,000 sf
23	Jack in the Box	Howard Road	Completed	7/8/14	2015	3,000 sf
24	Deerpoint Group - Ag Nutrient/Industrial	Wiil Gill Industrial, NWC South Pine Street and West Pecan Avenue	Completed	8/12/14	Pending	62,000 sf
25	17/99 Subway Restaurant (Addition to C Store)	Golden State Boulevard	Completed	9/13/14	2015	1000 sf
26	Napa Auto Parts	Gateway Drive	Completed	11/18/14	Pending	7000 sf
27	W. Cleveland Professional Office	Cleveland Avenue	Completed	10/23/14	Pending	5000 sf
28	Braga Organic Farms	Mitchell Court	Completed	2/10/15	Pending	4500 sf
29	Freedman 72 Unit Apartment Complex	NWC of Clinton Street & Tozer Street	Approved	08/31/07	Pending	72 units
30	Arborpoint Apartment Development	SWC of Owens Street & Clark Street	Approved	10/23/07	2010	65 units
31	Corporation for Better Housing Apartments	East side of Stadium, North of Pecan Avenue	Approved	08/31/10	2012	72 units

Map #	Project Description	Street	Status	Final Approval Date	Year Built	Comments
32	Poythress Multiple Family 6-plex	O street	Approved	12/14/10	2011	6 Units - 6,000 sf
33	Tierra Vista Estates - Kemp Land Co. / North Star Eng.	NWC of Gary Lane and Emily Way	Approved	11/12/13	2015	48 lots SFR
34	Cottonwood Estates II	Last 2 lots in Cottonwood II (Ph. 3)	Approved	11/12/13	2014	2 lots SFR
35	Sugar Pine Village Single Family	4 lot amendment	Approved	01/14/14	2014	4 lots SFR
36	Chateau at the Vineyards	2 lot amendment	Approved	01/14/14	2014	2 lots SFR
37	Cottonwood Estates II	74 remaining lots in Phases 4 and 5	Approved	03/14/14	2015	74 lots SFR
38	Sugar Pine Village Single Family	19 remaining lots	Approved	04/08/14	2015	19 lots SFR
39	Capistrano 16	19.79 ac. N of Almond, E of Westberry	Approved		2015	103 lots SFR
40	Chateau at the Vineyards	35 remaining lots	Approved		2015	35 lots SFR
41	Emily Way Apartments	Emily Way at Joya Drive	Approved	2/18/2015	Pending	54 units
42	Cottonwood Estates II	74 remaining lots in Phases 4 and 5	Approved	01/13/15	Pending	74 lots SFR
43	Will Gill Industrial Subdivision	NWC of South Pine Street and Pecan Avenue (Avenue 13)		01/28/14	2015	17 Lot Industrial Park
44	Commons at Madera Fair *(Madera County Project)*	Cleveland Avenue @ Fairgrounds	Completed	08/1/07	2008	300L sf, retail. Lowes anchored.
45	Madera Town Center *(Madera County Project)*	Avenue 17 @ SR 99	EIR Certified			795K sf, retail
46	Equipment Yard *(Madera County Project)*	Avenue 18 ½, east of SR 99				



Quad Knopf	Cumulative Projects	Figure 5 - 1

5.2.2 AGRICULTURE AND FORESTRY RESOURCES

Development of the Project site will not individually result in the direct or indirect conversion of agricultural or forestry land. The site is not zoned for agricultural, nor does it have a Williamson Act contract. As shown in Figure 3.2-1 of Section 3, the Project site is approximately 2 miles away from Unique Farmland, 3 miles from Farmland of Statewide Importance, and 4 miles from Prime Farmland. However, there are no cumulative projects within close vicinity of the Project site that would convert Prime, Unique, or Farmland of Statewide Importance to non-agricultural use. Since the project site does not contain any significant agricultural or forestry resources and would not eliminate any ongoing agricultural operations or convert forest lands to non-forest uses, the project will not make any contributions to cumulatively considerable impacts relative to agricultural or forestry resources. As a result, there would be a ***less than cumulatively considerable*** impact on agricultural resources in the City of Madera.

5.2.3 AIR QUALITY

According to the SJVAPCD, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. It was previously concluded that the Project would not individually create a significant impact from exceeding the established thresholds for ROG, NOx, and CO (see Section 3.2 for more information on these air pollutants). In addition, the proposed Project is consistent with the Air Quality Attainment Plan. During construction, various diesel-powered vehicles and equipment in use on the site would create odors, however these would be intermittent and short-term. With the exception of short-term construction-related odors (e.g., equipment exhaust or asphalt odors), the proposed Project is not one of the common facilities that have been known to produce odors listed in the GAMAQI. The Project may result in the development of new odor sources of concern, primarily truck traffic and odors from fuel dispensing facilities, however these odors are not expected to reach any nearby sensitive receptors due to distance. Additionally, because solid waste from the Project will be managed and collected in a manner to prevent the proliferation of odors, no significant odor impact will occur. The Project was determined to be individually less than significant. The cumulative construction and operational air quality impacts of the Project, even when considered together with other foreseeable regional development, would be ***less than cumulatively considerable***.

5.2.4 BIOLOGICAL RESOURCES

The geographic setting for cumulative impacts to biological resources consists of approved and proposed developments in the area of the Project site as set forth in the City of Madera General Plan.

Conversion of the Project site from its current state to that of a planned travel center is not expected to contribute cumulatively to biological resource impacts in the region because the proposed Project site is currently disturbed, consists of low-quality habitat for special-status species, and contains no natural water bodies. Furthermore, the Project site was historically used as a commercial property for decades, as storage for a heavy equipment rental yard. As such, the property historically had little value to biological resources. The Project would result in permanent facilities being constructed on the site, but the wildlife values would not be reduced

substantially from historic levels. Direct and indirect Project impacts that could potentially occur to special-status species would be precluded by implementing standard avoidance and minimization measures. Given the low quality habitat that exists on the Project site, the Project will not result in a significant loss of habitat. There are no projects that would, in combination with the proposed Project, produce a significant impact to jurisdictional waters. Other projects in the vicinity of the proposed Project site will be required to comply with laws and regulations protecting biological resources. Such compliance will contribute to limiting direct cumulative impacts on biological resources. However, despite the Project being deemed less than significant as a direct effect, the cumulative habitat loss of this and all other urbanization projects in the City of Madera and San Joaquin Valley, dictate that for the Valley, the cumulative impact will be ***significant, cumulatively considerable, and unavoidable***. There are no project-related mitigation measures, which will reduce this impact.

5.2.5 CULTURAL RESOURCES

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects as discussed in Chapter Two, Project Description, would have on cultural and paleontological resources. This geographic scope of analysis is appropriate because the archaeological, historical, and paleontological resources within the radius are expected to be similar to those in the Project area because of their proximity. Similar environments, landforms, and hydrology would result in similar land uses and therefore, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. Impacts of the proposed Project would be cumulatively considerable if they have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects.

No historical or archaeological resources were identified in the course of studies for this Project. Excavation activities associated with the proposed Project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded cultural or paleontological resources, associated geological and geographic data, and fossil bearing strata. Although highly unlikely, construction activities associated with the proposed Project could contribute to the cumulative loss of archaeological and paleontological resources and result in adverse cumulative impacts. However, with implementation of Mitigation Measures #3.5-1 and #3.5-3, impacts on archaeological resources and buried human remains including those interred outside of formal cemeteries, resulting from the Project would be less than significant. With respect to paleontological resources, implementation of Mitigation Measure #3.5-2 would reduce the impact from the Project to a level less than significant. Similar mitigation would also be imposed on those projects shown in Figure 5-1 to reduce each individual project's impact on cultural and paleontological resources. Consequently, the incremental effects of the proposed Project, after mitigation, would not contribute to an adverse cumulative impact on cultural or paleontological resources or human remains and cumulatively considerable impacts would be considered less than significant.

With implementation of the above referenced mitigation measures, damage or destruction of unintentionally uncovered historic, archaeological, or paleontological resources, including human remains that may be encountered on the proposed Project site during construction is

reduced to a less than significant level. The Project's impacts are ***less than cumulatively considerable.***

5.2.6 GEOLOGY, SOILS, AND SEISMICITY

Implementation of the proposed Project has the potential to result in soil erosion and instability. Implementation of mitigation measures provided in this EIR will reduce potential impacts to a level of less than significant. Potential soil erosion impacts are site-specific and contained within the Project boundary. Because it is reasonable to conclude that all cumulative development will be required to adhere to applicable State regulations, CBC standards, and the design and siting standards required by local agencies, a less than significant cumulative impact would occur. The proposed Project's impacts related to soil and seismicity, when considered in combination with the impacts of other projects in the region would be ***less than cumulatively considerable***.

5.2.7 GREENHOUSE GASES

According to the San Joaquin Valley Air Pollution Control District's (SJVAPCD) 2015 Guide for Assessing and Mitigating Air Quality Impacts, GHG emissions, and their associated contribution to climate change, are inherently a cumulative impact issue. Therefore, project-level impacts of GHG emissions are treated as one-in-the-same as cumulative impacts. The Air Quality/Greenhouse Gas Technical Report states that projects achieving at least a 29 percent GHG emission reduction compared to business as usual would be determined to have a less than significant individual and cumulative impact for GHG. All projects identified in Figure 5-1 would be required to adhere to the same standards set forth by the SJVAPCD. Therefore, since the Project impacts exceed the minimum emission reductions, the Project could be considered less than cumulatively considerable**.** Even so, in light of the legal uncertainties created by the California Supreme Court's decision in *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, as explained in more detail in Chapter 3.7, the City is conservatively concluding that the project's impact is ***cumulatively considerable*** and thus ***significant and unavoidable.***

5.2.8 HAZARDS AND HAZARDOUS MATERIALS

Impacts related to the transport, disposal, and handling of hazardous materials would occur during construction and operation of the Project. During construction, hazardous waste that is generated during construction of the Project would be collected and transported away from the Project site in compliance with existing regulations. The Project proponent would have to develop and comply with a hazardous materials management plan during operation in accordance with the Business Plan Act, and transporters of hazardous materials to the site would have to comply with California Vehicle Code Section 32000. Additionally, the Madera County Environmental Health Department would issue permits for underground storage tanks at the site in order to oversee their installation, operation, and removal. With implementation of these measures, impacts as a result of transport, disposal, and handling of hazardous materials would be less than significant.

With respect to impacts related to the creation of a hazard through upset or accident conditions involving the release of a hazardous material, the Project proponent would have to implement all remediation recommendations in a Phase II ESA, implement mitigation as described in Mitigation Measure #3.8-3, and obtain concurrence from the Madera County Environmental Health Department in order to clean up the site in accordance with applicable laws prior to groundbreaking activities. Additionally, the mandated hazardous materials management plan ensures that the Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during operation.

The Project site is not located within 0.25 mile of an existing or planned school and is not found on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Although the site is located within two miles of a Madera Municipal Airport, it is not found within the public airport's flight path or a Compatibility Zone boundary for the airport that restricts development. The site is also not found within the vicinity of a private airstrip. The Project does not include any characteristics (e.g., permanent road closures) that would physically impair or otherwise interfere with emergency response or evacuation in the Project vicinity and would comply with the current Madera County *Operational Area Emergency Operations Plan.* The Project is not surrounded by wildland areas and is in proximity to existing fire services and therefore, would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Although each project has unique hazardous materials considerations, it is anticipated that future cumulative projects in the area would also have to comply with similar and applicable laws and be required to implement similar and/or unique mitigation in order to mitigate their potentially significant hazards and hazardous materials effects on a case-by-case basis. Given that the Project mitigates any potential hazards and hazardous materials impacts to a level of less than significant, the Project's impacts in combination with the projects shown in Figure 5-1 are ***less than cumulatively considerable.***

5.2.9 HYDROLOGY AND WATER QUALITY

Development patterns associated with past, present and reasonably foreseeable future projects in the City and greater Madera County, in conjunction with the proposed Project, would change and alter drainage patterns within the region. The majority of such projects would likely occur on vacant land, which currently allows stormwater to percolate into the ground or run off of the affected sites into drainage sumps, nearby canals, or other systems. These projects would include some form of hardscape areas that would result in an increase in runoff and a decrease in percolation into the groundwater basin.

Each of these projects may include designs for stormwater drainage systems to capture and discharge waters from project sites, as required by the City and greater County. Thus, some of the cumulative projects in the area would transmit stormwater into retention facilities that would be developed as part of the respective projects, which would then percolate water back into groundwater aquifers.

These projects may alter local and regional drainage conditions and increase the amount of urban pollutants, which could ultimately affect surface water and groundwater. Stormwater pollutants may include grease, oil, rubber, silt, pesticides, fertilizers, and/or general debris. As part of new development projects, these types of uses would be subject to the requirements of the Clean Water Act, which are implemented by NPDES requirements. Water quality standards are achieved through the implementation of Best Management Practices during design, construction, and post-construction operations. Similar to other projects, the Project is also subject to these requirements. The Project proponent would implement mitigation measures discussed in Section 3.9, *Hydrology and Water Quality*, which would reduce the proposed Project's cumulative contribution to hydrology and water quality impacts to levels that would be ***less than cumulatively considerable***.

5.2.10 LAND USE AND PLANNING

The Madera Travel Center will offer services to truckers traveling up and down SR 99 and to residents in the immediate area. The land use analysis of the proposed Project in Section 3.10 found that it would not physically divide a community, conflict with established land uses or conflict with adopted or applicable land use or habitat plans or policies. Since the Project would not result in a direct or indirect project-level land use impact, the project will also not contribute to a cumulative land use impact in the City, Madera County, or the State. The Project, along with the projects shown in Figure 5-1, are required to comply with the City's General Plan and Municipal Code. The impact ***is less than cumulatively considerable***.

5.2.11 NOISE

Similar to the proposed Project, each individual project shown in Figure 5-1 would be subject to the City of Madera Noise Ordinance standards and thresholds pertaining to increased noise at the locations of sensitive receptors.

Construction activities associated with the proposed Project could occur at the same time as other projects in the vicinity; however no other concurrent construction projects are anticipated adjacent to the Project site. Identified as #12 on Figure 5-1, and closest to the Project site, the Singh Convenience Store, fuel islands, and carwash, located west of SR 99 approximately one-third mile from the Project could potentially be built during the same period as the proposed Project, however the exact construction timeline for that project is currently unknown. Even if the two projects are constructed concurrently, because of the distance between the two and the fact that both project sites are located near the highway, cumulative noise impacts during construction of the proposed Project and other proposed projects would be considered less than significant. Similarly, with implementation of the mitigation measures included in section 3.11.4, significant cumulative operational noise impacts are not expected to occur. As a result, the proposed Project is not expected to considerably contribute to cumulative noise impacts during either construction or operation phases.

Due to the localized nature of noise impacts, the distance of sensitive receptors from the Project site, and the close proximity to the noise-inducing traffic of SR 99, the proposed Project would not contribute to significant cumulative noise impacts for either the construction or operational

phases. Therefore, noise impacts of past, present, and reasonably foreseeable projects would be ***less than cumulatively considerable***.

5.2.12 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS

It was concluded in the City of Madera General Plan EIR, that in combination with cumulative development in the subbasin, the General Plan would contribute to an increased demand for water supply, requiring increased groundwater production and potentially worsening the overdraft condition of the basin. A cumulatively considerable impact was concluded, and additional water required for the proposed project would further impact the water subbasin. The Project would therefore have a ***cumulatively considerable significant and unavoidable impact*** on water supplies in the region.

The need for new public services and associated facilities is measured by service area population, or the number of residents and workers within the City's service area. In its review of new development plans for this Project plus all future projects, the City of Madera Fire, Police, and Public Works Departments will evaluate project plans on its ability to provide proper fire, police and solid waste services to the City. Additionally, each future project, including the proposed Project, would be required to pay service and development fees to the City. Such fees would be used to fund capital costs associated with acquiring land for new fire and police stations, constructing new fire and police stations, purchasing applicable equipment for new stations, and providing for additional staff as needed and as identified by the City. As a result, despite the anticipated surrounding future land uses, which will include residential uses, applicable impact fees to support public services will be imposed on all future development, including the project, therefore resulting in a ***less than significant cumulative impact***.

While no significant population growth in the City or region is anticipated to result from the construction and operation of the proposed Project, future development (especially residential development) as shown in Table 5-1, and ultimately forecasted in the City's General Plan, will increase the demand for school facilities and services. Additionally, school districts are constantly engaged in planning new facilities in anticipation of future local and regional growth. Madera School District requires the payment of development fees to provide for new school services and/or facilities. As every new development, including the proposed Project, is mandated to provide the fees applicable to the school district affected, there would be a ***less than significant cumulative impact*** on school services in the City.

5.2.13 TRANSPORTATION AND TRAFFIC

The analysis of cumulative impacts in this section included all of the cumulative projects discussed in Table 5-1. Projections of future traffic conditions incorporate regional population and employment growth that is expected to occur by the future analysis year (2036), independent of the proposed Project. There are several commercial developments in the Project's vicinity that will add new trips to the intersections and roadway segments that are were analyzed. Because of this, future condition scenarios without the proposed Project capture the effects of cumulative projects. Future condition scenarios with the proposed Project capture the effects of both cumulative projects and those of the proposed Project.

Results of the analysis (see Table 3.13-11) show that without the Project, in year 2036 four of seven study intersections would have a level of service (LOS) of below acceptable service. With the Project, those four intersections, as well as the intersection at Avenue 17 at Sharon Boulevard and two Project Driveways (#2 and #3), or a total of seven intersections would have an LOS of below acceptable service. However, the analysis shows that cumulative impacts at three of those seven intersections would occur due to cumulative growth, with or without the Project (the fourth one, at Avenue 17 and Yeager Drive will not be installed until sometime in the future, and will operate at a LOS of F with or without the Project). Results of the analysis also show that one of the five roadway segments will fall below acceptable LOS through the year 2036. Results of the analysis show that the proposed Project will contribute to the cumulative significant impact of the Avenue 17 roadway segment between the SR 99 NB Ramps and Sharon Boulevard under the Cumulative Year 2036 Plus Project scenario.

Thus, significant cumulative intersection and roadway impacts are expected to result from the proposed Project in connection with past, present, and reasonably foreseeable projects, and the Project's contribution to those impacts would be ***cumulatively considerable***. Implementation of Mitigation Measures #3.13-1 through #3.13-4 will reduce but not eliminate cumulative impacts associated with intersections operating below the adopted LOS standard. As shown in Table 3.13-13, several intersections will exceed applicable standards even after mitigation and no feasible improvements are available to reduce the traffic at those intersections to acceptable LOS. Also, with the exception of the intersection of Avenue 17 and Sharon Boulevard, the additional improvements necessary to mitigate the Project's contributions to cumulative impacts at the locations identified in Table 3.13-15 for which the Project would pay its fair-share are either (1) not programmed into the City traffic impact fee program or any other funding program and therefore would rely on funding from sources other than the project applicant that have yet to be identified in order to be constructed, (2) or the intersections/roadways are under the jurisdiction of Caltrans, and the City of Madera cannot assure that necessary improvements would be installed as contemplated. Therefore, it cannot be assured that these impacts would be fully mitigated and the proposed Project's contribution to the impact would remain ***cumulatively significant and unavoidable***.

There are no dedicated bicycle or pedestrian facilities in the immediate vicinity of the Project site or along the surrounding roadways. There are mass transit routes in the vicinity of the Project site, and these routes will not be impacted by the implementation of the Project in conjunction with the types of uses that are listed in Table 5-1 that are within the vicinity of the Project site. Therefore with the implementation of the proposed Project, in combination with past, present, and reasonably foreseeable projects, there would be no conflict with applicable plan, ordinance or policy establishing measures of effectiveness for the performance of pedestrian and bicycle paths and mass transit.

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CHAPTER SIX

MANDATORY CEQA SECTIONS

CHAPTER SIX – MANDATORY CEQA SECTIONS

6.1 Significant Unavoidable Environmental Effects

The CEQA Guidelines, Section 15126.2 (a), (b), requires a description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, not withstanding their effect, should be described. The project was evaluated with respect to specific resource areas to determine whether implementation would result in significant adverse impacts.

Potentially significant environmental impacts that would result from implementation of the proposed project are summarized in Table ES-1 in the Executive Summary of this Draft EIR. In some cases, impacts that have been identified would be less than significant. In other instances, incorporation of the mitigation measures proposed in this Draft EIR would reduce the impacts to levels that are less than significant. Although the proposed project contains policies and guidelines that mitigate certain impacts, no mitigation measures have been identified to reduce the following impacts to a less-than-significant level. Those impacts that cannot feasibly be mitigated to a less-than-significant level, or for which no mitigation measures are available, would remain as significant unavoidable adverse impacts, as described below.

6.1.1 GREENHOUSE GAS EMISSIONS

Impact #3.7-1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

6.1.2 HYDROLOGY AND WATER SUPPLY

Impact #3.9-2: 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 pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

6.1.3 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS

Impact #3.12-3: Increase in demand for water supply and construction of additional water supply infrastructure.

6.1.4 TRAFFIC

Impact #3.13-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Impact #3.13-2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

6.2 Significant and Irreversible Environmental Changes

CEQA provides that an EIR shall include a detailed statement setting forth "[i]n a separate section…[a]ny significant effects on the environment that would be irreversible if the project is implemented." (Pub. Resources Code, § 21100(b)(2).) Section 15126.2(c) of the CEQA Guidelines provides the following guidelines for analyzing the significant irreversible environmental changes of a project:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irretrievable damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the proposed Project would result in the short-term commitment of nonrenewable and/or slowly renewable energy resources and natural resources including lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water due to construction activities. As the Project site develops, nonresidential development would require further commitment of energy resources in the form of natural gas and electricity. Increased motor vehicular travel as a result of the increased commitment of public services would also be required. Implementation of the proposed project would result in the long-term commitment of resources to serve the proposed Project site. The most notable significant irreversible impacts are increased generation of air pollutants and noise from additional vehicular traffic.

The proposed project could result in irreversible damage from environmental accidents, such as an accidental spill or explosion of a hazardous material. During construction, equipment on the site would use various types of fuel. During operation, the travel stop's fuel islands and propane area as well as the tire shop and truck area would require the transport large amounts of hazardous materials including gasoline, oil, and other automotive materials. In accordance with California Vehicle Code Section 32000, however, licensing is required for every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous

material of the type requiring placards. Transport of hazardous materials as a result of Project operations would also have to adhere to the State's Hazardous Materials Transportation Regulations (CCR 26).The enforcement of these existing regulations would be expected to minimize the potential for irreversible damage associated with accidental spills or explosions on the project site.

Significant impacts resulting from development of the proposed Project, for which complete mitigation is unavailable, infeasible, or outside the jurisdiction of the City of Madera to implement, are summarized in Section 6.1, Significant Unavoidable Environmental Impacts, and are described in detail in the appropriate subsections in Chapter Three of this Draft EIR. Although the proposed project would result in the irretrievable commitment of non-renewable resources, the City of Madera's decision makers could reasonably conclude that such consumption would be justified because the proposed project would provide a convenient travel center for local and regional travelers and residents, and would contribute to economic development in the region.

6.3 Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of the proposed Project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Direct population growth occurs when a project would result in the construction of a substantial amount of new housing or otherwise directly cause a substantial increase in a community's population. Indirect growth inducement occurs when a project would extend infrastructure to undeveloped areas, remove obstacles to population growth, or otherwise encourage activities that cause significant environmental effects. Induced growth is distinguished from the direct employment, population, or housing growth of a project. If a project has characteristics that "may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively," then these aspects of the project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of the proposed project. For example, a project could induce growth by lowering or removing barriers to growth or by creating or allowing a use such as an industrial facility that attracts new population or economic activity. CEQA Guidelines also indicate that the topic of growth should not be assumed to be either beneficial or detrimental.

Growth inducement itself is not an environmental effect but may lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, or conversion of agricultural and open space land to urban uses.

6.3.1 DIRECT AND INDIRECT GROWTH INDUCEMENT

A key consideration in evaluating growth inducement is whether the activity in question constitutes "planned growth." A project that is consistent with the underlying General Plan and

zoning designations would generally be considered planned growth because it was previously contemplated by these long-range documents, and, thus, would not be deemed to have a significant growth-inducing effect. Likewise, a project that requires a General Plan Amendment and re-zone to develop more intense uses than are currently allowed may be considered to have a substantial growth-inducing effect because such intensity was not contemplated by the applicable long-range documents. It should be noted that these are hypothetical examples, and conclusions about the potential for growth inducement will vary on a case-by-case basis.

The proposed Project site is designated in both the Madera General Plan and zoning ordinance for commercial development.

6.3.2 DIRECT POPULATION GROWTH

Project implementation will not have a direct growth inducing impact because the project does not include proposed dwellings. Furthermore, the proposed Project will not induce residential growth or induce people living outside the Madera area to travel to the proposed Project for employment. This is because the labor pool in the Madera area is considered sufficiently large and qualified to provide prospective employees for the proposed Project.

6.3.3 REMOVAL OF BARRIER TO GROWTH

The proposed Project would result in the extension of urban infrastructure to an area that is currently not serviced because the Project requires connection to urban infrastructure. In particular, potable water and sewer service will be extended to the Project site. While the proposed infrastructure extensions will serve development in addition to the proposed Project, the development that would be served was contemplated in both the Madera General Plan and the City's adopted Utility Master Plans. By definition, this infrastructure will create capacity beyond that required for the project, but not beyond that anticipated by the General Plan and Utility Master Plan.

Overall, the proposed Project is consistent with the land use designations contained in the Madera General Plan and will not encourage growth that exceeds population projections. Growth inducement, as it pertains to CEQA and this document, generally denotes growth that is not planned. Given that the proposed Project is in compliance with City growth projections, it will not result in significant direct growth-inducing impacts.

6.4 Effects Not Found to be Significant

CEQA Guidelines, Section 15128, states that "an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." This issue is addressed in Chapter One.

6.5 Energy Conservation

Public Resources Code Section 21100(b) (3) and CEQA Guidelines Appendix F require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the State Legislature adopted AB 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards.

AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Appendix F of the CEQA Guidelines, created by the State Resources Agency, is a guidance document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy.

This EIR considers whether the proposed Project would result in the wasteful, inefficient, and unnecessary consumption of energy, cause the need for additional natural gas or electrical energy-producing facilities, or otherwise have an excessive energy requirement in the Project operations.

6.5.1 FEDERAL ENERGY POLICY

The Federal Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Congress established the first fuel economy standards for on-road motor vehicles in the U.S through this Act. The first ever standards for heavy duty vehicles (i.e. vehicles and trucks over 8,500 pounds gross vehicle weight) were established under the Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles on September 15, 2011 in response to the President's directive on May 21, 2010. The Corporate Average Fuel Economy (CAFE) program, which is administered by United States Environmental Protection Agency, was created to determine vehicle manufacturers' compliance with the fuel economy standards. In the course of its 30+ year history, this regulatory program has resulted in vastly improved fuel economy throughout the nation's vehicle fleet.

Energy Independence and Security Act of 2007 as approved January 4, 2007 was promulgated "to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the federal government, and for other purposes" (Congress 2007).

The December 2013 Presidential Memorandum: Federal Leadership on Energy Management, which was issued to the heads of executive departments and agencies, says that by fiscal year 2020, 20 percent of the total amount of electric energy consumed by each federal agency during

any fiscal year shall be renewable energy. This was followed with a Presidential Executive Order 13693 on March 19, 2015: Planning for Federal Sustainability in the Next Decade, "in order to maintain Federal leadership in sustainability and greenhouse gas emission reductions".

6.5.2 STATE ENERGY EFFICIENCY STANDARDS

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs.

Title 24, which was promulgated by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, provides energy efficiency standards for residential and nonresidential buildings. According to the CEC, since the energy efficiency standards went into effect in 1978, it is estimated that California residential and nonresidential consumers have reduced their utility bills by at least $15.8 billion. The CEC further estimates that by 2011, residential and nonresidential consumers will save an additional $43 billon in energy costs.

In 2013, the CEC adopted new energy efficiency standards. All projects that apply for a building permit after July 1, 2014 must adhere to the new 2013 standards. The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations. The 2013 Standards also include updates to the energy efficiency divisions of the California Green Building Code Standards (Title 24, Part 11). California Green Building Standards: On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings.

Because the adoption of Title 24 post-dates the adoption of AB 1575, it has generally been the presumption throughout California that compliance with Title 24 (as well as compliance with the federal and State regulations) ensures that projects will not result in the inefficient, wasteful, and unnecessary consumption of energy. Title 24 is designed to provide certainty and uniformity throughout California while ensuring that the efficient and non-wasteful consumption of energy is carried out through design features. Adherence to Title 24 is deemed necessary to ensure that no significant impacts occur from the inefficient, wasteful, and unnecessary consumption of energy. In addition, the adoption of federal vehicle fuel standards, which have been continually improved since their original adoption in 1975, have also protected against the inefficient, wasteful, and unnecessary use of energy.

According to the CEC, reducing energy use has been a benefit to all. Building owners save money, Californians have a more secure and healthy economy, the environment is less negatively impacted, and our electrical system can operate in a more stable state. The 2013

Building Energy Efficiency Standards (Title 24) will lead to 25 percent less energy consumption for residential buildings and 30 percent savings for nonresidential buildings over 2008 Energy Standards. These standards are estimated to save 200 million gallons of water (equal to more than 6.5 million wash loads) and avoid 170,500 tons of greenhouse gas emissions a year. These savings will accumulate as the Standards affect each subsequent year of construction.

Since the California 2000–2001 electricity crisis, the CEC has placed greater emphasis on demand reductions. The 2013 standards update codes for lighting, space heating and cooling, ventilation, and water heating. These standards add approximately $2,000 to the new residential building construction costs. Estimated energy savings to homeowners, however, is more than $6,000 over 30 years.

Pursuant to the California Building Standards Code and the Title 24 Energy Efficiency Standards, the City will review the design and construction components of the Project's Title 24 compliance when specific building plans are submitted.

6.5.3 ENERGY REQUIREMENTS OF THE PROPOSED PROJECT

A project would be considered to result in a significant impact under the CEQA guidelines for public services if the project would result in the wasteful, inefficient or unnecessary consumption of energy; or a substantial increase in demand or transmission service that would require new or expanded infrastructure.

Appendix F of the CEQA Guidelines specifically calls out for discussion of energy conservation, which includes (but is not limited to):

- Decreasing energy consumption per capita;
- Decreasing fossil fuel reliance; and
- Increasing reliance on renewable energy sources.

Construction and operation of the proposed Project would increase the use of energy resources on the Project site, including fossil fuels, but would not result in wasteful, inefficient or unnecessary consumption of these resources. Implementation of the Project would result in the use of energy resources both in the short term during construction and in long term during Project operations.

6.5.4 SHORT-TERM CONSTRUCTION

The United States Environmental Protection Agency (EPA) regulates non-road diesel engines. The EPA has no formal fuel economy standards for non-road (e.g., construction) diesel engines but does regulate diesel emissions, which indirectly affects fuel economy. In 1994, EPA adopted the first set of emissions standards (Tier 1) for all new non-road diesel engines greater than 37 kilowatts (50 horsepower). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing nitrogen oxide (NOx) emissions from these engines by 30 percent. The EPA has since adopted more stringent emission standards for NOx, hydrocarbons, and particulate matter from new non-road diesel engines. These standards will further reduce

non-road diesel engine emissions for NOx and particulate matter (PM) from Tier 1 emission levels. In 2004, EPA issued the Clean Air Non-road Diesel Rule in 2014 the Rule was fully phased in and has cut emissions from non-road diesel engines significantly.

During construction the Project would consume energy from fuel energy utilized by construction equipment and vehicles and through energy utilized in the production of construction materials. Construction for the development is scheduled to begin in the first quarter of 2016, and since specific construction details were not available at the time the study was prepared, this analysis used the CalEEMod construction defaults, with the exception of acreage to be disturbed, which was supplied by the applicant. CalEEMod output is provided in the Appendix of the Air Quality Report (Appendix B). As such, a construction equipment list is not provided; however, it is anticipated that during site clearing, grading and general building construction, fossil fuels would be used in construction equipment. This increase in fossil fuel use would be temporary and would not result in a significant demand of energy resources.

During construction activities the Project proponent would comply with current regulatory requirements and rules that will reduce impacts to energy resources. Some of those requirements include vehicle idling restrictions, recycling and re-use mandates and sustainability practices (such as green building practices and materials). There are no unusual project characteristics that would necessitate the use of construction equipment that would be significantly less energy-efficient than at comparable construction sites in other parts of the region or State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region or State.

6.5.5 LONG-TERM OPERATIONS

Site Facility Electrical Demands

Operation of the Project would result in an increase in energy consumption for multiple purposes including, but not limited to, inside and outside lighting, building heating and cooling, general office equipment and commercial equipment.

The Project includes several facilities that will attract motorists; however, it is not expected to result in an increase in vehicle trips on a regional basis, based on the premise that the proposed Project is being constructed at a location that will capitalize upon existing vehicular traffic traveling on SR 99. The close proximity of the proposed travel center to SR 99 and the Avenue 17 off ramp will minimize fuel consumption that would otherwise be required if the travel center were located further from its planned location because project-related trips will for the most part be SR 99 diverted or pass-through trips rather than destination trips. A key feature of the Project is to provide new fossil fuel supplies for general consumption. The Project in and of itself; however, will only providing infrastructure to meet that demand. Due to their nature as motor vehicle-oriented land uses, travel centers do not readily lend themselves to the use of alternative transportation modes. As such, there is limited potential for reducing overall transportation energy consumption, or of specifically reducing use of fossil fuels in transportation, in conjunction with this project.

The proposed Project is anticipated to be constructed and operational by 2017, with groundbreaking occurring as early as 2016. The following table shows projected electricity use of the proposed Project once fully operational.

Table 6-1
Proposed Project Electricity Use

Mitigated Land Use	kWh/Yr
Automobile Care Center	55,275.5
Convenience Market W/ Gas Pumps	70,378
Fast Food Rest. W/ Drive Thru	327,003
Hotel	749,290
Unenclosed Parking Structure	63,120

Source: CalEMOD output for Air Quality Study 2015

According to the results listed in the table, the total yearly electricity use for the proposed Project will be 1,265,066.5 kWh per year. Accordingly; the proposed Project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use in the region.

Vehicle Fuel Demands

The proposed Project will have an effect on fuel usage associated with Travel Center patrons. As was noted in the Project Objectives (see Chapter Two, Project Description and Chapter Four, Evaluation of Alternatives), the site for the proposed Project was specifically selected as a result of it close proximity to a major highway, SR 99. Since the proposed Project is primarily intended to serve motorists traveling on SR 99, a site as close to the highway as possible was selected for the convenience of motorists. In this way, motorists would be able to obtain the services offered with the minimum amount of delay associated with travel beyond the highway. While the proposed travel center may also serve local residents who could access the Project via local streets, this patronage is not expected to comprise a large percentage of the Travel Center's business compared to SR 99 motorist visits.

The close proximity of the proposed Travel Center to SR 99 will also serve to minimize the amount of additional fuel that would otherwise be spent traveling to and from the Travel Center. Based on the distance of the proposed Project to the northbound and southbound SR 99 on- and off-ramps, it is estimated that vehicles would travel a distance of less than 0.25 miles in order to obtain services at the Travel Center. The vehicle fuel usage associated with this travel distance would be relatively small. At an average 21.6 miles per gallon, the average light duty vehicle would require .0116 gallons to travel this distance, while the average semi truck at 6.0 miles per gallon would require .042 gallons (Bureau of Transportation Statistics). Additionally, many of these vehicles are likely to need refueling along their route, whether they stop at the Project site or another fueling station. The existing Pilot Travel Center to the north of the proposed Project, and the Arco on Avenue 17 are approximately the same distance from SR 99.

6.5.6 ENERGY CONSERVATION

The proposed Project's structures would be designed to comply with the Madera's Building Code and as previously stated, would be required to adhere to the Title 24 2013 standards. These requirements include standards for water and space heating and cooling equipment, insulation and commercial appliances. These standards, along with additional energy conservation designs and practices and mitigation measures employed by the proposed Project, would reduce impacts to energy resources during Project operations. Additionally, the Applicant will work with the SJVAPCD to demonstrate adoption of BPSs for the proposed Project.

Several design features presented in the Project Description of the EIR are considered to be beneficial to air quality. These features will reduce energy demand by design and are included as part of the Project. Included is:

> The applicant is proposing to have all proposed outdoor lighting fixtures to be energy efficient LED. In addition, signage for the travel stop, hotel, and restaurant, and the monument sign at Avenue 17 entrance and directional signs throughout the Project site is proposed to be internally LED illuminated.

With the incorporated features, strict adherence to existing federal and State regulations, rules and permits, this proposed Project is not expected to result in wasteful, inefficient and unnecessary consumption of energy or the need for additional energy facilities or an undue burden on existing facilities.

6.5.7 CONCLUSION

In summary, the operation of the proposed Project would result in the consumption 1,265,066.5 kWh per year of electricity. Additional gasoline would be consumed during both construction and operation of the proposed Project. There are a number of energy conservation measures that will be incorporated into the design, construction, and operational aspects of the Project, as discussed above, which would result in a reduction in energy consumption. In conclusion, the proposed Project would not result in a significant impact to energy resources, as energy conservation measures incorporated into the Project's design and operation would avoid wasteful, inefficient, or unnecessary consumption of energy.

CHAPTER SEVEN

REFERENCES

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CHAPTER EIGHT

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APPENDICES

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