

DRAFT
ENVIRONMENTAL IMPACT REPORT

Ventana Specific Plan

September 2006

Prepared by:

Quad Knopf, Inc.
One Sierragate Plaza
Suite 270C
Roseville, California 95678



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Submitted to:

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

Prepared by:



Quad Knopf

One Sierragate Plaza, Suite 270C
Roseville, California 95678

(916) 784-7823

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

The project proponent has applied with the City of Madera for the development of two parcels located south of the city limits at the intersection of Avenue 13 and Road 28 ¼ in unincorporated Madera County. This Draft EIR has been prepared for the following discretionary actions:

- Request for annexation of 20 parcels totaling 300.2 acres to the City of Madera.
- General Plan amendment for two parcel from “RC(AG)” Resource Conservation, Agriculture to “LDR” Low Density Residential, “MDR” Medium Density Residential, “NC” Neighborhood Commercial, “PF(ES)” Public Facility Elementary School, and “PF(CY)” Public Facility Corporate Yard.
- Prezone request proposing the establishment of Planned Development (PD3000, PD4500, and PD6000), Neighborhood Commercial (C-N), Public Facility (PF), Residential-Agricultural (RA), Medium Density Residential (R2), and Professional Office (PO) zoning classifications.
- Approval of the Ventana Specific Plan
- Vesting Tentative Subdivision Map Application for a 1,043 lot subdivision

This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and guidelines and is an informational document intended to inform public-decision-makers, responsible or interested agencies and the general public of the potential environmental effects of the proposed project, and where applicable, mitigation measures that can be implemented to reduce or avoid the potential adverse environmental effects.

Project Description

The proposed project would enable construction of approximately nine contiguous detached, single-family residential neighborhoods with various lot sizes, approximately 18.7 acres of Plan Area parks and landscaped open space, an elementary school to serve citizens within the community, a future commercial site that will be used as an ongoing agricultural operation until such time that the property owner may want to develop it for retail commercial uses, and all related public services, utilities, and other necessary infrastructure.

The proposed residential development will include a mix of low density and medium density lots typically ranging from 3,000 to over 6,000 square feet, which will provide a mix of homes for a diverse citizen base. The proposed Plan Area parks will include three recreation area, connected by linear landscaped open space, such that residents are provided with recreational opportunities within walking distance. Approximately 15.0 acres at the northwest corner of the project site have been reserved for the construction of an elementary school—the construction of which is

Potential Areas of Controversy and Issues to be Resolved

The following issues could produce controversy in reviewing and considering the proposed project:

- **Aesthetics:** Affects on the visual character and quality of Madera. The project site is viewable from the Highway 99 corridor as well as from existing residential developments to the north and west.
- **Agriculture Resources:** Conversion of Important Farmland to nonagricultural uses. The entire project site is classified as Important Farmland and approximately 241 acres are currently under agricultural production.
- **Air Quality:** Increase in emission of criteria air pollutants. Demolition, construction and operation of the proposed project will result in increased emissions of both particulate matter and ozone precursors.
- **Biological Resources:** Disturbance of potential raptor nesting habitat. The southwestern portion of the project site contains numerous trees that have the potential to support nesting habitat for raptors.
- **Hydrology:** Place people or structures within a floodplain. Most of the project site is located within a FEMA 100-year flood plain.
- **Land Use and Planning:** Annexation of parcels to the City of Madera and General Plan Amendment. Upon project approval, 20 parcels totaling approximately 300.2 acres will be annexed to the City of Madera. The City of Madera General Plan will be amended to redesignate the project site land uses.
- **Noise:** Exposure to and creation of excessive noise levels. Demolition and construction of the proposed project will result in temporary noise levels exceeding City standards. Additionally, once constructed the proposed development will be permanently exposed to traffic noise levels that exceed City standards.
- **Population, Housing and Employment:** Increase in area population. The proposed project will house up to 4,590 people at build out which represents a 7.5 percent increase to the city's projected 2010 population.
- **Transportation/Traffic:** Project and cumulative increase in area traffic. The proposed project will increase traffic on the local street system and Highway 99, and will reduce the level of service at intersections near the project site.

Table S-1
Summary of Impacts and Mitigation Measures

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
3.1 Aesthetics					
3.1-1	Have a substantial adverse effect on a scenic vista.	Less Than Significant		No mitigation measures are required.	
3.1-2	Substantially damage scenic resources including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.	No Impact		No mitigation measures are required.	
3.1-3	Substantially degrade the existing visual character or quality of the site and its surroundings.	Potentially Significant		No mitigation measures are available.	Significant and Unavoidable
3.1-4	Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area.	Less Than Significant		No mitigation measures are required.	
3.2 Agriculture Resources					
3.2-1	Conversion of Important Farmland to non-agricultural use.	Potentially Significant		No mitigation measures are available.	Significant and Unavoidable
3.2-2	Conflict with a Williamson Act contract or agricultural zoning.	Less Than Significant		No mitigation measures are required.	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				Building Department. All SJVAPCD requirements shall be met prior to and as a condition of approval of any tentative subdivision maps.	
3.3-2	Adverse affects related to the removal and disposal of existing vineyards.	Potentially Significant	3.3-2	<ul style="list-style-type: none"> All chemically treated wood (e.g., stakes and end posts) from the vineyard must be removed and disposed of properly. Treated wood shall not be shredded or chipped. If shredding or chipping equipment is to be used for processing the vineyard waste, the equipment shall be permitted by the SJVAPCD, or registered by the CARB or the SJVAPCD as Portable Equipment. Visible emissions created from the shredding or chipping equipment shall not exceed 20 percent opacity or Ringlemann 1 and any standard specified on a Permit to Operate or Portable Equipment Registration Certificate. 	Less Than Significant

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. Limit traffic speeds on unpaved roads 	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to between 7:00 a.m. and 5:00 p.m. on non-federal holiday weekdays. 	
3.3-4	Increased emissions of particulate matter and ozone precursors during project operation phase.	Potentially Significant	3.3-4	<p>The project proponent shall provide the following features within the Plan Area in order to promote alternative transportation use:</p> <ul style="list-style-type: none"> Transit enhancing infrastructure that includes: transit shelters, benches, etc.; route signs and displays; and/or bus turnouts/bulbs. Pedestrian enhancing infrastructure that includes: direct pedestrian connections; street trees to shade sidewalks; pedestrian safety designs/infrastructure; street furniture and artwork; and/or pedestrian signalization and signage. 	Less Than Significant
3.3-5	Increased carbon monoxide levels from project traffic.	Less Than Significant		No mitigation measures are required.	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> Complete a Demolition Permit Release form for submission to the City's Building Department. <p>All SJVAPCD requirements shall be met prior to and as a condition of approval of any tentative subdivision maps.</p>	
			3.3-2	<ul style="list-style-type: none"> All chemically treated wood (e.g., stakes and end posts) from the vineyard must be removed and disposed of properly. Treated wood shall not be shredded or chipped. If shredding or chipping equipment is to be used for processing the vineyard waste, the equipment shall be permitted by the SJVAPCD, or registered by the CARB or the SJVAPCD as Portable Equipment. Visible emissions created from the shredding or chipping equipment shall not exceed 20 percent opacity or Ringlemann 1 and any standard specified on a Permit to Operate or Portable Equipment Registration Certificate. 	Cumulatively Considerable

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. Limit traffic speeds on unpaved roads 	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to between 7:00 a.m. and 5:00 p.m. on non-federal holiday weekdays. 	
3.4 Biological Resources					
3.4-1	Substantial adverse impacts on candidate, special-status or sensitive species.	Less Than Significant		No mitigation measures are required.	
3.4-2	Substantial adverse affect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations or by the CDFG or USFWS.	No Impact		No mitigation measures are required.	
3.4-3	Substantial adverse affect on federally protected wetlands through direct removal, filling, hydrological interruption or other means.	No Impact		No mitigation measures are required.	
3.4-4	Interfere substantially with the movement of any native resident or migratory fish or wildlife species	Potentially Significant	3.4-4	Approximately 30 days prior to commencement of construction, a qualified biologist shall conduct a survey for birds	Less Than Significant

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
3.4-6	Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional or state habitat conservation plan.	No Impact		Open Space for Natural and Human Resources Policy 5. No mitigation measures are required.	
3.5 Cultural Resources					
3.5-1	Implementation of the proposed project may disturb or destroy buried cultural resources (archaeological, paleontological or human remains) within the project site.	Potentially Significant	3.5-1	<ul style="list-style-type: none"> To ensure that buried cultural resources or human remains, if encountered, are recognized by construction crews, a worker education plan shall be initiated prior to project implementation. Information describing potentially significant resource characteristics and the procedures to be followed in the event of such a discovery shall be provided. Shall any artifacts, exotic rock types or unusual amounts of bone, or shell be uncovered during construction activities, work shall be halted and a qualified archaeologist shall be consulted for an on-the-spot-evaluation. 	Less Than Significant

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<p>siltation and other pollutants will be implemented per NPDES permit requirements and City standards. The plan shall address storm drainage during construction and propose BMPs to reduce erosion and water quality degradation. All drainage facilities shall be constructed to City of Madera specifications.</p> <p>Drainage facilities shall be protected as necessary to prevent erosion of the on-site soils immediately following grading activities. In addition, 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 energy immediately following grading activities. Cut and fill embankment slopes shall be protected from sheet, rill, and gully erosion.</p> <p>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.</p>	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> All household rubbish or hazardous waste such as empty pesticide and herbicide containers, waste oil jugs or any additional hazardous materials discovered shall be removed from the site and disposed of at an appropriate disposal facility prior to residential development. 	
3.7-4	Hazards from wildland fires.	No Impact		No mitigation measures are required.	
3.8 Hydrology and Water Quality					
3.8-1	Violate any water quality standards or waste discharge requirements.	Less Than Significant		No mitigation measures are required.	
3.8-2	Depletion of groundwater supplies or interference with groundwater recharge.	Less Than Significant		No mitigation measures are required.	
3.8-3	Change the existing drainage pattern of the project area.	Less Than Significant		No mitigation measures are required.	
3.8-4	Place people or structures within a 100-year floodplain.	Less Than Significant		No mitigation measures are required.	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				of Phase 7, and continue as a 6-foot tall wall to the south end of Phase 8. Additionally, a barrier 7 feet in height shall be constructed along the south side of Avenue 13. This will reduce Avenue 13 traffic noise levels to 60 dB Ldn.	
3.11-2	Development within the project site may be exposed to interior State Route 99 traffic noise levels which exceed the Madera County General Plan Noise Element criterion of 45 dB Ldn.	Potentially Significant	3.11-2	The first row of residences adjacent to State Route 99 shall be restricted to single story. As an alternative, second floor facades shall identify construction techniques that provide noise level reduction in all dwellings to ensure interior noise levels are less than 45 dBA.	Less Than Significant
3.11-3	Activities associated with construction will result in elevated noise levels within the immediate area.	Potentially Significant	3.11-3	All construction equipment shall be equipped with factory recommended mufflers. All equipment shall be in good working order. Construction activities shall be restricted to the hours between 7 a.m. and 7 p.m. Monday through Friday, and to the hours between 8 a.m. and 7 p.m. Saturday through Sunday. No construction activities shall occur on Federal holidays.	Less Than Significant

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
	enrollment from the proposed development.			impact fees according to the most current fee schedule adopted by the district per square foot of assessable space constructed as part of the proposed project. These fees shall be paid as a condition of issuance of any building permits.	
3.14 Recreation					
3.14-1	Increased use of parks and other recreational facilities as a result of increased population from the proposed project.	Less Than Significant		No mitigation measures are required.	
3.15 Transportation/Traffic					
3.15-1	Increase traffic in relation to the existing traffic load and capacity of the street system and/or individually exceed a level of service standard established by the county congestion management agency for designated roads or highways.	Potentially Significant	3.15-1	<p>The developers of the Ventana Specific Plan project site shall be required to complete the following improvements, which will be constructed at the time the impact will be expected to occur:</p> <ul style="list-style-type: none"> Construct Avenue 13 and County Road 28 ¼ Frontage Improvements (Intersection 11). The portions of Avenue 13 and County Road 28 ¼ fronting the project will need to be constructed to applicable City of Madera Arterial and Collector standards. In each case the opposite 	Less Than Significant

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<p>controls may be needed, depending on the scale and configuration of future commercial development. Further analysis, leading to the development of an Access Plan will be needed when site plans are prepared.</p> <p>The following improvements have previously been identified by the City as required mitigation for other approved residential development projects located near the project site. Given that development of the Ventana Specific Plan contributes to the need for these improvements, developers of projects in the Ventana Specific Plan area shall be required to pay their fair share of the cost of these improvements. Such fair share contribution shall be made pursuant to the City of Madera's Traffic Impact Mitigation Fee program for those improvements located within the City of Madera and pursuant to a fee study-based regional traffic fee program alongside other developers where the improvement is located outside the city.</p> <ul style="list-style-type: none"> • Signalize the Avenue 13/Golden State 	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> Signalize the Avenue 12/NB State Route 99 ramps intersection (Intersection 16). A traffic signal will be required when the project is built out. Caltrans is currently pursuing plans to install traffic signals at this location. (County of Madera; California Department of Transportation) 	
3.15-2	Potential to cumulatively exceed a level of service standard established by the county congestion management agency for designated roads or highways.	Potentially Significant	3.15-2	<p>Long-term conditions in the study area reflect continuing development of the MSSCCSP and the implementation of major planned improvements to the State Route 99/Avenue 12 and State Route 99/State Route 145 interchanges.</p> <p>Developers of projects in the proposed project shall be required to pay their fair share of the cost of the improvements identified below. Where such improvements are within the jurisdiction of the City of Madera (as noted below), such fair share contribution shall be made pursuant to the City of Madera's Traffic Impact Mitigation Fee program. Where the improvement is within the jurisdiction of an agency other than the City to approve or</p>	Significant and Unavoidable

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<ul style="list-style-type: none"> Widen the westbound Almond Avenue approaches to Madera Boulevard (State Route 145) (intersection 4). Signalize Avenue 13/County Road 28 intersection (intersection 10). Signalize Golden State Blvd/State Route 99 ramps intersection (intersection 14). Improve Madera Blvd/Olive Avenue/State Route 99 SB on-ramps intersection (intersection 2). It will be necessary to add additional lanes to the improvements already planned by Caltrans. These improvements include a separate southbound right turn lane and a separate eastbound through lane. The project shall contribute its fair share to the cost of this improvement. Improve the Olive Avenue/SB State Route 99 off-ramp intersection (intersection 3). A separate right turn lane is needed. 	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
				<p>freeway access to Almond Avenue is created the volume of traffic through the Avenue 13/Golden State intersection will increase as well. This intersection will need to be widened to the City's four lane arterial street standard, and dual southbound left turn lanes shall also be accommodated or a roundabout intersection shall be installed. The project shall contribute its fair share of the cost of these improvements. (City of Madera)</p> <ul style="list-style-type: none"> Install "interim" improvements to the State Route 99/Avenue 12 Interchange (Intersections 14, 15, 16). The "interim" modification project described in the "Caltrans State Route 99/Avenue 12 Interchange Modification PSR" will improve performance to Level of Service "D." While these improvements are identified in a PSR, Caltrans has stated during the environmental review of other proposed projects that certain of the improvements are not funded or scheduled. If the City of Madera expands its fee program to include the 	

Impact #	Impact	Significance	Mitigation #	Mitigation Measure	Significance After Mitigation
	increase in traffic levels or a change in location that results in substantial safety risks.				
3.15-4	Substantially increase hazards due to a design feature or incompatible uses.	Less Than Significant		No mitigation measures are required.	
3.15-5	Result in inadequate emergency access.	Less Than Significant		No mitigation measures are required.	
3.15-6	Result in inadequate parking capacity.	Less Than Significant		No mitigation measures are required.	
3.16 Utilities and Service Systems					
3.16-1	Increase in demand for water supply and construction of additional water supply infrastructure.	Potentially Significant	3.16-1	As a condition of approval at the tentative map stage, the applicant shall commission a study to evaluate the project site's water system for adequacy of water pressures and fire flows when connecting to existing off-site facilities and proposed wells. This more detailed analysis or model will determine the necessity for additional well sites based on City of Madera design standards. City design standards require a minimum of 5 gpm per service plus fire flow. Fire flow shall be determined using the most current edition of the Insurance	Less Than Significant

CHAPTER ONE

INTRODUCTION

CHAPTER ONE INTRODUCTION

1.1 Introduction

The project proponent and the City of Madera Planning Department (City) has sought the assistance of Quad Knopf, Inc. in the preparation of an Environmental Impact Report (EIR) for the proposed Ventana Specific Plan (hereinafter, "proposed project"). The proposed project consists of an annexation, general plan amendment, pre-zoning and a vesting tentative subdivision map application. This Draft EIR evaluates the potential environmental effects that might result from the proposed project. This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and guidelines.

In accordance with CEQA guidelines, this Draft EIR is an informational document intended to inform public decision-makers, responsible or interested agencies and the general public of the potential environmental effects of the proposed project. The environmental review process has been established to enable interested parties to evaluate a proposed project in terms of its environmental consequences, to examine and implement methods to eliminate or reduce potential adverse impacts and to consider a reasonable range of alternatives to the proposed project. While CEQA requires that major consideration be given to avoiding adverse environmental effects, the lead agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including the economic and social benefits of a proposed project, in determining whether a proposed project should be approved.

1.2 Procedures and Purpose

The City of Madera chose not to prepare an initial study for the proposed project; however, it has been determined that the proposed project is likely to result in significant adverse environmental impacts. Therefore, the City chose to prepare a full scope EIR that will discuss and analyze all 16 environmental issues identified by CEQA and will determine the extent of the impacts, identify mitigation measures to reduce potential impacts and identify any impacts that cannot be mitigated. On September 28, 2005 the City prepared and circulated a Notice of Preparation (NOP) to responsible, trustee, and local agencies for review and comment. NOP comments were received from the City of Madera Police Department, the City of Madera Parks and Community Services, the California Public Utilities Commission, the City of Madera Engineering Division, the California Department of Transportation, the California Regional Water Quality Control Board, the Madera City Fire Department, the U.S. Department of Transportation Federal Aviation Administration, a City of Madera Special Projects Engineer, the City of Madera Director of Special Transportation Projects, the City of Madera Public Works Department, and the San Joaquin Valley Air Pollution Control District. On October 27, 2005 a scoping meeting was held at the City Council Conference Room to further solicit information as to the exact scope, focus, and content of the EIR. A copy of the NOP is contained in Appendix A and the NOP comments are contained in Appendix B of this Draft EIR. The State Clearinghouse number for the proposed project is 2005091149.

- 1) The EIR shows a good faith effort at full disclosure of environmental information; and
- 2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 require lead agencies to adopt a Mitigation Monitoring and Reporting Program (MMRP) to describe measures that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. Any mitigation measures adopted by the City as conditions of project approval will be included in an MMRP to verify compliance. This MMRP is adopted by resolution at the time of project approval.

1.3 Organization of the EIR

CHAPTER ONE

Chapter One briefly describes the procedures and purpose for environmental evaluation of the proposed project, the contents and organization of the Draft EIR, and a brief methodology discussion.

CHAPTER TWO

Chapter Two provides the project description, including project location, area characteristics, background, objectives, and proposed action, and describes uses of the Draft EIR, required agency actions and permits.

CHAPTER THREE

Chapter Three provides an environmental analysis evaluating each topical area. Each topical area is organized as follows:

Introduction. Each environmental topic is preceded by a description of the topic and a brief statement of the rationale for addressing the topic.

Environmental Setting. Description of the existing environment in and around the project area.

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

Thresholds of Significance. The thresholds of significance are the standards or thresholds by which impacts are measured, with the objective being the determination of whether an impact will be significant or less than significant. The purpose is to establish the level at which an environmental impact will be considered significant.

The adoption of the Ventana Specific Plan and certification of this Specific Plan EIR is expected to exempt subsequent individual residential projects within the Plan Area from further environmental review under the requirements of the CEQA Guidelines Section 15182. The State CEQA Guidelines provide that: "Where a public agency has prepared an EIR on a Specific Plan...no EIR or negative declaration need be prepared for a residential project undertaken pursuant to and in conformity to that Specific Plan if the project meets the requirements of this section."

This exemption from the requirement to prepare an EIR on a future residential development in the Plan Area is applicable provided that there are no significant changes in the circumstances under which the future projects are undertaken or new information that would require important revisions in the EIR for the Specific Plan as described in CEQA Guidelines Section 15162. However, for nonresidential uses, such as the commercial land use and the school facilities, the lead agency (the City of Madera or the School District) may elect or require, depending upon the findings of specific initial studies of the potential environmental effects of such projects, to either reference the Specific Plan EIR or, alternatively, prepare separate, subsequent environmental documents.

An initial study was not prepared for the proposed project. Therefore, all 16 environmental issues identified by CEQA will be discussed in full detail. Each of these topics is described below:

AESTHETICS

This section of the Draft EIR describes important viewsheds in or surrounding the project site, the existing visual character and quality of the project site itself, as well as any visual resources that may be affected by project implementation that are located within a scenic highway. Potential impacts from construction and operation of the proposed project on aesthetics and visual resources are then analyzed.

AGRICULTURE RESOURCES

This section of the Draft EIR describes Madera's agricultural industry, existing characteristics of the project site with regards to agriculture, the potential of the project site to be used for agricultural production, and the potential impacts of project implementation on agricultural resources. Agricultural resources are assessed on the basis of soils analysis and mapping and applicable policies.

AIR QUALITY

This section of the Draft EIR discusses air quality issues related to short-term construction activities and long-term operational aspects of the proposed project. Fugitive dust emissions from construction and vehicular traffic, and emissions of particulate matter from wood burning stoves are evaluated. Potential worst-case vehicular emissions associated with the project at build-out are calculated. Cumulative air quality impacts are also assessed.

MINERAL RESOURCES

This section of the Draft EIR describes regional mineral resources and mineral extraction operations of the Madera area as well as mineral resources and extraction operation within the project site. This section also evaluates the potential loss of availability of known mineral resources and extraction operations due to land use conversions.

NOISE

This section of the Draft EIR addresses project-related noise impacts associated with construction activities, stationary sources and vehicular traffic generated by the proposed project. Additionally, this section discusses traffic-related noise impacts from State Route 99 which is located to the east of the project site.

POPULATION AND HOUSING

This section of the Draft EIR describes existing and future population and housing characteristics of the Madera region and discusses the potential impacts to these characteristics anticipated as a result of the proposed project.

PUBLIC SERVICES

This section of the Draft EIR describes the existing public services provided by the City of Madera including police, fire, emergency medical services, schools, libraries and public transportation. This section also analyzes potential impacts to these service and facilities that are anticipated as a result of the proposed project.

RECREATION

This section of the Draft EIR describes the existing parks and recreational facilities provided by the City of Madera as well as potential impacts to these facilities that may result from implementation of the proposed project. Additionally, this section discusses the landscaped open space and Plan Area parks that are planned as part of the proposed project.

TRANSPORTATION / TRAFFIC

This section of the Draft EIR addresses potential impacts associated with traffic and transportation systems in the project vicinity, which may result from construction and operation of the proposed project. The analysis considers the regional and local roadways, current and project-related traffic conditions and access to the project site.

UTILITIES AND SERVICE SYSTEMS

This section of the Draft EIR describes the existing utilities and service systems provided by the City of Madera including water supply, wastewater collection and treatment, storm drainage management, solid waste collection, and street maintenance as well as other utilities and service

CHAPTER TWO

PROJECT DESCRIPTION

CHAPTER TWO PROJECT DESCRIPTION

2.1 Project Location

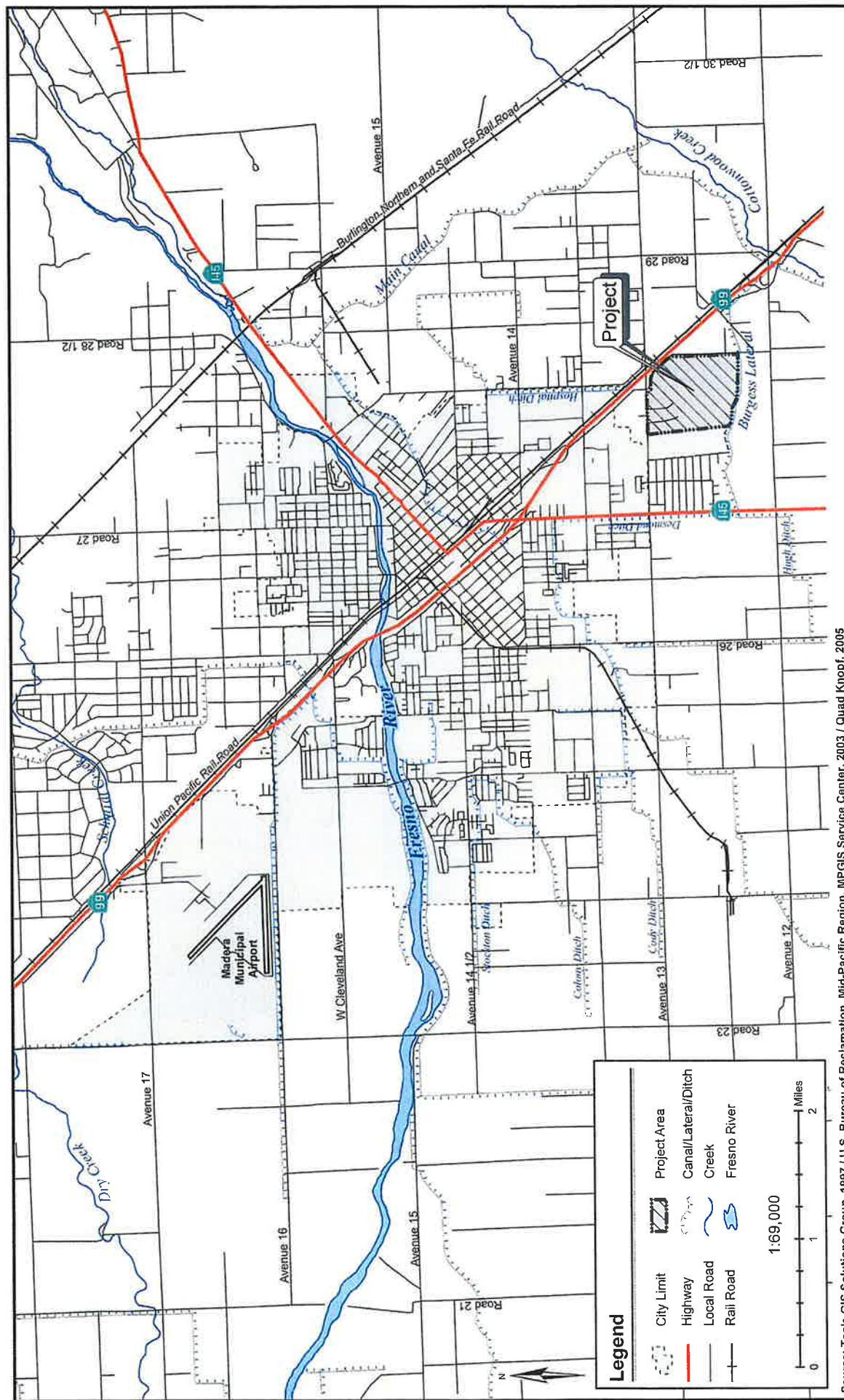
The project site is located west of State Route 99, southeast of the City of Madera in unincorporated Madera County. Figure 2-1 provides an illustration of the project location and Figure 2-2 provides an illustration of the annexation area boundary, project site boundary and surrounding parcels as well as an aerial view of the vicinity. The annexation area includes all land within the project site (250.6 acres), plus 18 parcels (49.55 acres) located north of the project site for a total of 300.2 acres. This annexation area is bound by State Route 99 to the northeast, the city limit line to the north and west, the proposed Hazel Avenue extension to the south, and Road 28 ¼ to the east within Sections 31 and 32 of Township 11 South, Range 18 East, Mount Diablo Base and Meridian. Table 2-1 identifies the parcels that are proposed for annexation.

Table 2-1
Parcels Proposed for Annexation

Parcel Address	Parcel Number	Parcel Acreage
Parcels Outside the Specific Plan Boundary		
13286 Golden State Blvd., Madera CA 93637	034-100-009	6.28
27807 Avenue 13, Madera CA 93637	034-100-068	1.15
--	034-100-070	1.32
27845 Avenue 13, Madera CA 93637	034-100-069	1.00
13188 Apricot Lane, Madera CA 93637	034-100-079	1.18
13156 Apricot Lane, Madera CA 93637	034-100-078	1.19
27549 Avenue 13, Madera CA 93638	034-100-074	0.43
27595 Avenue 13, Madera CA 93638	034-100-064	1.00
27605 Avenue 13, Madera CA 93638	034-100-077	1.00
27661 Avenue 13, Madera CA 93638	034-100-035	5.37
27673 Avenue 13, Madera CA 93637	034-100-032	5.00
27687 Avenue 13, Madera CA 93637	034-100-042	0.34
27699 Avenue 13, Madera CA 93637	034-100-041	0.83
27725 Avenue 13, Madera CA 93637	034-100-040	3.71
27749 Avenue 13, Madera CA 93638	034-100-033	5.00
27781 Avenue 13, Madera CA 93638	034-100-034	5.00
13234 Golden State Blvd., Madera CA 93637	034-100-071	6.57
27845 Avenue 13, Madera CA 93637	034-100-067	3.18
Total	--	49.55
Parcels Inside the Specific Plan Boundary		
27781 Avenue 13, Madera CA 93638	470-14-005	151.22
13234 Golden State Blvd., Madera CA 93637	470-14-007	100.58
Total	--	251.8*

*Total acreage of project site as surveyed is 250.6

Source: Madera County Assessor's Office; Quad Knopf, Inc.

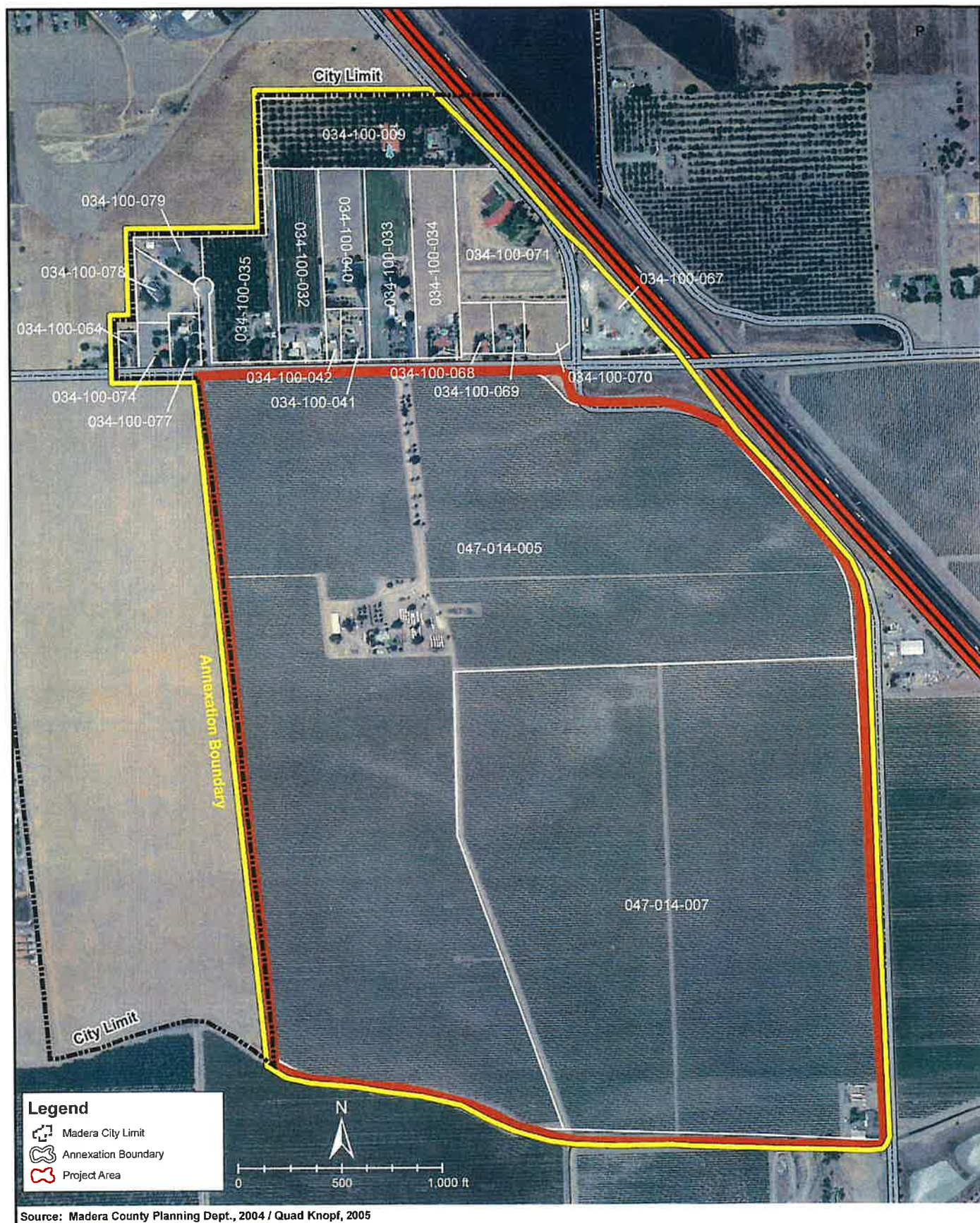


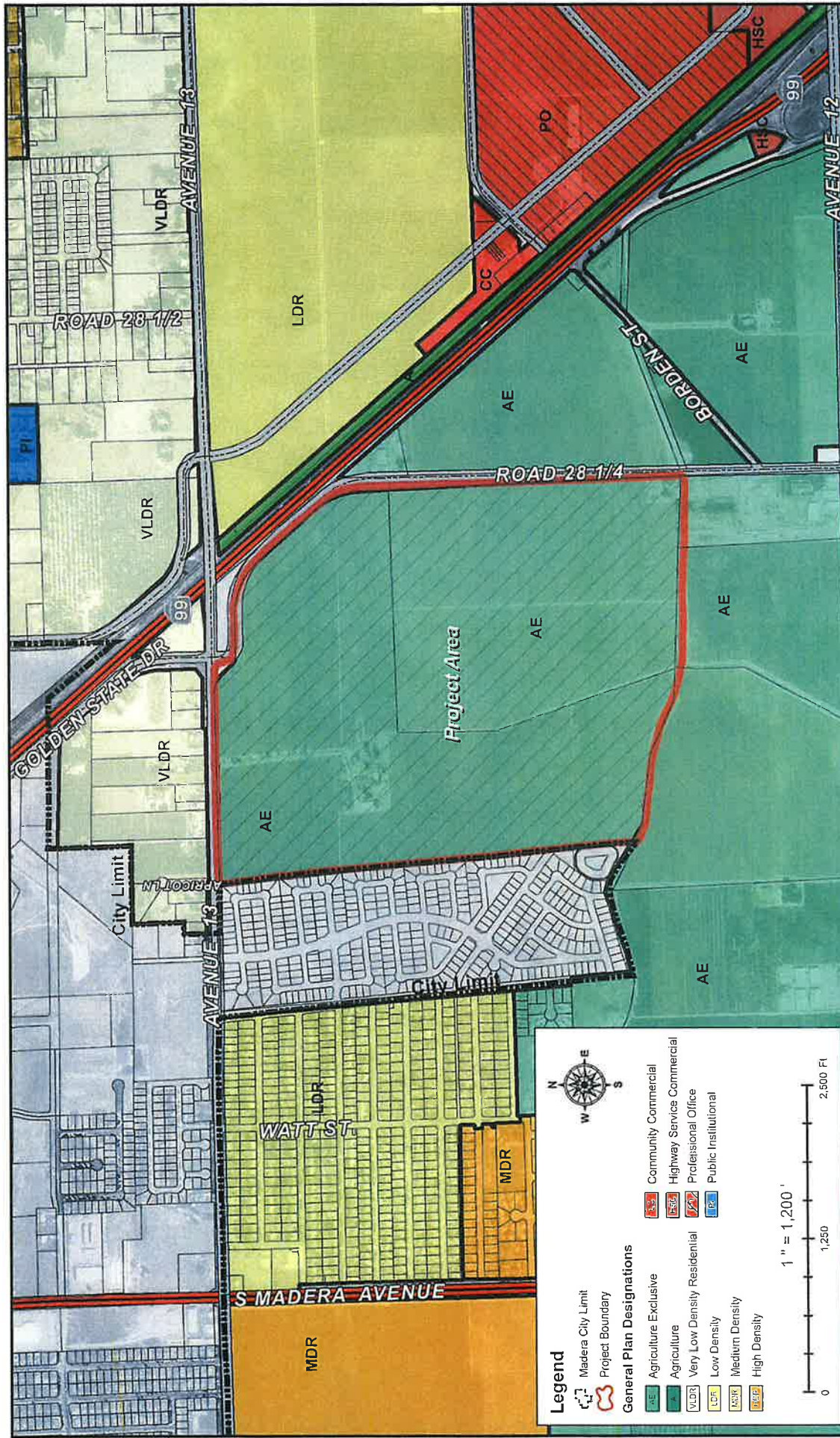
Source: Teale GIS Solutions Group, 1997 / U.S. Bureau of Reclamation, Mid-Pacific Region, MPGIS Service Center, 2003 / Quad Knopf, 2005



LOCATION MAP

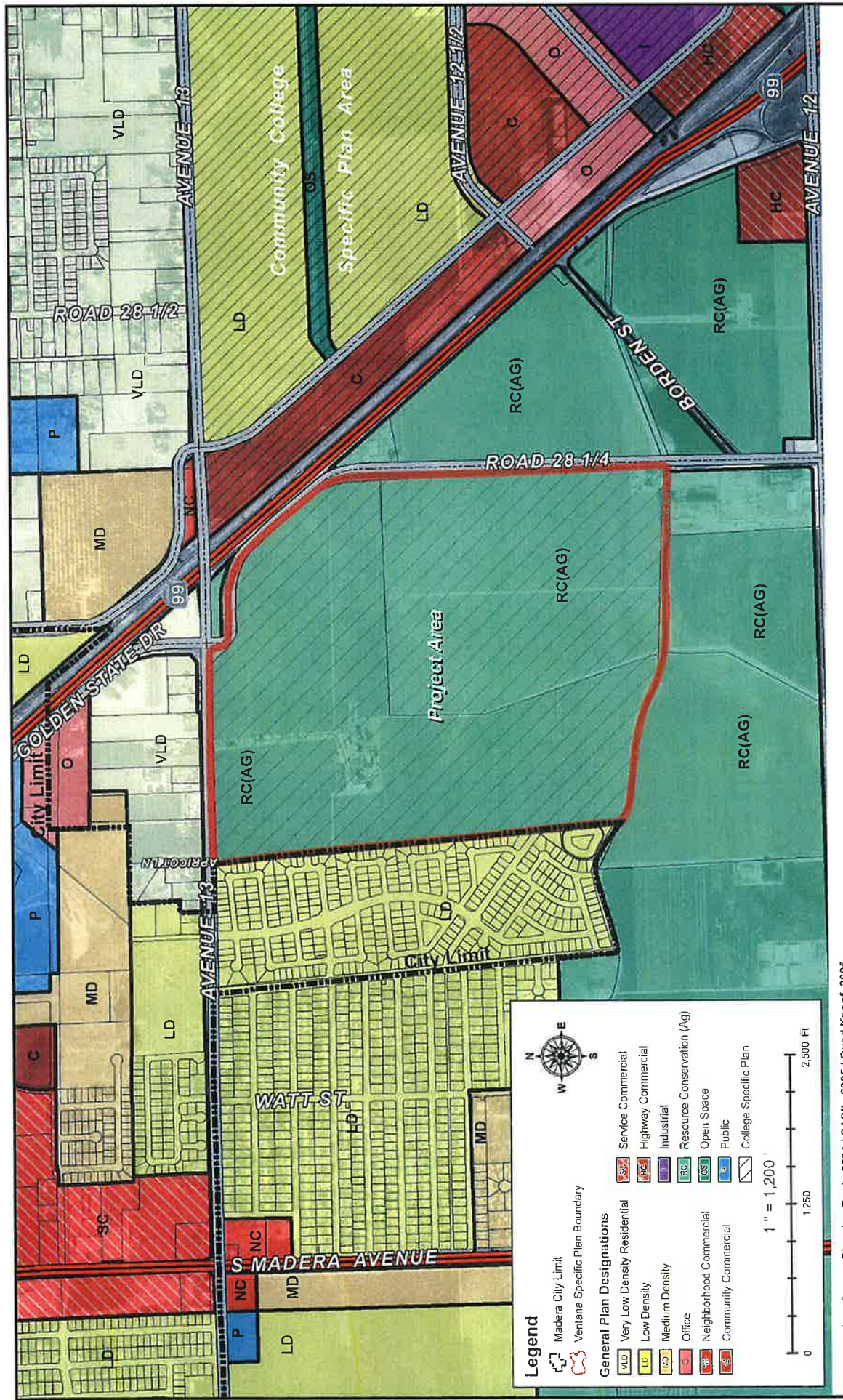
Figure 2-1





**EXISTING COUNTY OF MADERA
GENERAL PLAN LAND USE DESIGNATIONS**

Figure 2-3



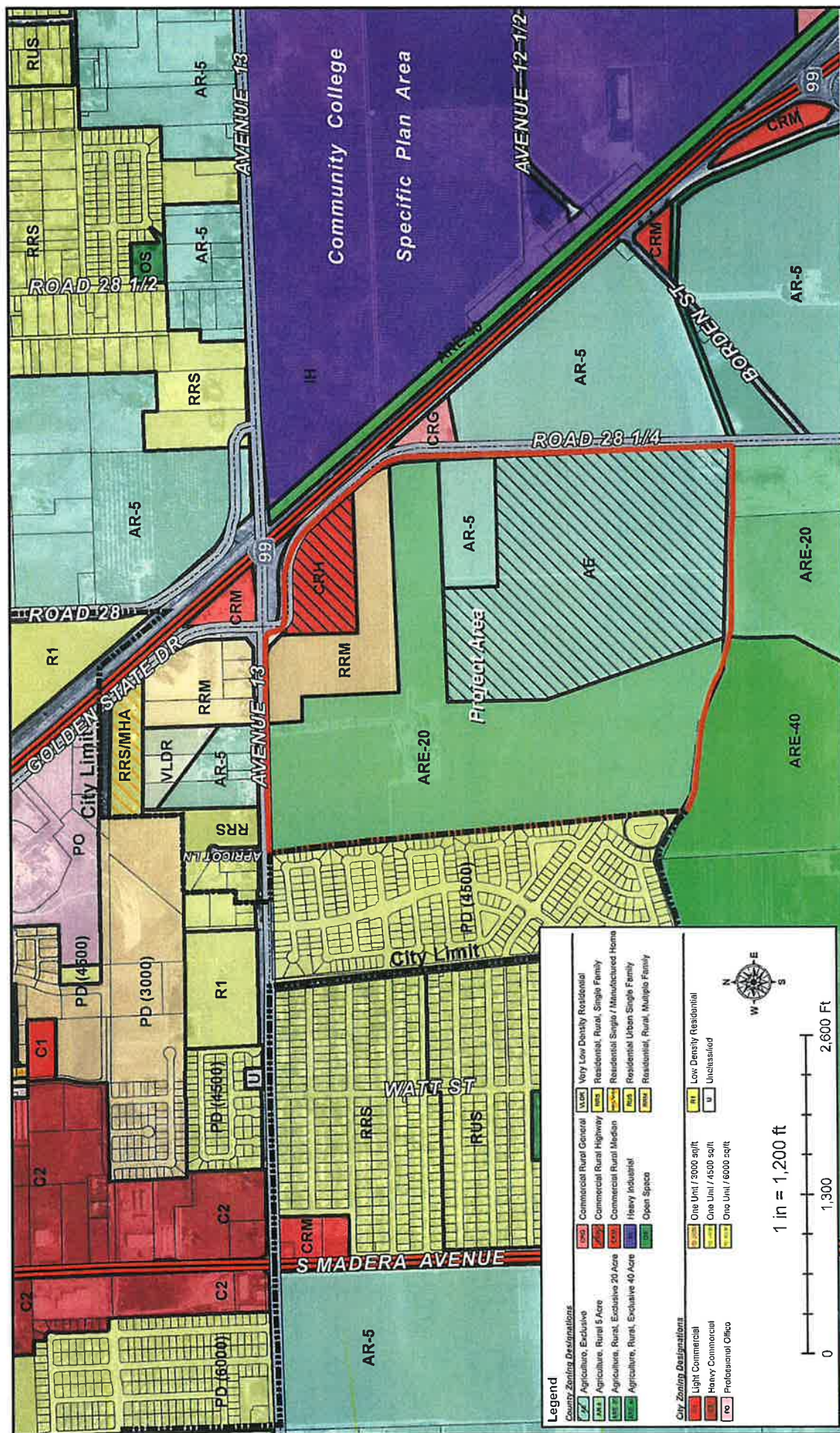
Source: Madera County Planning Dept., 2004 / CASIL, 2005 / Quad Knopf, 2005



Quad Knopf

EXISTING CITY OF MADERA GENERAL PLAN LAND USE DESIGNATIONS

Figure 2-4



EXISTING MADERA CITY AND COUNTY ZONING DESIGNATIONS

simultaneously with installation of infrastructure and improvements for the project site. Environmental impacts associated with the construction of such utilities and related infrastructure are included in this Draft EIR.

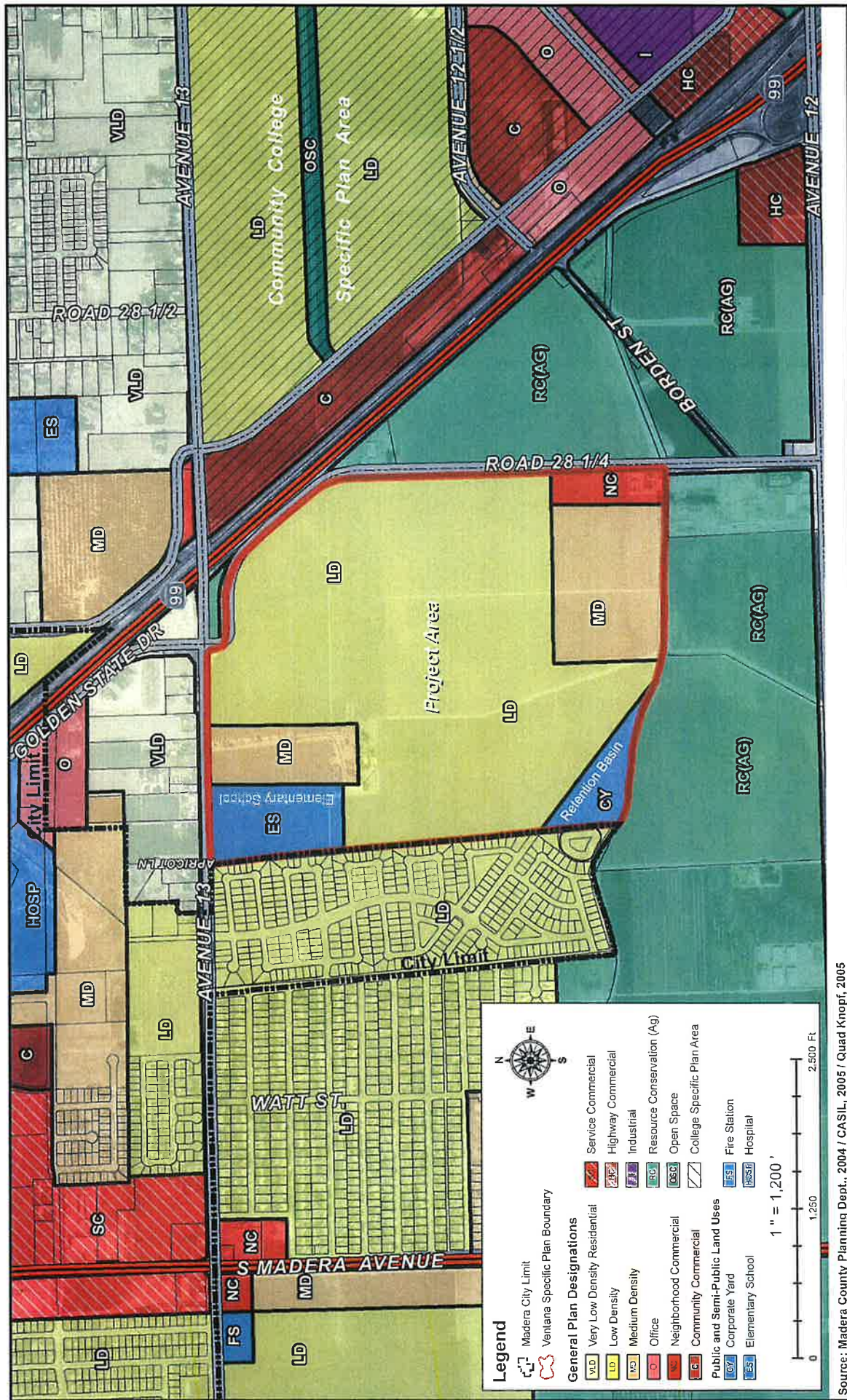
The project does not propose any development within any portion of the annexation area other than the project site with the possible exception of off-site infrastructure to be constructed within existing public rights-of-way including installation of water or sewer lines north in Golden State Boulevard and Apricot Lane to service annexation area parcels. All structures that are located within the annexation area and to the north of Avenue 13 will remain in place. The existing City land use designations for this area will remain unchanged. Additionally, the proposed prezone designations will correspond to these land use designations and existing uses. Although environmental impacts related to the designation of these parcels were analyzed in the City of Madera General Plan EIR further analysis is required in this Draft EIR with regard to the annexation and pre zoning of these parcels.

SURROUNDING AREA CHARACTERISTICS

According to a Department of Water Resources land use survey conducted in 2001 and site visits conducted by Quad Knopf staff in 2005, the project site is primarily surrounded by agricultural land uses to the south and southeast and scattered farmsteads (rural ranchettes) to the north. Directly west of the project site, is the Highlands at Rancho Valencia, a detached low density residential development currently under construction. Further west of this development project is an existing low density residential development. To the east of State Route 99 is the Community College Specific Plan area that is anticipated to be developed with low density, medium density, and high density residential uses. The surrounding agricultural uses primarily include vineyards, mixed pasture, and field crops with tree crops such as apricots, peaches and nectarines located east of State Route 99.

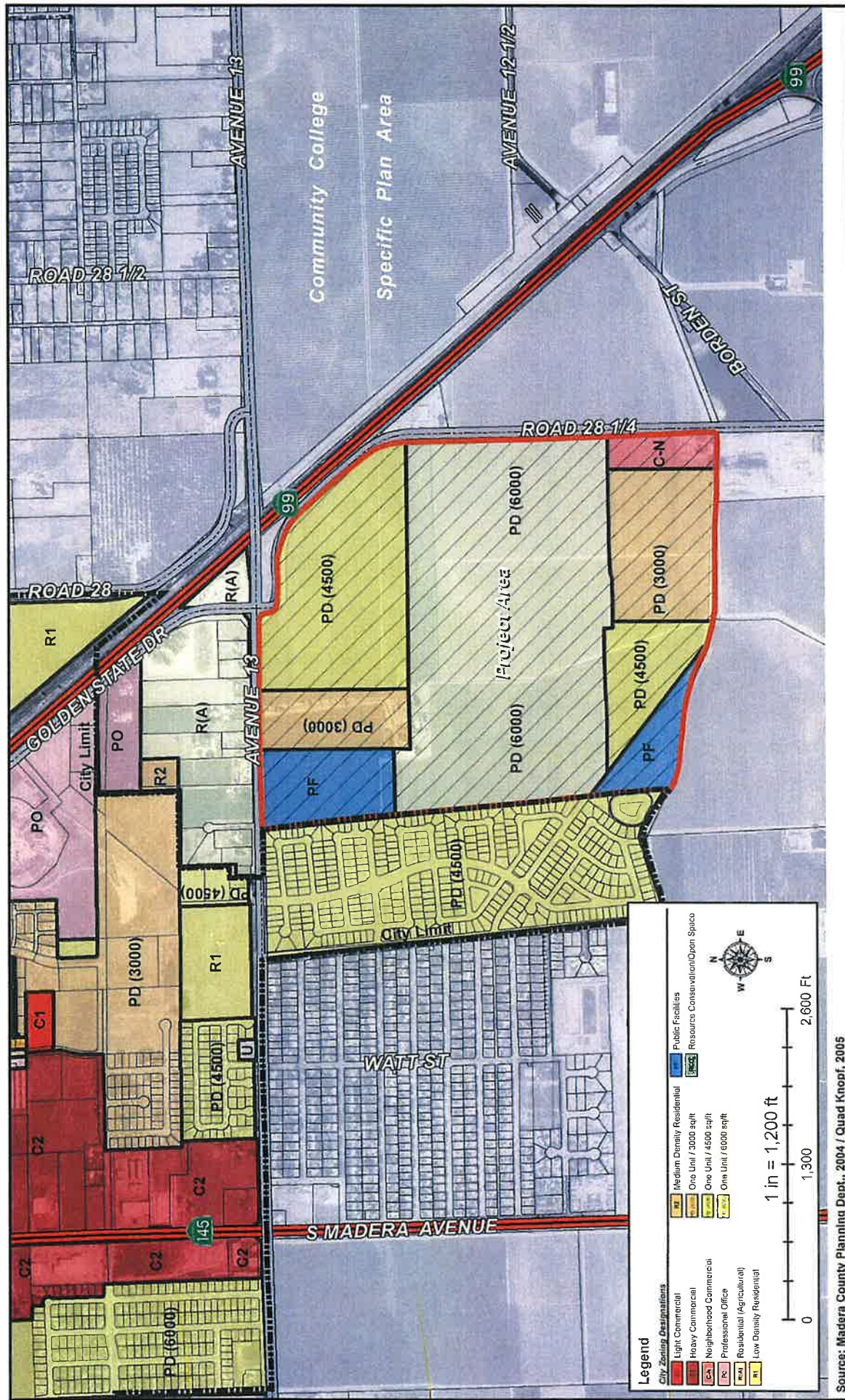
2.3 Project Objectives

- To provide a community that can be developed in an integrated fashion through a Specific Plan rather than through fragmented subdivision processes.
- To facilitate orderly growth through development consistent with immediately adjacent and nearby existing and planned development.
- To create a mixture of residential land uses and housing products that provide housing for various income levels and types of households.
- To create housing in compact urban forms adjacent to transit corridors so as to maximize use of transit and shorten commute times for City residents.
- To create maximum opportunities for the residents of the project site and vicinity to walk to planned educational, recreational and commercial uses thereby reducing the need for residents to travel outside the area.



**CITY OF MADERA PROPOSED
GENERAL PLAN LAND USE DESIGNATIONS**

Figure 2-6



**CITY OF MADERA PROPOSED
PREZONE DESIGNATIONS**

Figure 2-7



- PD 6000
- PD 4500
- PD 3000

Lotting Illustrative Only

Source: Quad Knopf, 2005



CONCEPTUAL NEIGHBORHOOD PLAN

Figure 2-8

neighborhoods. A commercial site (5.1± acres) will be located in the southeastern corner of the project site along Avenue 28 ¼. This site will continue to be used as an agricultural commercial operation until such time that the property owner decides to develop the site. The remaining southwestern portion of the project site (8.5± acres) will be used for the construction of a stormwater basin. These various land uses are illustrated in Figure 2-6 and are summarized in Table 2-2 below.

Table 2-2
Proposed Specific Plan Land Uses

Land Use Designations	Zoning Classifications	Proposed Gross Acreage	Proposed Gross Percent
Low Density Residential	PD 4500 and PD 6000	179.0±	±71.1%
Medium Density Residential	PD 3000	43.0±	±17.1%
Neighborhood Commercial	Neighborhood Commercial	5.1±	±2.3%
Public Facility (Elementary School)	Public Facilities	15.0±	±6.0%
Public Facility (Corporate Yard)	Public Facilities	8.5±	±3.5%
		250.6±	

Source: Quad Knopf, Inc.

The proposed development will be constructed in phases according to market demand and will consist of nine distinct neighborhoods of detached, single-family residences. The single-family detached homes will consist of a mixture of one- and two-story floor plans with a maximum height of 35 feet. All homes will likely be wood-framed with stucco exterior walls and likely incorporate an earth-tone palette, unless market conditions demand alternative construction materials. Various architectural styles (e.g., Craftsman) and floor plans (e.g., one- or two-story, three- or four-bedroom) will be used. Additionally, each neighborhood will include the construction of all required municipal improvements such as access roads, landscaped entry points, roadways, curbs, gutters, sidewalks, water, storm drainage, and sewer infrastructure. Some of these improvements will be constructed outside the project site boundaries including the extension of utilities within existing roadways and the installation of new traffic signals along Avenues 12 and 13.

Landscaped open space will be constructed during the development of Neighborhoods 2, 6 and 7. Access roads and landscaped entry features will be developed within Neighborhoods 1 and 6. Table 2-3 presents a breakdown of the anticipated gross acreage within each neighborhood, which includes land for open space, roadways, and infrastructure. The total number of units that can be built assuming a 30 percent reduction in the gross acreage for parks, roadways and infrastructure is approximately 1,500 detached residential units (700 x 6,000 sf; 280 x 5,000 sf; and 520 x 3,000 sf). However, with the design/environmental constraints and the desire to add recreational opportunities, educational opportunities, landscaping, and enhance the access roads, the Specific Plan will enable development of between 1,000 and 1,200 residential units. For the purposes of this Draft EIR, a worse-case scenario of 1,500 residential units will be analyzed.

The Specific Plan includes two access points from Avenue 13 and two access points from Road 28 ¼. An extension of Hazel Avenue will also be located along the southern boundary, and may provide additional access to the project site.

State
Public Utilities Commission
Regional
San Joaquin Valley Air Pollution Control District
Regional Water Quality Control Board (Central Valley Region)
Local
Madera Local Agency Formation Commission
Madera County Planning Department
Madera Unified School District
City of Madera Community Development Department
City of Madera Police Department
Madera City Fire Department
City of Madera Parks and Community Services Department

Source: Quad Knopf, Inc.

The project site will be annexed into the City of Madera, and implementation of the Specific Plan will require various City approvals (see Table 2-5). Among these are adoption of the Specific Plan, and approval of the General Plan amendment, prezone application, building permits, encroachment permits, occupancy permits, and other local regulatory approvals. The annexation will also require certain actions and approvals by other local agencies as well as certain regional and State agencies that have been identified as Responsible Agencies pursuant to CEQA. The Responsible Agencies include the Madera Local Agency Formation Commission, which will need to approve annexation of the project site and the remainder of the annexation area; the Regional Water Quality Control Board, which will need to approve certain stormwater permits; and Madera County, which will need to issue encroachment permits. The necessity of these approvals for project construction and operation is considered part of the regulatory setting for the proposed project.

Table 2-5
Subsequent Permits, Approvals, Review and Consultation Requirements

Agency	Approval
City of Madera	Adoption of Specific Plan General Plan Amendment Zoning Change Vesting Tentative Subdivision Maps Final Subdivision Maps Demolition Permit Building Permits Grading Permit Encroachment Permits Occupancy Permits Water Supply Well Permits Development Agreement

CHAPTER THREE

SETTING, IMPACTS & MITIGATION MEASURES

3.1

AESTHETICS

3.1 Aesthetics

This section addresses the aesthetic and visual impacts of the proposed project on the surrounding area. Aesthetic impacts are considered to be those issues and impacts which can be objectively analyzed and quantified. These include light pollution, glare production, reflectivity, change in visual character, and impacts to a scenic vista. The analysis does not include subjective measures of aesthetics, such as the attractiveness of the design, the color of the buildings, or other matters of opinion or preference. The analysis focuses only on those impacts that can be objectively evaluated with respect to a potentially significant impact on the environment. During the NOP period no comments were received regarding aesthetics.

3.1.1 SETTING

Environmental Setting

EXISTING PHYSICAL ENVIRONMENT

The project site is located in the San Joaquin Valley of California southeast of the City of Madera, in unincorporated Madera County. The site is bounded by Avenue 13 and existing rural ranchettes to the north; Road 28 ¼, State Route 99 and agricultural uses on the east; agricultural uses to the south; and a low density residential development currently under construction to the west. The site is currently used for agricultural production consisting of several active vineyards. Additionally, there is one residence on the project site, which can be accessed by a dirt road from Avenue 13.

There are currently three major roadways that run near the project site, Avenue 13, Road 28 ¼ and State Route 99. Avenue 13 is a two-lane road that runs east-west along the northern boundary of the project site. Road 28 ¼ is a two-lane road that borders the project site to the east and intersects Avenue 13 to the north. State Route 99 is a major state highway that runs north-south and is located just east of the project site.

PROPOSED IMPROVEMENTS

The proposed project will include a mix of low density and medium density residential units, approximately 18.7 acres of Plan Area parks and landscaped open space, a site for a potential future elementary school, and a neighborhood commercial development. The low and medium density residential development will consist of a mixture of one- and two-story floor plans with a maximum height of 35 feet. The proposed landscaped open space will include three recreational areas connected by landscaped open space. The elementary school will be constructed in the northwest corner of the project site. The commercial development is proposed to be placed in the southeast corner of the project site.

The existing residence and all of the existing vineyards and related structures will be demolished in two phases prior to project construction.

A County or City may nominate an eligible highway for designation as a scenic highway if it meets certain criteria based on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the view. To nominate such a highway, the local jurisdiction, with citizen participation, must submit a scenic corridor protection program to the Caltrans Departmental Transportation Advisory Committee that includes the following components:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising;
- Attention to and control of earthmoving and landscaping;
- Attention to the design and appearance of structures and equipment.

Scenic highway designation can provide several types of benefits to the region. Designation as a scenic highway may also enhance land values and promote local tourism. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low density development is allowed on steep slopes and along ridgelines along scenic highways, and noise setbacks are required for residential development.

LOCAL

City of Madera General Plan

Goal No. 6: New development (public as well as private) is to reflect high levels of community appearance and image through development regulations which express appropriate concern for visual quality through site planning and engineering, architectural design, landscaping, use of signs, and the maintenance of public and private buildings and sites.

Open Space for Natural and Human Resources Policies:

1. Appropriate trees within public rights-of-way are to be retained and new street trees planted and maintained in accordance with policies and procedures of the City's Master Street Tree Plan and Street Tree Ordinance. Only trees which are badly diseased, disruptive of street improvements because of root growth, or dangerous to the public shall be allowed to be removed. The installation of street trees shall be made a condition of approval of residential, commercial, industrial and institutional development along such streets.
2. Appropriate ornamental walls, street trees, shrubs and automatic irrigation shall be required as a condition of approving residential subdivisions and other types of development which are designed to back-on to an Arterial or Collector street.

Ultimately, foreground and middle ground views of portions of the site will be altered from agricultural uses to views of primarily residential development and some commercial development in the southeastern corner. Development of low density residential neighborhoods has already occurred and is continuing to occur in the areas surrounding the project site, primarily to the west, north and northwest. Since development is already present around the site, the change in view can be characterized as moderate.

State and County governments can designate scenic vistas; however, there are no State or County designated scenic vistas in the vicinity of the project site. The General Plan does not designate the site as scenic or as an area having highly-valued scenic resources.

Based on the evaluation criteria, this impact is considered to be *less than significant*.

Mitigation Measure

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.

Discussion/Conclusion: The project site is not located within view of a designated scenic highway; therefore, the proposed project will have *no impact*.

Mitigation Measure

No mitigation measures are required.

Impact #3.1-3: Substantially degrade the existing visual character or quality of the site and its surroundings.

Discussion/Conclusion: Existing residential neighborhoods located to the north and west of the project site as well as traffic on State Route 99 have views of the project site. The current uses on the project site, the agricultural uses to the south and east, and the rural ranchette style homes to the north provide the area with a rural visual character. Implementation of the proposed project will degrade this existing visual character by transforming it to an urban residential and commercial character.

The area that lies directly west of the project site is currently being developed into a low density residential neighborhood (Highlands at Rancho Valencia). Additionally, the area north of the project site is designated by the City of Madera General Plan and Zoning Ordinance for various types of urban development. To the east of the site lie a major state route and a small agricultural area, portions of which are designated and zoned for commercial uses.

The project site is primarily surrounded by existing or future urban development. The proposed project will be required to comply with various City design-review processes and planned unit

Implementation Measure LU-5 in the Land Use Plan of the Specific Plan provides for the use of buffers, setbacks and screening to improve compatibility between land uses. Buffers, such as vegetation, will be used in the project site to provide shielding of light and glare between residential and commercial uses.

The proposed project will have a *less-than-significant* impact.

Mitigation Measure

No mitigation measures are required.

3.2

AGRICULTURE RESOURCES

3.2 Agriculture Resources

This section of the Draft EIR addresses potential impacts to agricultural resources on the project site and its surroundings. The analysis specifically focuses on the potential productivity of the soils on site to support agriculture, and the potential impacts that the project will have on the continued use of surrounding properties for agricultural production. This section relies heavily on mapping and soil analysis. During the NOP period no comments were received regarding agriculture resources.

3.2.1 SETTING

Environmental Setting

REGIONAL AGRICULTURAL INDUSTRY

Madera County is a major agricultural producing county in California, with a gross income of over \$700 million in 2002. The County's most important crop is grapes with 84,163 acres of farmland devoted to grape production in 2002. The County is currently ranked third in the State and the nation for grape production. Other important crops include almonds, pistachios, cotton and forage. As of 2002, Madera County contained 1,780 farms with a cumulative land area of 682,486 acres.

HISTORICAL AND EXISTING AGRICULTURAL USES

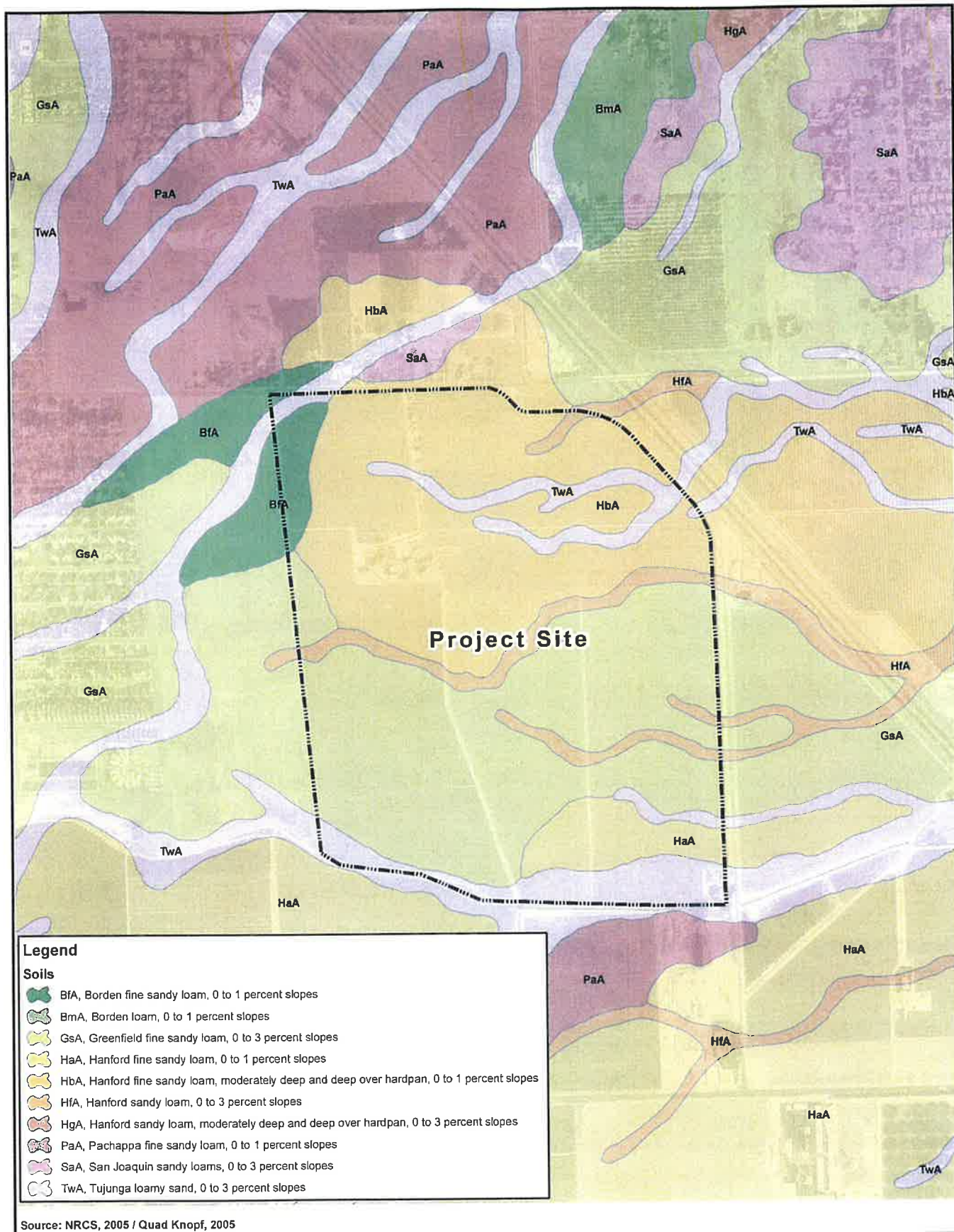
Agricultural production on the project site began in 1874 and consisted entirely of grain crops. Gradually, the area was converted to vineyards for the production of raisin grapes. The project site was also periodically used for the production of deciduous fruit and for cattle grazing. Additionally, in the late 19th century a dairy and creamery were operated on or near the project site. Currently, approximately 241 acres or 96 percent of the project site is devoted to vineyards for the production of raisin grapes.

AGRICULTURAL SOILS

According to the Natural Resources Conservation Service (NRCS), the project site encompasses 251.8 acres consisting of seven different soil types. These soil types are described in Table 3.2-1 below and are illustrated in Figure 3.2-1.

Table 3.2-1
Project Site Soil Types

Soil Name	# of Acres	% of Project Site	Storie Index	Capability Classification	Crop Suitability
Borden fine sandy loam (BfA)	5.3	2.1	85	2s	Cotton, alfalfa, grain, and vineyards; dryland grain and pasture
Greenfield fine sandy loam (GsA)	99.4	39.5	95	1	Irrigated field, forage, and fruit crops; dryland grain and pasture



for defining and delineating this land are to be determined by the appropriate State agency or agencies. Generally, farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. In some states, farmlands of statewide importance may include tracts of land that have been designated for agriculture by State law.

The 2002 Madera Area Soil Survey indicates that 370,987 acres of the county are Important Farmland, 100,677 acres of which are considered Prime Farmland. Between 2000 and 2002, 859 acres of Important Farmlands within Madera County were converted to urban and built-up land.

Figure 3.2-2 shows the Important Farmlands located on and in the vicinity of the project site. The project site encompasses 148 acres of land classified as Prime Farmland if Irrigated and 104 acres of land classified as Farmland of Statewide Importance.

Regulatory Setting

FEDERAL

There are no specific federal regulations applicable to agriculture resources.

STATE

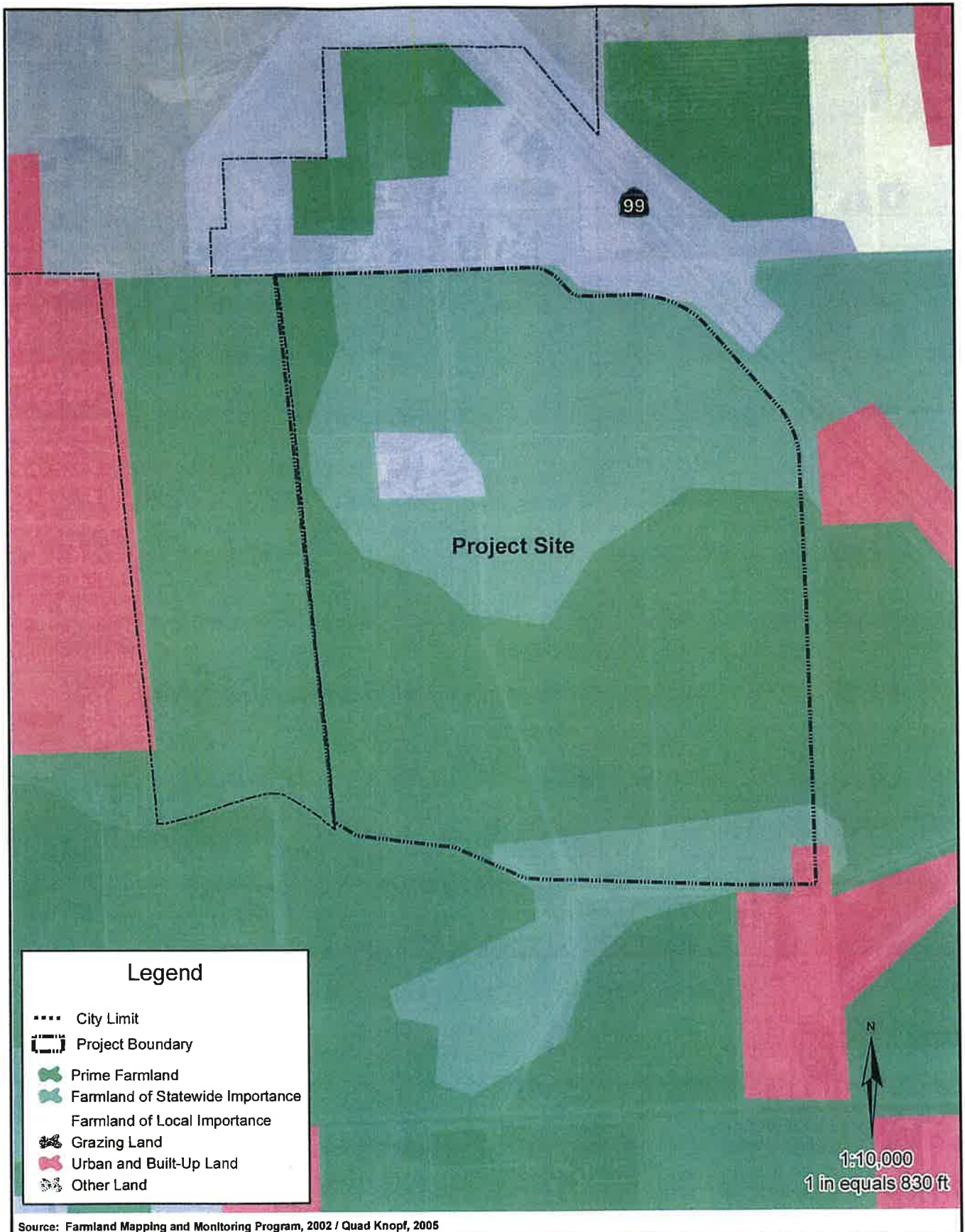
Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the State via the Open Space Subvention Act of 1971.

LOCAL

City of Madera General Plan

1. To avoid the premature conversion of agricultural lands both within and outside of the city limits, residential commercial and industrial "reserves" have been designated on the General Plan Diagram to be withheld (generally) from urban development until after the year 2000. This includes "reserves" which may be annexed during the interim.
2. Productive agricultural acreage should be developed under a phasing program which will retain agricultural production as long as possible.
3. The extent of urbanization proposed is based on the principle that the capacity to accommodate population and economic growth is dictated by the need to preserve



result in the conversion of approximately 250 acres of Important Farmland. Similar to other counties in California, Madera County has experienced a significant loss of agricultural land in the last several decades. Recent technological innovations and new irrigation techniques may have made possible the more efficient use of existing agricultural land and may have resulted in the farming of land previously thought to be unusable for agriculture. Conversion of this property to a residential use would irrevocably result in the loss of 250 acres of Important Farmland. This impact is considered *potentially significant*.

Mitigation Measure

No mitigation measures are available to fully reduce this impact to a level of insignificance; therefore, this impact is considered *significant and unavoidable*.

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

Discussion/Conclusion: The project site is not currently under a Williamson Act contract and implementation of the proposed project will not conflict in any way with a Williamson Act contract. The project site is currently zoned by the City of Madera Zoning Ordinance ARE-20 or Agricultural, Rural, Exclusive, Twenty-Acre District. The proposed project includes a request for a rezone of the project site to Planned Development. Approval of the rezoning will ensure compliance with the City's zoning ordinance. Therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.2-3: Indirect conversion of surrounding Important Farmland to non-agricultural use.

Discussion/Conclusion: As illustrated in Figure 3.2-2, undeveloped lands to the south and east of the project site are classified by the NRCS as Prime Farmland or Farmland of Statewide Importance. These areas are currently used for vineyard operations. The proposed project will extend municipal infrastructure closer to these undeveloped areas, thereby potentially supporting their future development. Additionally, the proposed project will place pressure to develop these adjacent lands by placing urban development in proximity to ongoing agricultural operations thereby potentially creating land use incompatibilities and resulting in nuisance complaints.

The water and sewer service infrastructure plans contained in the proposed Specific Plan provide for the oversizing and extension of water and sewer lines to allow for potential connections to future development east and south of the project site. The current City and County General Plans designate these areas for agricultural use and there are no pending applications for development on these parcels; therefore, the extension of water and sewer infrastructure could facilitate unplanned development. However, according to the City's water, sewer and storm drainage system master plans, the infrastructure improvements and extensions that will support the proposed development have been planned for in anticipation of development on the project

3.3

AIR QUALITY

3.3 Air Quality

This section of the Draft EIR describes the climate and air pollution climatology of the appropriate air basin, U.S. EPA criteria pollutants, and the air basin's attainment status for each, as well as current regional air quality. Emissions from project implementation are analyzed and mitigation measures are presented. This analysis relies on an URBEMIS Model run (see Appendix C) and the traffic analysis described in Section 3.15 of this document (see Appendix L). During the NOP period a comment regarding air quality was received from the San Joaquin Valley Air Pollution Control District (SJVAPCD). This comment letter can be found in Appendix B of this Draft EIR.

3.3.1 SETTING

Environmental Setting

CLIMATE

The climate of the project site and the vicinity is typical of inland valleys in California, with hot, dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100 degrees Fahrenheit, with lows in the 60s. In winter, daytime temperatures are usually in the 50s, with lows around 35 degrees. Radiation fog is common in the winter and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring months. Winds in the fall and winter are generally lighter and more variable in direction.

AIR POLLUTION CLIMATOLOGY

The project site is located in the San Joaquin Valley Air Basin, which is defined by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south (see Figure 3.3-1). The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers, which are created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below, are formed in the San Joaquin Valley Air Basin throughout the year. During the summer, the basin experiences daytime temperature inversions at elevations from 2,000 and 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor.

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

CRITERIA POLLUTANTS

The U.S. Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse

Pollutant	Characteristics	Health Effects	Major Sources
		Brain and nerve impairment Heart and blood disease/impairment	

Source: California Air Resources Board; U.S. Environmental Protection Agency

Ozone

Ozone (O₃) is a photochemical oxidant and the major component of smog. While O₃ in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O₃ at ground level are a major health and environmental concern. O₃ is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O₃ levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as automobiles, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of O₃ causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O₃ not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O₃ for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Major O₃ precursors include mobile sources such as cars, light-duty and heavy duty trucks and stationary emission sources such as industrial facilities, home furnaces, wood burning appliances and waste disposal and treatment facilities.

Carbon Monoxide

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



Source: California Air Resources Board, 2004 / Quad Knopf, 2005



Quad Knopf

CALIFORNIA AIR BASINS

Figure 3.3-1

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. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage and death.

Diesel exhaust is a TAC of growing concern in California. The California Air Resources Board (CARB) in 1998 identified diesel engine particulate matter as a TAC. The exhaust from diesel engines contains hundreds of different gaseous and particulate components, many of which are toxic. Many of these compounds adhere to the particles and, because diesel particles are so small, they penetrate deep into the lungs. Diesel engine particulate has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships and farm equipment are by far the largest source of diesel emissions.

IDENTIFICATION OF SENSITIVE RECEPTORS

Sensitive Receptors are defined as facilities where sensitive population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. The project itself will be a new sensitive receptor as it will include residences and an elementary school site. Other nearby sensitive receptors are existing and planned homes to the north and west of the site. Additionally, the Madera Community Hospital is located less than 0.5 miles north of the site along State Route 99.

ATTAINMENT STATUS AND REGIONAL AIR QUALITY PLANS

Federal and State air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards. Under both the Federal and State Clean Air Acts, the San Joaquin Valley Air Basin is a non-attainment area (i.e., standards have not been attained) for ozone and particulate matter (PM₁₀ and PM_{2.5}). The air basin is either attainment or unclassified for other ambient standards.

To meet Federal Clean Air Act requirements, the SJVAPCD adopted an Extreme Ozone Attainment Demonstration Plan in 2004 and a PM₁₀ Attainment Demonstration Plan in 2006. The most recent Federal ozone plan (*Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone*, December 2002) determined that it could not be demonstrated that the federal ozone standards could be met by the required date of November 15, 2005. In December 2003, the SJVAPCD requested that the EPA downgrade the Valley's ozone status from "severe" to "extreme" non-attainment, and in April 2004 the EPA approved the downgrade. The downgrade avoids automatic sanctions and will extend the deadline for meeting attainment until November 15, 2010, but requires implementation of stricter controls on existing and future air pollutant sources.

To meet California Clean Air Act requirements, the SJVAPCD is currently drafting an update to the 2000 Triennial Plan updating the Air Quality Attainment Plan (AQAP) addressing the California ozone standard. The California Legislature, when it passed the California Clean Air

Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		EPDC	Year Coverage
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State		
1995	0.0		44.5			47	122.0	122.0		94

Note: EPDC – Expected Peak Day Concentration

Source: California Air Resources Board, 2005.

REGIONAL AIR EMISSIONS

The CARB recently published the 2004 estimates of the Annual Average Emissions in Madera County. Tables 3.3-4 through 3.3-7 provide the emission estimates for stationary, area-wide and mobile sources, as well as the cumulative air emissions in the county.

Table 3.3-4

2004 Estimated Annual Average Emissions for Madera County – Stationary Sources

Stationary Sources	TOG	ROG	CO	NO _x	SO _x	PM	PM ₁₀	PM _{2.5}
Fuel Combustion								
Electric Utilities	0.01	0.00	0.18	0.28	0.06	0.19	0.19	0.18
Cogeneration	-	-	-	0.00	-	-	-	-
Oil And Gas Production (Combustion)	-	-	-	0.00	-	-	-	-
Manufacturing And Industrial	0.02	0.01	0.07	0.62	0.11	0.03	0.03	0.03
Service And Commercial	0.16	0.13	0.57	1.52	0.15	0.11	0.10	0.10
Other (Fuel Combustion)	0.30	0.03	0.05	0.10	0.00	0.00	0.00	0.00
* Total Fuel Combustion	0.51	0.19	0.93	2.97	0.33	0.35	0.34	0.33
Waste Disposal								
Other (Waste Disposal)	0.02	0.01	-	-	-	-	-	-
* Total Waste Disposal	0.02	0.01	-	-	-	-	-	-
Cleaning And Surface Coatings								
Laundering	0.03	0.00	-	-	-	-	-	-
Degreasing	0.08	0.05	-	-	-	-	-	-
Coatings And Related Process Solvents	0.44	0.41	-	-	-	-	-	-
Printing	0.08	0.08	-	-	-	-	-	-
Adhesives And Sealants	0.03	0.03	-	-	-	-	-	-
Other (Cleaning and Surface Coatings)	0.21	0.14	-	-	-	0.00	0.00	0.00
* Total Cleaning & Surface Coatings	0.86	0.71	-	-	-	0.00	0.00	0.00
Petroleum Production And Marketing								
Oil and Gas Production	0.01	0.00	-	-	0.00	-	-	-
Petroleum Marketing	0.33	0.33	-	-	-	-	-	-
* Total Petroleum Production & Marketing	0.34	0.33	-	-	0.00	-	-	-
Industrial Processes								
Chemical	0.06	0.05	-	-	0.03	0.00	0.00	0.00
Food And Agriculture	1.99	1.64	1.51	6.06	0.03	0.72	0.42	0.22
Mineral Processes	0.19	0.16	0.00	1.33	0.08	1.04	0.50	0.38
Metal Processes	-	-	-	-	-	0.00	0.00	0.00
Wood And Paper	-	-	-	-	-	0.07	0.05	0.03

Mobile Sources	TOG	ROG	CO	NO_x	SO_x	PM	PM₁₀	PM_{2.5}
Heavy Heavy Duty Diesel Trucks (Hhdv)	0.22	0.19	0.83	3.56	0.04	0.09	0.09	0.07
Motorcycles (Mcy)	0.11	0.10	0.84	0.02	-	0.00	0.00	0.00
Heavy Duty Diesel Urban Buses (Ub)	0.01	0.01	0.02	0.11	0.00	0.00	0.00	0.00
Heavy Duty Gas Urban Buses (Ub)	0.15	0.12	1.20	0.13	-	-	-	-
School Buses (Sb)	0.02	0.02	0.17	0.13	0.00	0.00	0.00	0.00
Motor Homes (Mh)	0.07	0.06	1.67	0.16	-	0.00	0.00	0.00
* Total On-Road Motor Vehicles	5.43	4.94	54.90	10.25	0.07	0.29	0.28	0.21
Other Mobile Sources								
Aircraft	0.06	0.06	1.73	0.01	0.00	0.01	0.01	0.01
Trains	0.09	0.08	0.29	1.90	0.16	0.05	0.05	0.05
Recreational Boats	1.60	1.48	9.00	0.40	0.01	0.13	0.11	0.09
Off-Road Recreational Vehicles	0.99	0.92	3.44	0.06	0.00	0.00	0.00	0.00
Off-Road Equipment	0.49	0.43	4.17	1.16	0.00	0.08	0.08	0.08
Farm Equipment	0.60	0.53	3.52	3.70	0.03	0.25	0.25	0.23
Fuel Storage And Handling	0.15	0.15	-	-	-	-	-	-
* Total Other Mobile Sources	3.97	3.65	22.15	7.23	0.20	0.52	0.51	0.44
** Total Mobile Sources	53.12	18.43	97.01	30.06	1.07	35.3	20.34	8.48
Note: All emissions are represented in Tons per Day and reflect the most current data provided to CARB.								

Source: California Air Resources Board, 2005.

Table 3.3-7

2004 Estimated Annual Average Emissions for Madera County – Total Emissions

	TOG	ROG	CO	NO_x	SO_x	PM	PM₁₀	PM_{2.5}
Grand Total for Madera	96.84	25.95	116.97	42.64	1.18	69.79	39.89	16.31
Note: All emissions are represented in Tons per Day and reflect the most current data provided to CARB.								

Source: California Air Resources Board, 2005.

EMISSIONS ANALYSIS

The SJVAPCD published a guide for assessing and mitigating air quality impacts in the region in 1998. This guide recommends the use of the URBEMIS 2002 modeling software to quantify most emissions and provides significance criteria to determine whether or not the project will have a significant adverse impact on the environment. Additionally, it provides guidance on selecting mitigation measures to reduce these significant adverse impacts. According to the SJVAPCD guide, the proposed project will require a full analysis to include the following:

- Conduct URBEMIS 2002 model run for projects;
- Conduct Direct Travel Impact Model (DTIM) model run for large plans when a transportation model is available;
- Screen project for CO impact/run CALINE4 if required;
- Perform screening analysis for potential toxics, hazardous materials, and odors;

SAN JOAQUIN

Stockton-Wagner-Holt School

Stockton-Hazelton Street

Stockton-E Mariposa

Tracy-24371 Patterson Pass Road

Modesto-14th Street

Turlock-S Minaret Street

MADERA

STANISLAUS

Merced-2334 M Street

Merced-S Coffee Avenue

MERCED

Madera-Pump Yard

Fresno-Fremont School

Fresno-Sierra Skypark #2

Clovis-N Villa Avenue

Fresno-Mobile

Fresno-1st Street

Fresno-Hamilton & Winery

Parlier

Fresno-Drummond Street

FRESNO

Sequoia Natl Park-Lower Kaweah

Sequoia & Kings Canyon NP

Sequoia National Park-Lookout Point

Visalia-N Church Street

Visalia-Airport

Corcoran-Patterson Avenue

TULARE

Hanford-S Irwin Street

KINGS

Shafter-Walker Street

Oildale-3311 Manor Street

Bakersfield-5558 California Ave

Bakersfield-Golden State Highway

Bakersfield-410 E Planz Road

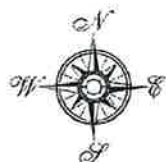
Taft College

Maricopa-Stanislaus Street

Edison

Arvin-Bear Mountain Blvd

KERN



Cities

0 25 50 100 Miles

Source: California Air Resources Board, 2005 / Quad Knopf, 2005



Quad Knopf

SAN JOAQUIN VALLEY AIR BASIN MONITORING STATIONS

Figure 3.3-2

intersection will not cause a potential CO hotspot. Therefore, the SJVAPCD has established that if neither of the following criteria is met at all intersections affected by the developmental project, the project can be said to have no potential to create a violation of the CO standard and a CALINE4 model run is not required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

A traffic study was performed for the proposed project by kdAnderson Transportation Engineers in October 2005. This traffic study is fully discussed in Section 3.15 of this Draft EIR and is contained in its entirety in Appendix L.

TOXICS AND HAZARDOUS MATERIALS SCREENING

New and modified stationary sources of hazardous air pollutants (HAPs) are required to obtain air quality permits from the SJVAPCD's Permit Services Division. The SJVAPCD's guidelines provide a list of examples of projects requiring such permits:

- Agricultural products processing
- Bulk material handling
- Chemical blending, mixing, manufacturing, storage, etc.
- Combustion equipment (boilers, engines, heaters, incinerators, etc.)
- Metals etching, melting, plating, refining, etc.
- Plastics and fiberglass forming and manufacturing
- Petroleum production, manufacturing, storage, and distribution
- Rock and mineral mining and processing
- Solvent use (degreasing, dry cleaning, etc.)
- Surface coating and preparation (painting, blasting, etc.)

According to the SJVAPCD guidelines, when evaluating potential impacts related to HAPs, both of the following situations should be considered: (1) a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor, and (2) a residential development or other sensitive receptor is proposed for a site near an existing source of HAPs.

ODOR SCREENING

According to the SJVAPCD's CEQA guidelines, an analysis of potential odor impacts should be conducted for both of the following situations: (1) a potential source of objectionable odors is proposed for a location near existing sensitive receptors, and (2) sensitive receptors are proposed to be located near an existing source of objectionable odors.

pollutants that are not covered by Federal standards including sulfates and hydrogen sulfide. The Federal and State primary standards for major pollutants are shown in Table 3.3-10 below.

**Table 3.3-10
Federal and State Air Quality Standards**

Pollutant	Averaging Time	Federal Primary Standard	California Standard
Ozone	1-Hour	0.12 ppm	0.09 ppm
	8-Hour	0.08 ppm	---
Carbon Monoxide	1-Hour	35.0 ppm	20.0 ppm
	8-Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide	1-Hour	---	0.25 ppm
	Annual	0.053 ppm	---
Sulfur Dioxide	1-Hour	---	0.25 ppm
	24-Hour	0.14 ppm	0.04 ppm
	Annual	0.03 ppm	---
Suspended Particulates	24-Hour	150 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
	Annual	50 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$
Sulfates	24-Hour	---	25 $\mu\text{g}/\text{m}^3$
Lead	3-Month Average	1.5 $\mu\text{g}/\text{m}^3$	---
	30-Day Average	---	1.5 $\mu\text{g}/\text{m}^3$
Hydrogen Sulfide	1-Hour	---	0.03 ppm
Ppm = Parts Per Million $\mu\text{g}/\text{m}^3$ = Micrograms per Cubic Meter			

Source: California Air Resource Board, 2005

State Implementation Plan

The State Implementation Plan (SIP) is the blueprint for meeting Federal air quality standards by the applicable deadlines set in the FCAA. California's SIP is a compilation of region-specific plans that detail how each area will meet the air quality standards. The plan includes an estimate of the emission reductions needed to meet each air quality standard based on air monitoring results, data on emission sources, and complex air quality modeling. It reflects the benefits of the pollution control program adopted by air agencies at all levels, and may also include commitments to implement new strategies. Together, these elements must reduce emissions by an amount sufficient to meet the air quality standard in each region. Once the local element of the plan is adopted by the air district(s) and other responsible local agencies, it is sent to the CARB for adoption and then formally submitted to the EPA for approval as a revision to the California SIP.

National Emissions Standards for Hazardous Air Pollutants (40CFR Part 61, Subpart M)

The National Emissions Standards for Hazardous Air Pollutants (NESHAPs) are emissions standards set by the EPA for an air pollutant not covered by NAAQSs that may cause an increase in fatalities or in serious, irreversible or incapacitating illness. The standards for a particular source category require the maximum degree of emission reduction that the EPA determines to be achievable, which is known as the Maximum Achievable Control Technology (MACT).

- **Rule 7070 Perchloroethylene from Dry Cleaning Operations.** This rule controls airborne emissions of perchloroethylene from dry cleaning operations.
- **Rule 9510 Indirect Source Review (ISR).** This newly adopted rule requires project applicants to submit an Air Impact Assessment (AIA) application, comply with certain general mitigation requirements and pay off-site emission reduction fees.

City of Madera General Plan

Open Space for Health, Welfare and Well-Being Policies:

5. The City should require positive control of dust particles during project construction activities, including watering or use of emulsions, parking of heavy equipment on paved surfaces, prohibition of land grading operations during days of high wind (beginning at 10mph, with gusts exceeding 20 mph), and prohibition of burning on vacant parcels.

3.3.2 THRESHOLDS OF SIGNIFICANCE

The SJVAPCD used the California Office of Planning and Research (OPR) definitions of significant environmental effect as a basis to establish air quality Thresholds of Significance for the San Joaquin Valley. Section 15382 of the CEQA Guidelines defines “significant effect on the environment” as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including...air.”

Additionally, consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on the environment if it will:

- Violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations;
- Conflict with adopted environmental plans or goals of the community where it is located; or
- Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected.

Appendix I of the CEQA Guidelines also indicates that a project could have a significant air quality impact if it will result in either:

- The creation of objectionable odors; or
- Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally.

Based on the above thresholds of significance identified in the CEQA Guidelines, the SJVAPCD has established the following Thresholds of Significance:

Type of Facility	Distance
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD, *Guide for Assessing and Mitigating Air Quality Impacts*, 1998

Hazardous Air Pollutants (HAPs)

Proposed development projects that have the potential to expose the public to toxic air contaminants in excess of the following thresholds will be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.

3.3.3 IMPACTS AND MITIGATION MEASURES

Impact #3.3-1: Adverse affects related to the release of airborne asbestos fibers during demolition of existing structures on the project site.

Discussion/Conclusion: The existing structures on the project site are planned for demolition prior to construction of the proposed project. According to the cultural resources analysis and the Phase I Environmental Site Assessment performed for the proposed project, these existing structures were constructed in the early 20th century and may have asbestos-containing building materials. Additionally, during a site visit conducted by the cultural resources specialist, possible asbestos ceiling tiles were identified in the brick outbuilding. Airborne asbestos fibers pose a serious health threat if adequate control techniques are not carried out when the material is disturbed.

According to the SJVAPCD Rule 4002, the demolition, renovation or removal of asbestos-containing materials is subject to the limitations of the NESHAP regulations as listed in the Code of Federal Regulations requiring notification and inspection. This impact is *potentially significant*.

Mitigation Measure

Implementation of Mitigation Measure #3.7-3 and the following mitigation measure will reduce this impact to a *less-than-significant* level.

Mitigation Measure #3.3-1:

The project proponent shall consult with the appropriate SJVAPCD Compliance Division prior to commencing any demolition or renovation of any building on the project site in

Discussion/Conclusion: According to the SJVAPCD, a project's construction phase produces many types of emissions, but PM₁₀ is the pollutant of greatest concern. PM₁₀ emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle exhaust. Construction-related emissions can cause substantial increases in localized concentrations of PM₁₀, as well as affecting PM₁₀ compliance with ambient air quality standards on a regional basis. Particulate emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces.

Construction equipment used during the construction phase of the proposed project will emit ozone precursors including reactive organic gases (ROG) and oxides of nitrogen (NO_x).

The SJVAPCD's approach to CEQA analyses of construction impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions. The SJVAPCD has determined that compliance with Regulation VIII for all sites and implementation of all other control measures indicated in the SJVAPCD's guidelines (as appropriate, depending on the size and location of the project site) will constitute sufficient mitigation to reduce PM₁₀ impacts to a level considered less than significant. The provisions of Regulation VIII pertaining to construction activities require:

- Effective dust suppression for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the work day or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.

Regulation VIII also requires the project applicant to prepare a Dust Control Plan for the proposed project while SJVAPCD Rule 3135 requires the payment of a Dust Control Plan fee. Violations of the requirements of Regulation VIII, indicated by the generation of visible dust clouds and/or the generation of complaints, are subject to enforcement action.

Additionally, the proposed project is subject to SJVAPCD Rule 9510 (Indirect Source Review) which requires the project applicant to submit an Air Impact Assessment (AIA) application as described in Section 5.0 of this rule. If project emissions are not reduced by the on-site mitigation measures included in the AIA application to the levels specified in Section 6.0 of this Rule, the project applicant will be required to pay off-site emission reduction fees in order to fully mitigate impacts from project emissions.

This impact is considered *potentially significant*.

- *Suspend excavation and grading activities when winds exceed 20 mph.*
- *Limit area subject to excavation, grading, and other construction activity at any one time.*
- *Make maximum use of diesel equipment equipped with catalytic converters and particulate traps.*
- *Curtail construction during "Spare the Air Days" declared by the SJVAPCD.*
- *Equipment not in use for more than ten minutes shall be turned off.*
- *Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to between 7:00 a.m. and 5:00 p.m. on non-federal holiday weekdays.*

Impact #3.3-4: Increased emissions of particulate matter and ozone precursors during project operation phase.

Discussion/Conclusion: The operation phase of the proposed project will include area sources of particulate matter and ozone precursors (e.g., combustion of natural gas for heating), but the overwhelming source of these emissions will be vehicle trips generated by project residents, visitors, patrons, and employees. Estimates of emissions generated by project traffic and on-site area sources were made using the URBEMIS 2002 Model Version 8.7. The estimates for area and operational emissions of particulate matter and ozone precursors are shown in Tables 3.3-8 and 3.3-9. According to these tables, the proposed project will result in the emission of approximately 198.71 tons of PM₁₀ per year (winter) at full build-out. This estimated annual emission exceeds the threshold of 82 pounds per day. Also according to these tables, the proposed project will result in the emission of approximately 349.27 and 280.93 pounds per day (winter) of ROG and NO_x, respectively. These annual emissions also exceed SJVAPCD thresholds.

Certain project characteristics or design features are considered by URBEMIS 2002 to mitigate or reduce this impact. These project characteristics include the local-serving retail center proposed at the southeastern corner of the project site, the construction of sidewalks along both or one side of each street within the project site and the construction of Class III bicycle lanes on arterial streets bordering the project site. While these features serve to reduce emissions of PM₁₀ and ozone precursors, the identified thresholds of significance will still be exceeded.

In addition to the thresholds discussed above, the proposed project is subject to SJVAPCD Rule 9510 (Indirect Source Review) which requires the project applicant to submit an AIA application as described in Section 5.0 of this Rule. If project emissions are not reduced by the mitigation measures contained in this Draft EIR to the levels specified in Section 6.0 of this Rule, the project applicant will be required to pay off-site emission reduction fees according to the fee calculations and schedules shown in Section 7.0. This impact is ***potentially significant***.

Consultation with the SJVAPCD and compliance with their rules will ensure that this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.3-7: Exposure of sensitive receptors to sources of frequent objectionable odors.

Discussion/Conclusion: The proposed project does not include any uses that will generate odorous emissions; however, the site will contain sensitive receptors including residences and an elementary school. Approximately 4,000 feet (3/4 mile) to the east of the Plan Area on Road 29 lies a company that produces asphalt emulsions, oil-based soil stabilizing materials, and other asphalt materials. This type of facility is not identified by the SJVAPCD as a potential odor source in which, the operation of this facility may expose sensitive receivers within the Plan Area to objectionable odors. Odors from this facility would be minimal given the distance from the Plan Area. Additionally, the prevailing winds in the region are generally from the northwest to the southeast further reducing odor impacts from this facility. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.3-8: Result in cumulative air quality impacts.

Discussion/Conclusion: CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The San Joaquin Valley Air Basin is nonattainment for both particulate matter and ozone precursors under both State and Federal ambient air quality standards. The proposed project will result in a significant increase in the emission of both these pollutants. Therefore, the project is considered to be *cumulatively considerable*.

Mitigation Measure

Implementation of Mitigation Measures #3.3-1 through #3.3-3 and compliance with SJVAPCD rules will lessen this impact; however, no mitigation measures are available to fully reduce this impact to a level of insignificance. Therefore, this impact remains *cumulatively considerable*.

3.4

BIOLOGICAL RESOURCES

3.4 Biological Resources

The purpose of this section is to identify existing biological resources located on or within the vicinity of the project site and to analyze potential impacts on these resources that will result from the proposed project. The affected environment, including an overview of local vegetation, flora, sensitive plant communities, wetlands, wildlife and special-status species is presented. This section addresses the effects that construction and subsequent operation of the proposed project may have on special-status plants, animals and sensitive habitats. Although the proposed project will not have a substantial effect on any species identified as a special-status, candidate or sensitive species, mitigation measures have been recommended to reduce the impacts to a less-than-significant level. Discussion of applicable laws, ordinances, regulations and standards is provided. During the NOP period, no comments were received regarding potential impacts on biological resources.

3.4.1 SETTING

Environmental Setting

ECO-REGION

The project site is located within the eco-region known as the Central Valley. The Central Valley is characterized by flat plains. The natural vegetation within this region is California steppe and tule marshes, although most of this vegetation has been replaced by irrigated agriculture, other cropland, and/or grazing land. The soils in the region are recent alluvium, light-colored soils of the wet and dry sub-humid regions.

VEGETATION/BIOTIC HABITATS

The project site is located along the valley floor, which is composed of a limited number of plant communities due to the long history of agricultural disturbance in this area. The project site is currently in agricultural production as a vineyard and is devoid of most native and non-native species naturally occurring there. At the time of the biological survey, two habitat types were present on the project site.

Built (Urban)

Built areas consist of structures, roads and parking areas. The plant diversity in this type of habitat is low and is composed primarily of non-native grasses and other ruderal plants. Once an area is built, it is segmented from the undeveloped area. Human disturbance within the built area makes wildlife in the area limited as food sources become scarce. Wildlife, such as birds and small mammals, that are commonly found in these areas are generally passing through rather than occupying the area.

Species	Habitat	Status	Potential for Occurrence
Vernal pool smallscale (<i>Atriplex persistens</i>)	Alkaline vernal pools.	1B	Low: No habitat present; site has been leveled and disked.
Subtle orache (<i>Atriplex subtilis</i>)	Valley and foothill grasslands.	1B	Low: No habitat present; site has been leveled and disked.
Recurved larkspur (<i>Delphinium recurvatum</i>)	Alkaline soils in chenopod scrub, valley and foothill grasslands, and cismontane woodlands.	1B	Low: No habitat present; site has been leveled and disked.
Madera leptosiphon (<i>Leptosiphon serrulatus</i>)	Dry slopes, foothill woodland or yellow pine forest.	1B	Low: No habitat present; site has been leveled and disked.
San Joaquin Valley orcutt grass (<i>Orcuttia inaequalis</i>)	Vernal pools; endemic to the San Joaquin Valley	FT, CE, 1B	Low: No habitat present; site has been leveled and disked.
Hairy orcutt grass (<i>Orcuttia pilosa</i>)	Vernal pools; endemic to the Sacramento Valley.	FE, CE, 1B	Low: No habitat present; site has been leveled and disked.
Greene's tuctoria (<i>Tuctoria greenei</i>)	Vernal pools, valley and foothill grassland; often occurs in dry bottoms of vernal pools in open grasslands.	FT, CR, 1B	Low: No habitat present; site has been leveled and disked.
Birds			
Burrowing owl (<i>Athene cunicularia</i>)	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Dependent upon burrowing mammals, notably the California ground squirrel, for subterranean nest sites.	CSC, MBTA	Low: No habitat present; site has been leveled and disked.
Invertebrates			
California linderiella (<i>Linderiella occidentalis</i>)	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan, or in sandstone depressions.	No CA status	Low: No habitat present; site has been leveled and disked.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Occur in annual grassland where seasonal vernal pools or swales form in slight depressions after being inundated with fall or winter rain. Endemic to Central Valley.	FT	Low: No habitat present; site has been leveled and disked.

Species	Habitat	Status	Potential for Occurrence
Definitions of levels of occurrence likelihood:			
High	Known occurrence of animal in region from CNDDDB, or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.		
Moderate	Known occurrence of animal in region from CNDDDB, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.		
Low	Animal not known to occur in the region from the CNDDDB, or other documents in the vicinity of the project; or habitat conditions of poor quality.		

Source: CNDDDB, CNPS Inventory of Rare and Endangered Plants; Quad Knopf, Inc.

SPECIAL STATUS SPECIES DOCUMENTED WITHIN A FIVE-MILE RADIUS OF THE PROJECT SITE

Although the habitat at and surrounding the project site has been disturbed by agricultural practices, the project site sustains some habitat value, but it is very limited. Of the special-status species and habitat types identified in Table 3.4-1, some occur within a five-mile radius of the project site (Figure 3.4-1).

Madera Leptosiphon (Leptosiphon serrulatus)

The Madera leptosiphon is an annual herb in the phlox family (Polemoniaceae). This species occurs in cismontane woodland, chaparral and lower montane coniferous forest in Fresno, Kern, Madera, Mariposa and Tulare counties. Madera leptosiphon blooms from April through May (CNPS 2005).

The nearest occurrence of this species has been reported less than one mile northwest of the project site (CDFG 2005). The project site is currently in agricultural production and does not contain suitable habitat for this species; therefore, the species is not believed to occur on site.

Hairy Orcutt Grass (Orcuttia pilosa)

Hairy orcutt grass is a small, tufted annual herb in the grass family (Poaceae). The plant has several stems ranging from two to eight inches tall, each stem ending in a long, spike-like inflorescence. Foliage is grayish, with soft, straight hairs. The grass blooms from May through September (CNPS 2001).

Both this species and slender orcutt grass (*Orcuttia tenuis*) grow together over a portion of their respective ranges but are readily distinguished. Slender orcutt grass has fairly slender stems that often branch from their upper nodes. Spikelets are evenly spaced, not densely crowded. Hairy orcutt grass stems branch only from lower nodes. Upper spikelets are densely crowded and as the species' name implies, it has more hairs.

Hairy orcutt grass inhabits vernal pools in rolling topography on remnant alluvial fans and stream terraces in the Central Valley. The historical range includes the eastern margins of Sacramento and San Joaquin Valleys from Tehama County south to Stanislaus County and through Merced and Madera counties. More than one third of the remaining populations occur in Tehama County. Others are in Butte, Glenn, Madera and Stanislaus counties. The species has been extirpated from Merced County.

California tiger salamanders inhabit valley and foothill grasslands and open woodlands, usually within 1 mile of water (Jennings and Hayes 1994). Tiger salamanders breed in reservoirs, ponds, vernal pools, small lakes and slow-flowing streams that do not support predatory fish or bullfrogs (Stebbins 1972; Zeiner et al. 1988). Adult salamanders migrate from grassland habitats to aquatic breeding sites during the first major rainfall events of fall and early winter and return to grassland habitats after breeding. This species requires small-mammal (e.g., California ground squirrel) burrows for cover during the nonbreeding season and during migration to and from aquatic breeding sites (Zeiner et al. 1988). California tiger salamanders also use logs, piles of lumber and shrink-swell cracks in the ground for cover (Holland et al. 1990).

California tiger salamander populations have declined primarily because of the widespread conversion of valley and foothill grassland and oak woodland habitats to agricultural and urban uses (Stebbins 1985). Residential development in the California tiger salamander's range has fragmented vernal pool complexes and reduced habitat suitability for the species (Gustafson 1992). The introduction of the bullfrog and nonnative fishes has also contributed to declines in tiger salamander populations (Jennings and Hayes 1994; 59 FR 18353-18354, April 18, 1994) because bullfrogs and nonnative fishes prey on tiger salamander larvae and may eliminate larval populations from breeding sites (Jennings and Hayes 1994).

The nearest recorded occurrence of this species to the project site is located approximately 1 mile northwest of the project site. The occurrence is said to be within the City of Madera, collected in December 1944; however, no other location information is given and the species is believed to be extirpated in this location (CDFG-Jennings 2005). No vernal pools have been recorded on the project site and the project site is currently in agricultural production; therefore, it is not believed to occur on site.

Blunt-Nosed Leopard Lizard (Gambelia sila)

The blunt nose leopard lizard is found only in the San Joaquin Valley. It inhabits open, sparsely vegetated areas of low relief on the valley floor and the surrounding foothills. It also inhabits alkali playa and valley saltbush scrub. In general, it is absent from areas of steep slope, dense vegetation, or areas subject to seasonal flooding.

Although the boundaries of its original distribution are uncertain, the species probably ranged from Stanislaus County in the north to the Tehachapi Mountains of Kern County in the south, and from the Coast Range Mountains, Carrizo Plain and Cuyama Valley in the west to the foothills of the Sierra Nevada in the east.

The species is a relatively large lizard the Iguanidae family. It has a long, regenerative tail, long, powerful hind limbs and a short, blunt snout. Adult males are slightly larger than females, ranging in size from 3.4 to 4.7 inches in length, excluding tail. Females are 3.4 to 4.4 inches long. Males weigh 1.3 to 1.5 ounces, females 0.8 to 1.2.

Blunt-nosed leopard lizards feed primarily on insects (particularly grasshoppers, crickets and moths), other lizards and occasionally plant material.

The vernal pool fairy shrimp is endemic to small, shallow wetlands in California (Helm 1998). It is found from Shasta County in the north, throughout the Central Valley, and west to the central Coast Ranges. Southern populations occur on the Santa Rosa Plateau and near Rancho California in Riverside County (Eng et al. 1990).

The vernal pool fairy shrimp is found in grassland vernal pools, rock outcrops and roadside ditches from December through early May (Jones & Stokes file information). The water in these pools may range from somewhat acid to alkaline. Suitable water conditions for *B. lynchi* include a temperature range between approximately 43° F and 68°F (6° C and 20° C) and a pH averaging around 7 (Eng et al. 1990).

Fairy shrimp feed on algae, bacteria, protozoa, rotifers and detritus. The movement of fairy shrimp's legs during swimming apparently stirs up the water and sediment in the ponds and allows them to collect various prey species and organic material from the sediment.

The sexes in fairy shrimp are separate in some populations; in others males are unknown. Parthenogenesis is widespread. The vernal pool fairy shrimp emerges from its egg stage when winter rain fills pools and rehydration triggers hatching. The species matures in approximately 26 days, reproduces within 40 days and lives about 91 days (Helm 1998). Providing the pool water remains, more than one generation of fairy shrimp may develop each season.

The nearest recorded occurrence of this species to the project site is located approximately 2.5 miles east of the project site (CDFG 2005). There are no shallow wetlands, including vernal pools, or roadside ditches on the project site; therefore, the species is not believed to occur on site.

California Linderiella (*Linderiella occidentalis*)

The California fairy shrimp, also known as the California linderiella, is a small crustacean in the Linderiellidae family. The California fairy shrimp is the most common fairy shrimp in the Central Valley. It has been documented on most land forms, geologic formations and soil types supporting vernal pools in California, at altitudes as high as 3,800 feet above sea level.

Fairy shrimp are aquatic species in the order Anostraca. They have delicate, elongated bodies, large stalked compound eyes, no carapaces and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

Most fairy shrimp found in California belong to the Branchinectidae family. These include the threatened vernal pool fairy shrimp, which is often found in the same pools. California fairy shrimp are smaller than other species in the Branchinectae family and have distinctive red eyes.

California fairy shrimp tend to live in large, fairly clear vernal pools and lakes; however, they can survive in clear to turbid water with pH from 6.1 to 8.5, and they have been found in very

The nearest occurrence of this habitat is located approximately 2.5 miles northeast of the project site (CDFG 2005). Vernal pools are not located on the project site.

NESTING RAPTORS

Nesting raptors and raptor nests are protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the California Fish and Game Code. The term nesting raptor includes all predatory birds, their nests and eggs. Compared to most other animal groups, raptors naturally exist at relatively low population levels and are widely dispersed within their habitats. Construction activities during the nesting season could disrupt nesting activities causing abandonment of a nest, egg or juvenile.

WATERFOWL

Numerous water birds migrate through California each year along the Pacific Flyway. Suitable winter quarters for birds are found in California from the Sacramento Valley south to the Salton Sea and in the tidal marshes near San Francisco Bay. The City of Madera is part of this flyway. The majority of these birds are not documented in the CNDDDB but they are protected under the MBTA. The birds are known to occur at times in the regional vicinity of the project site, but mostly within or along major waterways.

Regulatory Setting

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (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.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the U.S. Fish and Wildlife Service (USFWS). A take is defined as the killing, capturing, or harassing of a species. Proposed endangered or threatened species are those species for which a proposed regulation, but not final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, possess or trade a migratory bird, bird part, nest, or egg is a violation of the MBTA (MBTA: 16 U.S.C., Section 703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into water of the United States. These waters may include all waters used, or potentially used,

Public Resources Code Section 21000 - California Environmental Quality Act

CEQA identifies that a species that is not listed on the Federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA, public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed), may be protected by the local government until the opportunity to list the species arises for the responsible agency (i.e. USFWS or CDFG).

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

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

Fish and Game Code Section 1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFG has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel or bank of any lake or stream. Private landowners or project developers must obtain a “Streambed Alteration Agreement” from the CDFG prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFG may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.

Public Resources Code Section 21083.4 - Oak Woodlands Conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a County to determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If a County determines that there may be a significant effect to oak woodlands, the County must require oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include conservation through the use of conservation easements, planting and maintaining and appropriate number of replacement of trees, contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements, and/or other mitigation measures developed by the County.

vineyard. Because of the frequent disturbance regime from agricultural activities, the baseline conditions at the project site are considered low quality habitat for plants and animals and no special-status species are expected to occupy the project site. There may be temporary occupancies by animals that are highly mobile such as migratory birds, although this would be considered a rarity and the stay would be temporary because of the lack of optimal habitat. Further discussion of migratory birds is presented in Impact #3.4-4. Implementation of the proposed project will result in a *less-than-significant* impact.

Mitigation Measure

No mitigation measures are required.

Impact #3.4-2: Substantial adverse affect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations or by the CDFG or USFWS.

Discussion and Conclusion: There is no riparian habitat or other sensitive natural communities identified in local or regional plans, policies and regulations or by the CDFG and USFWS in the project site. *No impact* has been identified.

Mitigation Measure

No mitigation measures are required.

Impact #3.4-3: Substantial adverse affect on federally protected wetlands through direct removal, filling, hydrological interruption or other means.

Discussion and Conclusion: There are no federally protected wetlands that will be affected by the proposed project. Burgess Lateral is located south of the proposed project; however, it is a typical channelized and artificial irrigation canal, managed by the Madera Irrigation District. Burgess Lateral is not considered a jurisdictional water of the U.S. *No impact* has been identified.

Mitigation Measure

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.

Discussion and Conclusion: It is not likely that any portion of the project site serves as an important linkage between wildlife habitats, although some wildlife species may pass through, including migratory birds. Surrounding biotic habitats are similar to that of the project site with

Mitigation Measure #3.4-5:

Tree and shrub plantings within all park areas on the project site shall be selected to assure adequate food and nesting habitat for small birds and mammals characteristic of the area pursuant to City General Plan Open Space for Natural and Human Resources Policy 5.

Impact #3.4-6: Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional or state habitat conservation plan.

Discussion and Conclusion: The project site is not located within a Habitat Conservation Plan (HCP) area or any other approved HCP area and, therefore, does not conflict with any such plans. *No impact* has been identified.

Mitigation Measure

No mitigation measures are required.

3.5

CULTURAL RESOURCES

3.5 Cultural Resources

This section of the EIR describes cultural resources which potentially exist in the project site or in its vicinity which may be adversely affected by project implementation. Additionally, this section identifies feasible mitigation to address these potential impacts to cultural resources. 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). During the NOP period no comments were received regarding cultural resources.

3.5.1 SETTING

Environmental Setting

The project site includes 251.8 acres located in the San Joaquin Valley just outside the city of Madera, west of State Route 99. The proposed project includes the annexation of 301.55 acres of land into the city limits and development of the 251.8 acres within the project site. The 251.8 acres proposed for development are currently a vineyard and contains a residence and some agricultural structures. The remaining land is already developed for very low density residential uses with ranchette style homes.

The following information was obtained from the Cultural Resource Assessment of the Ventana Specific Plan Area, Madera County, California prepared by Peak and Associates Inc. This document can be found in Appendix F.

ARCHEOLOGY

The Central Valley region was among the first in the state to attract intensive archeological fieldwork and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmill site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmill Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave

goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There is a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

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

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term "Complex" to refer to the particular archeological entities (above called "Horizons") as defined in this region. Ragir's (1972) cultures are the same as Schulz's complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson (1973), and since it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier "tradition," although it is tied more specifically to the archeological record in California.

ETHNOLOGY

The project site lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay

Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

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

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs which formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. Housepit depressions ranged in diameter from three to eighteen meters.

HISTORY

Fur traders began working the streams of the San Joaquin Valley in 1828. Beaver skins may have been gathered by Hudson's Bay Company trappers in the Madera region. John C. Frémont, on his way leaving California in 1844, proceeded southward from Sutter's Fort, passing through what is now Merced County. His party crossed the Merced River in a boat they constructed, camping on the south bank near the Merced River's junction with the San Joaquin River. The expedition stopped and camped on Bear Creek, five miles from its mouth. They then crossed the creek, and traveled on Madera County.

Madera County was carved out of Fresno County in 1893. The construction of the Southern Pacific Railroad in 1872 brought major changes to the region. The City of Madera was laid out in 1876 by the California Lumber Company who took advantage of the railroad for shipment of lumber they obtained via a flume that ran between Sugar Pine in the Sierra Nevada Mountains down to the newly established community of Madera. Madera, in Spanish, means "wood" or "lumber." Madera became the County seat in December 1893 when Madera County was established (Hoover, Rensch and Rensch 1990).

The community of Borden, approximately three miles south of Madera, was established before the railroad arrived by a group of settlers from Alabama (originally known as "Alabama Settlement") in 1868-69. When the railroad reached the area, the station, located approximately one-quarter mile east of the project site, was named for Dr. Joseph Borden, a prominent member of the nearby Alabama Settlement (Gudde 1969:35). Chinese workers who perished during the construction of the railroad are buried at the cemetery at Borden.

Site Specific History

At the end of the Civil War, many Southern planters, faced with financial ruin due to the destruction of their farms and the loss of their labor system of slavery, organized a group to investigate the possibilities of starting anew in the West. The men came to the area now known as Borden, and bargained for good grain land in the area, then returned home to bring back the entire group. When they were gone, two San Francisco capitalists, William Chapman and Issac Friedlander, bought up all the land between Borden and what would become the community of Madera. When the Alabama group returned in 1869, they had to pay twice as much for the land they thought they owned. Differences in climate, soil, and working conditions finally forced the so-called Alabama Settlement out of business by 1873.

The project site is part of an 804 acre holding that was acquired by Albarnus Logan Sayre, Sr. in 1874. Sayre, a native New Yorker, was involved in the business of importing foreign fruits, and was one of the oldest fruit merchants in New York City, having started his business in 1844. Due to bad health, he came to California to visit, and realizing the value of the fertile soil and good climate decided to purchase land from William Chapman. The 804-acre ranch, also known as Sierra Rancho, included all of Section 31, and the western portion of Section 32, south and west of what would later become the railroad and State Route 99 corridor. It is possible that the 804 acres were originally owned by a member of the Alabama Settlement, but reverted back to Chapman after 1873.

Between 1874 and 1881 the ranch was planted exclusively with grain. In 1881, 25 acres were planted with raisin grapes. Due to the success of this venture, in 1884, an additional 200 acres were also planted with raisin grapes. According to Logan Sayre, grandson of Albarnus, Chinese laborers actually planted the vines on the ranch and stayed at a temporary work camp (Logan Sayre, oral interview, 1968). At one time the community of Borden was said to have had approximately 1,500 Chinese laborers who had stayed after the construction of the railroad (McDannold 2000:155).

Albarnus Sayre died in New York City in 1887. Sayre's younger child, A.L. Sayre, Jr., born in 1860 and involved in the family's business for eight years, came out west to run the family's ranch

upon the death of his father. By 1892, the ranch boasted of 225 acres of grapes, had 175 head of cattle, and 25 horses for its operations. He made frequent trips back to New York City to visit his mother and remaining family.

The value of the ranch was increased with the development of irrigation. Ditches and a major pumping operation were established on the ranch. With access to distant markets made available by the development of the nearby railroad line, deciduous fruits were planted and Albarnus Jr. set up a large dairy on the property with a herd of 300 Friesian-Holstein cattle. Sayre also erected a creamery on the ranch that was operated by steam power. The butter produced at the creamery was sold in Fresno, Madera, and more remote communities such as Sugar Pine. Sayre also established a fruit packing plant in Madera for which he also served as manager.

Mr. Sayre was also involved with the establishment of the California Raisin Growers' Association in 1898, and also served as a director. He married Etta Hensley of Madera, and had two sons, Donald and Logan. Sayre established a home in Fresno in 1898 and split his time between this new residence and the ranch.

Logan Sayre moved to the ranch as an eight-year-old in 1906-07. Their home at the ranch was destroyed by fire in 1912. According to Logan Sayre, this was the second home on the property that had been destroyed by fire (Logan Sayre, oral interview, 1968). The family moved into a laboratory that was located on the ranch that was later renovated into a residence between 1915 and the 1930s, partially with wood obtained from the 1915 San Francisco Worlds Fair. This residence still stands today.

With the death of Albarnus Sayre, Jr. in 1917, Logan took over the operations of the ranch. The 252-acre portion of the original 804-acre Sayre holding, the project site, still continues to produce raisin grapes.

Regulatory Setting

FEDERAL

National Historic Preservation Act

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

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

STATE

California Historic Register Act

The California Register Act was enacted in 1992 and codified in the Public Resource Code Section 5020, 5024 and 21085. This act created the California Register of Historical Resources (CRHR) and established criteria for assessing a “substantial adverse change” to a property that may be eligible for listing in the CRHR.

The act creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including properties listed in the NRHP, properties determined eligible for listing in the NRHP, and certain classes of State Historical Landmarks. Other properties may be added through a nomination process and according to criteria yet to be developed by the State Historical Resources Commission (SHRC). The most practical criteria for assessing eligibility for the CRHR are the criteria for listing in the NRHP. The National Park Service has developed explicit eligibility criteria for listing in the NRHR and guidelines for applying those criteria.

CEQA Guidelines Section 15064.5

CEQA Guidelines Section 15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. An “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 of 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.

SB 18 Tribal Consultation

Senate Bill 18, signed into law by Governor Arnold Schwarzenegger in September 2004, requires Cities and Counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting Traditional Tribal Cultural Places.

Starting on March 1, 2005, Cities and Counties must send their general plan and specific plan proposals to those California Native American Tribes that are on the Native American Heritage Commission's (NAHC) contact list and have traditional lands located within the City's or County's jurisdiction. After March 1, 2005, Cities and Counties must also conduct consultations with these tribes prior to adopting or amending their general plans or specific plans. The City of Madera began this consultation process for the proposed project in April 2006.

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 NAHC.

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.

Confidentiality

California Government Code Section 6254.10 exempts archaeological site information from the California Public Records Act to prevent vandalism, trespassing, and unauthorized artifact acquisition. Locational information is not circulated as part of public documents.

LOCAL

City of Madera General Plan

Open Space for Natural and Human Resources Policy:

6. In coordination with the local historical society, the City should sponsor and maintain an inventory of historic structures that are judged worthy of preservation under criteria established by the State Department of Parks and Recreation. Steps necessary for preserving historic and architectural character of building facades while allowing for appropriate use under the General Plan should then be promulgated.

3.5.2 THRESHOLDS OF SIGNIFICANCE

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

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

3.5.3 IMPACTS AND MITIGATION MEASURES

Impact #3.5-1: Implementation of the proposed project may disturb or destroy buried cultural resources (archaeological, paleontological or human remains) within the project site.

Discussion/Conclusion: Impacts on cultural resources can result either directly or indirectly from pre-construction activities and construction of a proposed project. Direct impacts are those which result from the immediate disturbance of resources from vegetation removal, vehicle travel over the surface, earthmoving activities, excavation, or alteration of a resource. Indirect impacts are those which result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials which may occur due to improved accessibility.

Peak and Associates, Inc. conducted a field inspection of the project site in June 2005. The project site was examined by walking transects spaced at 10- to 15-meter intervals across the property. The project site is under cultivation with grapes. Between the rows of grapes, the ground was graded so surface visibility throughout the project site was excellent. No evidence of prehistoric period activity was observed within the project site. One possible historic period complex, consisting of a single-family residence and associated outbuildings, was identified within the project site. It was assigned the temporary designation PA-05-202 and the complex was documented using Department of Parks and Recreation 523 Series forms, photographically, and by the creation of a scaled sketch map. The single family home and associated buildings with temporary designation PA-05-202 does not meet any of the criteria to be designated as a historical resource as defined in the CEQA Guidelines under Section 15064.5.

A record search was conducted on the California Historical Resources Information System on June 10, 2005 by the Central California Information Center. Three surveys that were previously completed in the project vicinity were found. None of the surveys recorded cultural resources in the project site. Peak and Associates conducted research at the California State Library where they reviewed Map Files for Fresno and Madera counties, published county histories, the California Information Files, and a transcript from an interview conducted in 1968 with Logan Sayre, a third generation resident who lived on the project site.

Peak and Associates contacted the NAHC and requested a Sacred Lands File check. The NAHC reported that there are no Sacred Lands recorded in the project site, but they did identify one individual whom may have knowledge of the project site. Peak and Associates wrote the individual

requesting information and received no response as of August 18, 2005. Additionally, Peak and Associates contacted the Madera County Historical Society on July 31, 2005 requesting any information they may have on the site. As of August 18, 2005, no response had been received. It should be noted that the absence of specific site information does not necessarily preclude the absence of cultural resources.

There is no indication that a subsurface prehistoric cultural deposit in the project area is likely to exist, or survived the past intensive agricultural use of the land; however, the possibility cannot be totally eliminated based on a records search and surface inspection.

Concordant with the mandates of Section 7050.5 of the California Health and Safety Code, if human remains are discovered during the construction phase of a development, all work must stop in the immediate vicinity of the find, and the County Coroner must be notified. If the remains are determined to be Native American, the Coroner will notify the NAHC, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner the appropriate method for the disposition of the remains and any associated grave goods.

Although no evidence of archaeological, paleontological, or human remains was found through the records search, surface site investigation, and interviews; it cannot definitively be said that no buried cultural resources exist at the site. Therefore, the impact is *potentially significant*.

Mitigation Measure

The implementation of the following mitigation measure will ensure that any impacts to cultural resources are reduced to a level that is *less than significant*.

Mitigation Measure #3.5-1:

- *To ensure that buried cultural resources or human remains, if encountered, are recognized by construction crews, a worker education plan shall be initiated prior to project implementation. Information describing potentially significant resource characteristics and the procedures to be followed in the event of such a discovery shall be provided.*
- *Shall any artifacts, exotic rock types or unusual amounts of bone, or shell be uncovered during construction activities, work shall be halted and a qualified archaeologist shall be consulted for an on-the-spot-evaluation.*

3.6

GEOLOGY AND SOILS

3.6 Geology and Soils

This section of the Draft EIR describes the existing geological resources and geologic hazards in the vicinity of the project site, and identifies any specific geological impacts that are likely to result from project implementation along with feasible mitigation measures to address those impacts. This section relies on the *Geotechnical Engineering Investigation and Geohazards Evaluation* report prepared for the proposed project by Geocon Consultants (see Appendix G). During the NOP period no comments were received regarding geology and soils.

3.6.1 SETTING

Environmental Setting

REGIONAL GEOLOGY AND FAULTING

The site is located near the eastern margin of the southern portion of the Great Valley Geomorphic Province of California, more commonly referred to as the San Joaquin Valley. The San Joaquin Valley is a broad lowland bounded by the Sierra Nevada mountain range to the east, the Coast Ranges to the west, and 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. A reproduction of the California Geological Survey (formerly California Division of Mines and Geology) geologic map showing the site location is presented in Figure 3.6-1.

Recent near-surface alluvial fan sediments at the site have been deposited primarily during flood stages of the Fresno River, Cottonwood Creek, and other drainages emanating from the Sierra Nevada mountain range. As a result of repeated flood events and sedimentation, the deeper alluvial material in this region is generally well consolidated with weakly to moderately cemented materials below the surficial weathered soil.

A fault, or a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side, is an indication of past seismic activity. It is assumed that those that have been active recently are the most likely to be active in the future, although even inactive faults may not be “dead.” “Potentially active” faults are those that have been active during the past two million years or during the Quaternary Period. “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 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. the San Andreas Fault), and approximately 20 miles southwest of the lesser active faults associated with the Foothills Fault system in the Sierra Nevada mountain range. The proximity of regional faults is depicted in Figure 3.6-2.

Nine known active faults or fault zones are located within a 62-mile radius of the 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 0.12 g.

Table 3.6-1 below lists the earthquake faults, MCE magnitudes, peak site accelerations, and fault type (based on California Building Code [CBC] criteria) in the project site region.

Table 3.6-1
Maximum Earthquake Magnitude and Peak Site Acceleration

Fault Name	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
Ortogonalita	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

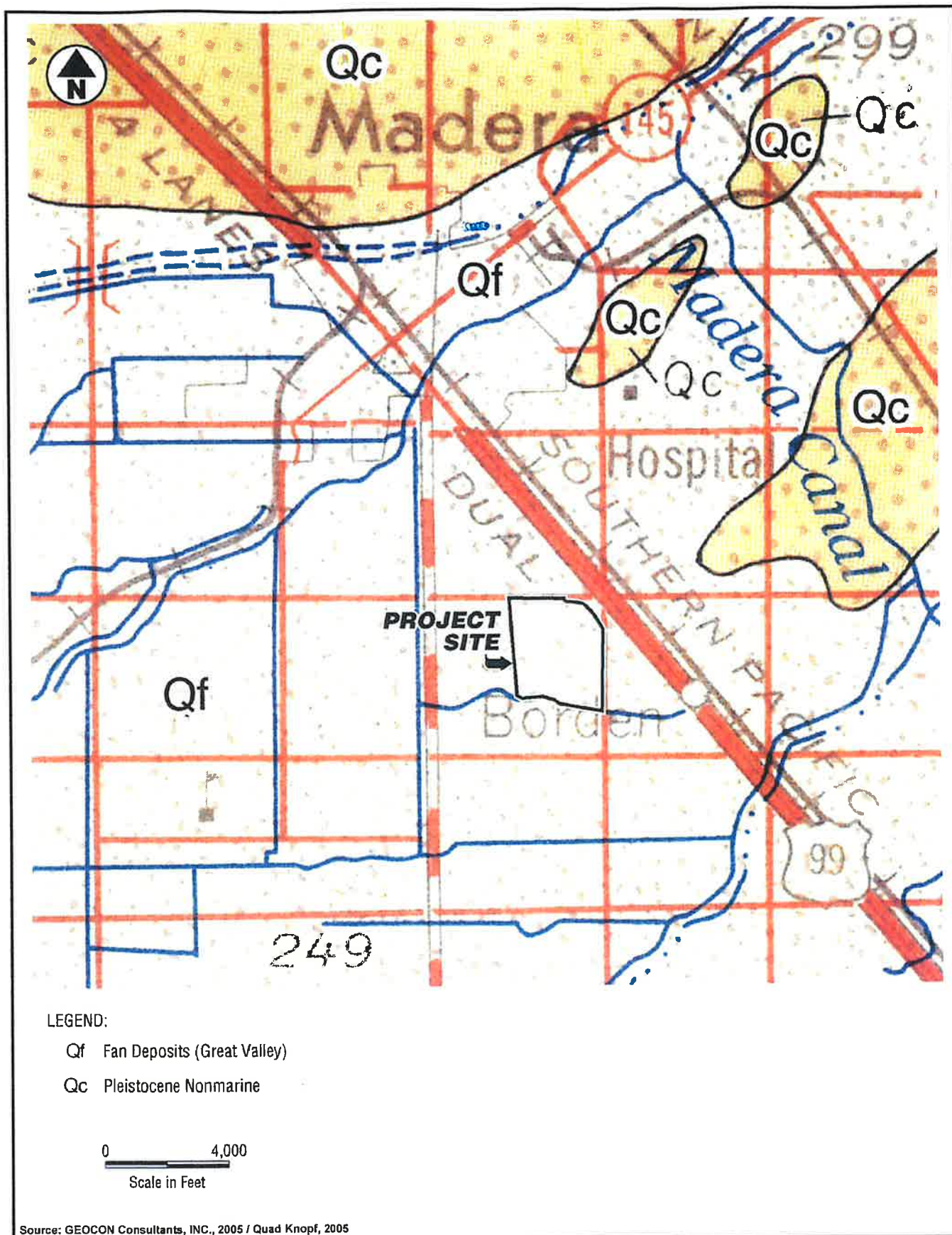
Source: Geocon Consultants, Inc. *Geotechnical Engineering Investigation and Geohazards Evaluation, Madera Villages*. July 2005.

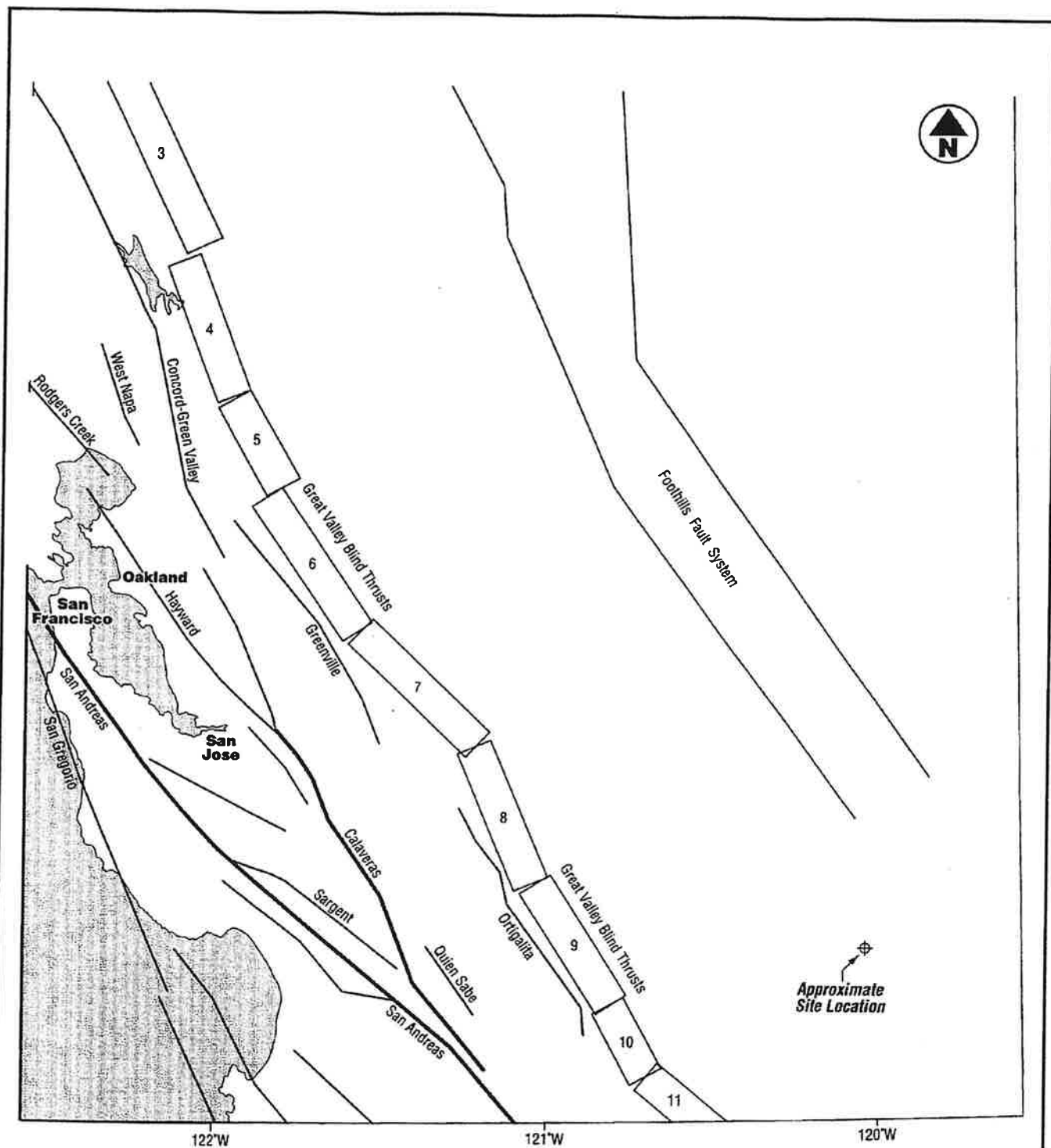
PROJECT SITE GEOLOGY, FAULTING, AND SOIL CONDITIONS

Based on the reconnaissance and review of geologic maps and reports performed by Geocon Consultants, the project site is not located on a known active fault trace. In addition, the project site is not contained within a Special Studies Earthquake Fault Zone (formerly Alquist-Priolo Earthquake Fault Zone).

The subsurface conditions observed within the exploratory borings and trenches were relatively consistent across the site. The alluvial fan deposits at the site extend from the ground surface to beyond the maximum depth of exploration of 51.5 feet below ground surface (bgs). The upper 6 to 12 inches (approximately) of alluvium in most areas has been repeatedly disturbed as a result of periodic discing/plowing and irrigation associated with vineyard farming practices.

Typical of alluvial deposits, the soils profile at the site generally consists of interbedded strata of silty sand, sandy silt, poorly graded sand, clayey sand, and sandy clay. The upper 2.5 to 5 feet of material predominantly consists of loose to medium dense silty sand. At most of the exploratory boring and trench locations, the upper silty sand materials are underlain by a well-indurated "hardpan" comprised of moderately to strongly cemented sandy silt, silty sand, and sandy clay. The depth to the top of hardpan ranges from approximately 2.5 to 8 feet bgs. The degree of cementation generally decreased with depth; however, moderate cementation extended several feet below the top of the hardpan layer. The hardpan layer was not observed at all exploratory boring and trench locations. In the areas where the hardpan was absent, the predominant soil type consisted of silty sand and poorly graded sand of loose- to medium-dense relative density.





Source: GEOCON Consultants, INC., 2005 / Quad Knopf, 2005



Quad Knopf

REGIONAL FAULTS

Figure 3.6-2

This variation is common in this geologic regime. These areas are likely former meanders of streams that deposited the alluvial soil.

The project site has been substantially disturbed due to standard agricultural operations including discing and tilling; therefore, the soils are relatively loose and have a high erosion potential.

SEISMIC HAZARDS

Liquefaction

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength due to pore pressure buildup under the cyclic shear stresses associated with intense earthquakes. Based on the subsurface conditions encountered at the site, including moderately- to well-cemented hardpan materials, and the anticipated seismic and groundwater conditions, liquefaction does not appear to be a hazard in the project site.

Lateral Spreading

Liquefaction-induced lateral spreading can occur adjacent to steep, free-face topographic features. Due to the low potential for liquefaction and the lack of steep, free-face topographic features in the project site, lateral spreading is not considered a hazard.

Tsunamis and Seiches

The project site is not located near the ocean or other large bodies of water; therefore, tsunamis (seismic sea waves) and seiches (wave oscillations in an enclosed or semi-enclosed body of water) do not pose hazards to the project site.

Landslides and Slope Stability

The project site is essentially flat and level. No landslides were observed in the project site or on adjacent properties that may affect the site. There is little or no potential for landslide or slope stability hazard in the project site.

Expansive Soil

Expansive soils are those soils that shrink and swell in response to changes in moisture content, potentially causing serious damage to overlying structures.

Near-surface soils in the project site are predominantly granular and are generally considered non-expansive. Clay soils at the site were typically encountered 4 to 5 feet bgs or deeper. Results of laboratory Expansion Index tests and Plasticity Index tests performed on selected clayey soil samples indicate a "very low" or "low" expansion potential based on CBC Table 18A-I-B.

Volcanic Activity

Mammoth Lakes and the Long Valley Caldera are the nearest active volcanic regions to the project site. These regions are located east of the Sierra crest approximately 80 miles northeast of the project site. Due to the distance between the site and known volcanic regions, the potential for volcanic activity affecting the project site is low.

Regulatory Setting

FEDERAL

U.S. Uniform Building Code

The U.S. Uniform Building Code (UBC) has design criteria for excavations and structures under static and dynamic loading conditions.

STATE

California Building Code

The California Building Code (CBC) is based on the UBC. Geologic resources and hazards are under the jurisdiction of the California Geological Survey.

LOCAL

City of Madera General Plan

Seismic Safety Policies:

2. All new building construction shall conform to the latest seismic requirements of the Uniform Building Code as a minimum standard.
4. Soil compaction tests, and geotechnical analysis of soil conditions and behavior under seismic conditions shall be required of all subdivisions and of all commercial, industrial and institutional structures over 6,000 square feet in area (or in the case of institutional structures, those which hold 100 or more people).
6. All lines which are part of the domestic water distribution system should be looped to assure adequate pressure in the event of major fire, earthquake, or explosion. Emergency standby power generation capability should be available at all water wells to assure water availability in the event of a major power failure.

3.6.2 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:

- 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
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property; or
- 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.

3.6.3 IMPACTS AND MITIGATION MEASURES

Impact #3.6-1: Expose people or structures to potential substantial adverse effects from fault rupture, seismic ground shaking, and seismic-related ground failure.

Discussion/Conclusion: The geologic report prepared for the proposed project by Geocon Consultants determined that the project site is not located within an active fault trace or special studies earthquake fault zone, and has a low potential for any seismic-related ground failure such as liquefaction, landslides, or lateral spreading. There is the potential for moderate ground shaking in the project site from an event along regional active faults; therefore, this impact is *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measures will reduce this impact to a *less-than-significant* level.

Mitigation Measure #3.6-1a:

All structures shall be designed in accordance with the seismic requirements contained in the most recent California Building Code (CBC).

Mitigation Measure #3.6-1b:

All recommendations made in the Geotechnical Engineering Investigation and Geohazards Evaluation report for the proposed project shall be implemented. This report is provided in its entirety in Appendix G of this Draft EIR.

Impact #3.6-2: Result in substantial soil erosion or soil instability.

Discussion/Conclusion: The construction phases of the proposed development will include the removal of all on-site vegetation as well as grading and excavation in order to prepare the project site for construction. All of these activities will result in loose, exposed soils that can lead to soil erosion and/or soil instability; therefore, this impact is *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce this impact to a *less-than-significant* level.

Mitigation Measure #3.6-2:

Best Management Practices (BMPs) shall be applied during construction to minimize erosion and sedimentation. An erosion control plan shall be submitted prior to ground disturbing activities in order to reduce erosion and water quality degradation. BMPs selected shall be in accordance with the California Stormwater Quality Association Stormwater Best Management Practice Handbook.

The erosion control plan shall indicate that proper control of erosion, sedimentation, siltation and other pollutants will be implemented per NPDES permit requirements and City standards. The plan shall address storm drainage during construction and propose BMPs to reduce erosion and water quality degradation. All drainage facilities shall be constructed to City of Madera specifications.

Drainage facilities shall be protected as necessary to prevent erosion of the on-site soils immediately following grading activities. In addition, 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 energy immediately following grading activities. Cut and fill embankment slopes shall be protected from sheet, rill, and gully erosion.

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.

3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7 Hazards and Hazardous Materials

This section of the Draft EIR addresses the potential for the proposed project to create hazards to the public or residents of the area through the transport, use or disposal of hazardous materials, the exposure of persons to existing on-site hazardous materials or soil contamination, or the exposure to potential wildland fires. During the NOP period no comments were received regarding hazards and hazardous materials.

3.7.1 SETTING

Environmental Setting

The project site consists of two parcels totaling approximately 250.6 acres located southwest of State Route 99 in southern Madera County just outside the city limits. These parcels have historically been, and are currently, used for agricultural production. Additionally, the southeastern portion of the project site contains several structures used as an agricultural commercial operation and the northwestern portion of the project site contains one residential unit.

The proposed project is the construction of up to 1,500 residential units in nine connected neighborhoods, approximately 18.7 acres of Plan Area park and landscaped open space, a 15.5-acre elementary school site, an approximately 5.5-acre neighborhood commercial site and all related infrastructure. The remaining southwestern portion of the project site will be used for the construction of a stormwater retention basin.

ENVIRONMENTAL SITE ASSESSMENTS

ATC Associates, Inc. (ATC) completed a Phase I Environmental Site Assessment (ESA) for the project site (APN 047-014-005 and 047-014-007) on November 30, 2004 (see Appendix H). The ESA was conducted to identify the presence or likely presence, use, or release of hazardous substances or petroleum products on the project site and surrounding area as defined by American Society for Testing and Materials (ASTM) Practice E 1527-00. A search of records on the site is summarized as follows:

- The property has been used for agriculture, primarily grape vineyards, since at least 1950. Adjacent land in all directions has historically been agricultural, though adjacent land to the north and west has subsequently been developed as residential neighborhoods.
- No indication of a recognized environmental condition, historical recognized environmental condition, or de minimis condition was noted on the property or surrounding area as part of the records review.

The site reconnaissance of the project site was conducted by Mike Luksic, Staff Geologist, of ATC on November 16 and 23, 2004. The findings are summarized as follows:

- Multiple above-ground storage tanks ranging from 350- to 4,000-gallon storage capacity containing petroleum hydrocarbons or unknown contents were observed.
- One 250-gallon unlabeled mobile above-ground storage tank containing diesel fuel to supply fuel to farming equipment was observed. No evidence of a release was observed.
- Oil stained soil approximately 35 by 20 feet to an unknown depth was observed inside the brick barn/garage on the northwest area of parcel number 047-014-005. The source is unknown.
- Oil stained soil approximately 3 feet in diameter to an unknown depth was observed around the diesel aboveground storage tank (AST) on the northwest area of parcel number 047-014-005. The source is apparently the diesel tank mounted directly above the stain.
- Waste oil stored in improperly labeled plastic jugs on the ground exposed to the elements were observed on parcel number 047-014-005.
- The residential structures on the property were apparently built as early as 1962. Because of the age of these structures, comprehensive surveys for asbestos and lead-based paint should be conducted before any planned renovation, repair, or demolition take place.

Geocon Consultants, Inc. prepared a Limited Soil Sampling and Analysis Summary Report (see Appendix I) for the project site based on a geotechnical engineering investigation performed on June 15 and 16, 2005. Soil samples obtained from exploratory trenches were analyzed, and the analytical results are summarized as follows:

- The following Title 22 metals were detected within the range of public naturally occurring background levels and below EPA residential soil preliminary remediation goals: barium (72 to 170 milligrams per kilogram [mg/kg]), chromium (7.2 to 19 mg/kg), cobalt (4.7 to 9.9 mg/kg), copper (6.5 to 15 mg/kg), lead (2.1 to 6.4 mg/kg), nickel (4.7 to 12 mg/kg), selenium (1.0 to 1.4 mg/kg), vanadium (19 to 38 mg/kg), and zinc (23 to 44 mg/kg).
- Chlorinated pesticides including 4,4'-DDE, 4,4'-DDT, alpha-chloridane, dieldrin, and gamma-chlordane were detected in seven of the ten composite soil samples analyzed. None of the detected pesticides or chlorinated herbicides exceed respective EPA residential soil preliminary remediation goals.
- Organophosphorous pesticides and chlorinated herbicides were not detected above their respective laboratory method detection limits.

The report concluded that Title 22 metals concentrations detected in the native alluvial soils are within the range of naturally occurring metals and do not appear to present an unacceptable health risk. In addition, chlorinated pesticides were detected in seven of eleven soil samples analyzed. The detected pesticide concentrations are well below the EPA residential Preliminary Remediation Goals (PRGs) and should not present an unacceptable human health risk.

AIRPORT LAND USE PLAN

The nearest airport to the project site is the Madera Municipal Airport located three miles northwest of the City. According to the County's *Airport Land Use Compatibility Plan*, the project site is outside of any of the compatibility zones for this airport.

Regulatory Setting

FEDERAL

Resource Conservation and Recovery Act

Under the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C s/s 6901 et seq.), 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.

STATE

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.

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.

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: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and 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 called the Certified Unified Program Agency (CUPA), and the Stanislaus County Environmental Health Division is designated the CUPA.

Hazardous Materials Transportation Regulations (26 CCR)

The State has also adopted U.S. Department of Transportation (DOT) 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 the California Department of Transportation (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 Emergency Services Act

Pursuant to the California Emergency Services Act, the state has developed an Emergency Response Plan to coordinate emergency services provided by Federal, State, and local

governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the state Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the Cal EPA, CHP, CDFG, RWQCBs, the local air pollution control districts, and local agencies.

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

Goals:

1. The reduction of loss of life or property due to crime, fire, earthquake, flooding or other disasters or hazards.
2. The provision of adequate medical and emergency services to reduce the effects of natural or man-made disasters.
3. The promotion of citizen awareness and preparedness for emergency/disaster situations.
4. The implementation of adequate inter-agency disaster planning.

Policies:

1. The City will continue to give high priority to support of police protection, and to fire suppression and prevention functions of the Madera Fire Department. Ultimate expansion of the City's fire service is to include additional stations affording adequate response to all parts of the urban area.
2. The City will work to maintain a fire flow standard of 2000 gpm for all commercial and industrial areas of the community, and 1500 gpm for residential areas, to assure the capability to suppress urban fires.
3. The City will maintain a street system which is capable of providing access to any fires that may develop within the urban area, and which is capable of providing for the adequate evacuation of residents in the event of an emergency condition of magnitude.

4. The City will continue to maintain and update emergency service plans, including the Madera City Fire Department Emergency Operations Plan and the Hazardous Materials Spills Emergency Response Plan.
5. The City will continue to cooperate with the County of Madera and other agencies in predisaster planning activities such as the Evacuation Plan for a Hidden Lake Dam breach.
6. The City will seek to reduce the risks and potential for hazards to the public through planning and zoning practices and regulations which avoid hazardous land use relationships, and by the continued and timely adoption of new-edition building and fire codes.

3.7.2 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:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures 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.

3.7.3 IMPACTS AND MITIGATION MEASURES

Impact #3.7-1: Routine transport, use or disposal of hazardous materials or wastes.

Discussion/Conclusion: The proposed project is a mixed-use development with limited, neighborhood-serving commercial uses. No hazardous materials will be routinely transported to and/or from the project site or disposed of on the project site; therefore, the impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.7-2: Listing as a hazardous material site.

Discussion/Conclusion: The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, the Phase 1 ESA identified four sites containing one or more underground storage tanks (UST) on adjoining properties (see Appendix H). According to the Phase 1 ESA, based on the distance of these sites from the Plan Area, the current regulatory status of each, and/or the absence of reported releases, these sites are not considered to represent a likely past, present or material threat of release.

Increased population within the range of these USTs creates a potential for increased damage from fire or accident conditions associated with storage of hazardous materials. However, the USTs are located to the north separated from the site by Avenue 13 and a 7-foot sound barrier that will be constructed along its south side (Mitigation Measure 3.11-1). This buffer will minimize potential hazards from these USTs. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.7-3: Hazards from contaminated soil.

Discussion/Conclusion: The property has been used for agricultural production, primarily grapes, since at least 1950. A Limited Soil Sampling and Analysis Summary Report concluded that pesticide concentrations detected on the site are well below the EPA residential PRGs and should not present an unacceptable human health risk. The southeastern corner of the project site is classified as an industrial storage and distribution area by the Department of Water Resources 2001 land use survey. The Limited Soil Sampling and Analysis Summary Report concluded that Title 22 metals concentrations detected in the native alluvial soils are within the range of naturally occurring metals and do not appear to present an unacceptable health risk. However, ATC site reconnaissance found multiple, above-ground storage tanks containing petroleum, or petroleum-based chemicals as well as unknown substances (some of the tanks are unlabelled). In addition, several areas of the site contained oil-stained ground. Finally, one residential unit and

associated structures possibly built as early as 1962 may contain asbestos and lead-based paint. The presence of these substances on site may pose a potential safety hazard to both construction workers and residents who will live in the proposed development once it is completed. This impact is *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will ensure that this impact is *less than significant*.

Mitigation Measure #3.7-3:

The following recommendations from ATC Environmental Site Assessment shall be implemented prior to and as a condition of issuance of any building permit for the affected phase of the project:

- *Petroleum-impacted soil within the brick barn/garage labeled "Poison Storage" on the northwest area of APN 047-014-007 shall be excavated and disposed of at an appropriate disposal facility prior to residential development.*
- *Comprehensive asbestos and lead-based paint surveys shall be conducted on any of the structures on the property prior to renovation, repair, or demolition.*
- *Any existing irrigation and domestic water wells shall be properly destroyed and abandoned according to the California Department of Water Resources standards.*
- *All household rubbish or hazardous waste such as empty pesticide and herbicide containers, waste oil jugs or any additional hazardous materials discovered shall be removed from the site and disposed of at an appropriate disposal facility prior to residential development.*

Impact #3.7-4: Hazards from wildland fires.

Discussion/Conclusion: The project site is not located in a high fire hazard area; therefore, there is *no impact*.

Mitigation Measure

No mitigation measures are required.

3.8

HYDROLOGY AND WATER QUALITY

3.8 Hydrology and Water Quality

This section of the Draft EIR addresses impacts of flooding and potential adverse effects to water quality from storm run-off that may result from implementation of the proposed project. Also covered in this section are the availability of a water supply for the project and the impact of the project on the City of Madera's existing water supply infrastructure. The topic of wastewater treatment is covered in Section 3.16, *Utilities and Service Systems*, of this Draft EIR. During the NOP period a comment regarding hydrology and water quality was received from the California Regional Water Quality Control Board, Central Valley Region. This comment letter can be found in Appendix B of this document.

3.8.1 SETTING

Environmental Setting

The City of Madera is located about midway north to south, and toward the eastern edge of the San Joaquin Valley, which is oriented northwest to southeast in central California. In this area, the valley floor slopes gradually in a southwestern direction from an approximate elevation of more than 275 feet above mean sea level (msl) on the northeastern side of the city to approximately 255 feet on the southwestern side (see Figure 3.8-1). Currently, any run-off that leaves the project site drains into the Burgess Lateral, a small drainage canal that branches off of the Main Number Two Canal, which borders the south side of the site and drains from east to west.

The climate of Madera is dry and mild in winter and hot in the summer. Nearly 90 percent of the annual precipitation falls in the six months from November to April. Snow is a rare occurrence. Madera enjoys a very high percentage of sunshine, receiving more than 80 percent of the possible amounts during all but the four months of November, December, January, and February, when periods of fog and stormy weather block sunlight. Precipitation is highly variable, ranging from less than five inches (4.73 inches in 1932) to more than 22 inches (22.13 inches in 1983).

FLOOD HAZARDS

Most of the project site is located within a FEMA 100-year floodplain (see Figure 3.8-2). In major storm events, where large amounts of precipitation fall within a 24-hour period, run-off tends to pool in this floodplain.

STORM DRAIN INFRASTRUCTURE

According to the City of Madera's 1997 *Storm Drainage Master Plan*, the city is divided into several distinct drainage areas. Each drainage area has a system of conveyance facilities, pumps, and/or retention basins to collect and dispose of runoff. The stormwater runoff is ultimately discharged into man-made retention basins, irrigation canals or pipes, or the Fresno River.

The city's existing stormwater conveyance facilities consist of storm drainage pipes varying in size from 8 to 36 inches. Runoff discharges by gravity or is pumped into various irrigation

canals and pipelines or the Fresno River, which carry stormwater outside the urban area. About 20 storage retention basins are located throughout the city, ranging in size from under 1 acre-foot to 100 acre-feet. Of the city's 20 stormwater pump stations, 4 pump stations discharge into the Fresno River, 14 discharge into Madera Irrigation District facilities and 2 discharge into street gutters.

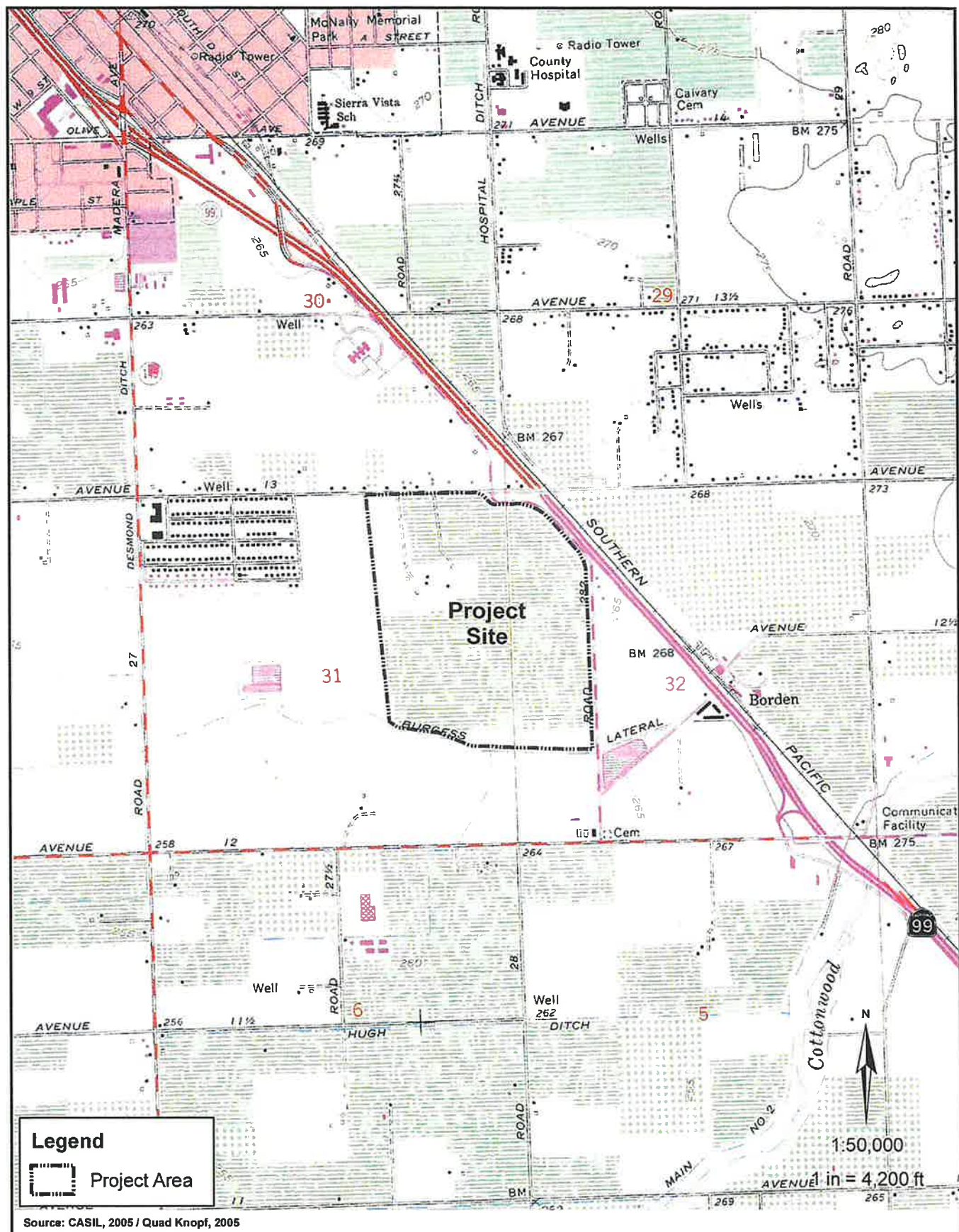
There are two retention basins located near the project site. Retention basin #169050 is a 2.5 acre-foot capacity retention basin located near the southeast corner of the project site at the intersection of Road 28 ¼ and Borden Street. It is a permanent, public basin maintained by the Madera Irrigation District. Retention basin #163050 is located adjacent to the southwestern corner of the project site and is also a permanent, public basin that was originally constructed as part of the Highlands at Rancho Valencia project to the west of the project site. The proposed project design calls for the expansion of this basin eastward onto the project site to service both this existing project and the proposed community.

According to the City of Madera's 1997 *Storm Drainage Master Plan* several new pipelines were proposed to connect with these two retention basins. To the west of the project site three new pipelines were proposed: (1) a 42-inch pipeline that would run south from Avenue 13 to retention basin #163050; (2) a 24-inch pipeline that would run north from Hazel Avenue to retention basin #163050; and (3) a 24-inch pipeline along Hazel Avenue. To the east of the project site two new pipelines were proposed; (1) a 36-inch pipeline that would run north of retention basin #169050; and (2) a pipeline that would run south from retention basin #169050 and east along Hazel Avenue.

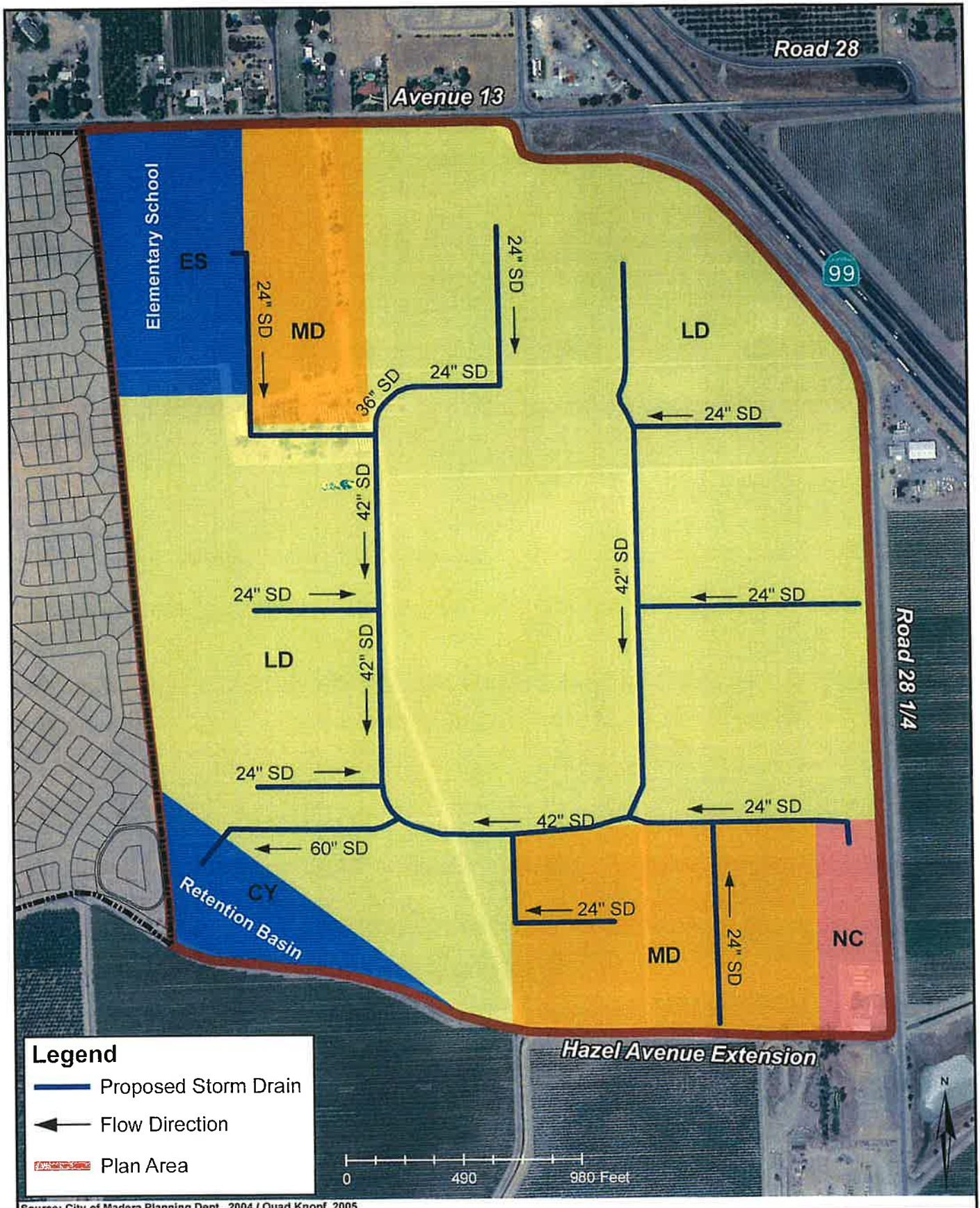
Of the storm drainage improvements proposed in the City of Madera's 1997 *Storm Drainage Master Plan*, the project proposes to construct several 24-inch storm drain lines extending from each neighborhood connecting to a 42-inch storm drain line in the middle of the project site and finally to a 60-inch storm drain line. This central storm drain line will collect the stormwater runoff and convey it to the stormwater retention basin. This storm drainage infrastructure plan is illustrated in Figure 3.8-3.

The size of the retention basin was estimated to be 47.4 acre-feet with the design storm being the 10-day, 100-year storm event indicated in the *Storm Drainage Master Plan* representing approximately 5.7 inches of precipitation. The runoff volume was estimated using a runoff coefficient of 0.41, which is an area weighted runoff coefficient taking into account the various land uses within the development.

Upon final engineering design and preparation of the improvement plans for the development, the stormwater runoff volume and the sizes, types and locations of storm drain pipes shall be adjusted where necessary. The improvement plans will also include the sizes and locations of any additional storm drain lines, necessary manholes, drop inlets and/or curb inlets and all other items associated with the construction of the storm drain system. The engineering design and improvement plans shall be consistent with the City of Madera's 1997 *Storm Drainage Master Plan*.







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 Clean Water Act. 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 SWQMP also provides a series of Measurable Goals that are used to gauge the objectives of the program.

The City's SWQMP provides a National Pollutant Discharge Elimination System (NPDES) permit for the area within the city's legal boundaries except in areas that are covered under existing, separate permits. These areas include State Route 99 and State Route 145, 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. Once annexed, the project site will become part of this permit boundary and if in compliance with the SWQMP, will be covered by this NPDES permit.

GROUNDWATER RECHARGE

Although some groundwater recharge takes place on the project site from rainfall and irrigation seepage, the City of Madera and the Madera Irrigation District have not designated the site as critical for replenishing the aquifer. The City of Madera's 1997 *Water System Master Plan* recommended using the Fresno River as a site for a recharge program. DWR Bulletin 118, San Joaquin Valley Groundwater Basin, Madera Subbasin states that based on current and historical groundwater elevation maps, groundwater barriers do not appear to exist in the subbasin.

WATER SUPPLY

The water system within the project site will include a 12-inch water main in a centrally located loop system and an extension that will run north between Neighborhoods 1 and 4 to allow for future connection to proposed city infrastructure within Avenue 13 and the existing development north of Avenue 13. This system will be supplied by a proposed well to be located to the west of the project site within the Highlands at Rancho Valencia development (see Section 3.16, *Utilities and Services Systems*). This well is projected to produce between 1,500 and 2,000 gallons per minute (gpm) or 2,160,000 to 2,880,000 gallons per day (gpd) and will service both the project site and the Highlands at Rancho Valencia.

Per the requirements of SB 610, a Water Supply Assessment has been prepared for the project since it is subject to CEQA and is a "project," as defined in Water Code Section 10912, and because it is a residential development of more than 500 dwelling units. The Water Supply Assessment is based in part on the City of Madera *Urban Water Management Plan* (October 13, 2005).

The City of Madera is located over the Madera Subbasin of the San Joaquin Valley Groundwater Basin. Table 3.8-1 shows population estimates and the amount of groundwater projected to be pumped in 5-year increments over the next 20 years to serve that population. Pumpage estimates assume that the current per-capita use will remain constant and that the city will continue to rely solely on groundwater for its supply since it currently has no surface water supplies or entitlements. The population projection is based on 2000 U.S. Census Bureau Statistics and an annual projected growth rate of 3.6 percent. The *Urban Water Management Plan* based these pumpage projections on a projection of population because the General Plan does not contain build-out projections based on land use densities within the city limits and the sphere of influence. The project lies within the City of Madera's Sphere of Influence and therefore its population at build out is included in the *Urban Water Management Plan* population projection. Moreover, Figure 2-2 in the City of Madera's *Water System Master Plan*, which guides expansion of the city's water service infrastructure, shows a planning area boundary that extends south of Avenue 12 and west of Road 23 and includes the sphere of influence. This figure also shows the area of the project site (south of Avenue 13 and west of State Route 99) as expected to be developed between 2010 and 2015. Figure 7-3 of City of Madera Water System Master Plan shows expansion of the city's water system to serve the project site with a combination of 12-inch and 8-inch mains.

Table 3.8-1
Future Estimates for Groundwater Pumpage (afy¹)

	2010	2015	2020	2025
City of Madera Population ²	61,874	73,842	88,126	105,172
Groundwater Pumpage from Madera Subbasin	15,932	19,014	22,692	27,081
Percent of Total Supply	100	100	100	100

¹ Acre-feet per year
² Based on 2000 U.S. Census Bureau Statistics and an annual projected growth rate of 3.6 percent.

Source: City of Madera 2005 *Urban Water Management Plan*; Quad Knopf, Inc.

The *Urban Water Management Plan* notes that data is not available for a projection of the water supply available during single-dry and multiple dry water years. It notes that because the city relies on groundwater for its supply, it is not anticipated that a single or multiple dry-year period will have any impact on the availability of the supply. To date, no formal study has been completed to quantify the capacity of the aquifer. Continued drawdown may eventually reach a critical point. Since the city has had to deepen wells to continue to access water, the 1997 *Water System Master Plan* has recommended a program to recharge the aquifer.

The Water Supply Assessment (see Appendix J) concluded the following regarding availability of a water supply for the project:

- The projected water demand for the Ventana Specific Plan area is 966 AFY for development of 1,000 dwelling units and 1,405 AFY for 1,500 dwelling units. This projection is based on low-flow toilets, faucets, and shower heads based on standards required of manufacturers through the National Energy Policy Act of 1992 (PL 102-486) as well as historical usage and usage in the City of Merced. In addition, the project proponent plans to use state-of-the-art

landscaping and irrigation techniques in the centralized landscaped open space and Plan Area park areas.

- Since the project site is estimated to currently use 755 AFY for flood irrigation of grapes, the project would actually contribute to a net increase in groundwater usage of 211 AFY to 650 AFY with construction of between 1,000 and 1,500 dwelling units.
- The projected water demand of the proposed project was accounted for in the City of Madera Urban Water Management Plan (October 2005). The population increase induced by the proposed project is within the projected population growth for the city, which anticipates a population of approximately 105,172 by 2025. This growth is accounted for in the supply and demand projections in the Urban Water Management Plan. Groundwater will be available in sufficient supply to meet the proposed project and other planned future water demands for the next 20 years.
- The groundwater supply will also be sufficient in a normal-year, single-dry-year, and multiple-dry-year scenarios. Although the aquifer is in overdraft, the city is only tapping the upper portion, which is above 600 feet. The aquifer contains fresh water to a depth (1,200 to 1,300 feet) that is twice that of the deepest well. Should water levels drop below current pump depths, the city will be able to drill to deeper depths to access the lower portion of the aquifer. In addition, the City has options available to recharge the groundwater to stabilize the water level, such as using an inflatable dam on the Fresno River to detain high water flows and allow percolation.

Regulatory Setting

FEDERAL

Regional Water Quality Control Board Permitting

The NPDES program, under Section 402(p) of the Federal Clean Water Act, is administered locally by the Central Valley Regional Water Quality Control Board on behalf of the EPA. The program is designed to reduce pollution from stormwater discharge and may require a permit from parties discharging to lakes, streams and other water bodies. In the case of the proposed project, a construction activity permit will be required since construction activities associated with the project will result in the disturbance of more than five acres and movement of at least 2.9 million cubic yards of soil. The permit will require that the following measures be implemented during construction activities: eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the nation, develop and implement a Storm Water Pollution Prevention Plan (SWPPP), and perform inspections of stormwater control structures and pollution prevention measures.

Clean Water Act

The Clean Water Act (CWA) administered through the Regulatory Program of the U.S. Army Corp of Engineers regulates the water quality of all discharges into waters of the U.S., including wetlands and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets

forth water quality certification requirements for “any applicant applying for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable water.”

Federal Emergency Management Agency

The National Flood Insurance Program (NFIP) is a Federal program administered by Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted, as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood. The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years although such a flood may occur in any give year. The County is occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

STATE

Senate Bill 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.

LOCAL

Water Use Regulations

The City’s Public Works Department, Water and Sewer Division has adopted water use regulations intended to conserve water during the summer and warm weather months (April through October). These regulations prohibit outside irrigation between 11 a.m. and 7 p.m. and designate certain days of the week according to address numbers during which outside irrigation is permissible. The regulations also require residents to comply with several water conserving measures such as not hosing down driveways and immediately repairing water leaks. Violations of these regulations are enforced by citations and fines.

Floodplain Development

The City of Madera does not have a floodplain ordinance. However, applicants are required to submit an Elevation Certificate identifying the base flood elevation and certifying that the planned elevation of the lowest floor, including basements, is at least one foot above the Base Flood Elevation (pers. comm. Ray Salazar, City Engineer, Oct. 18, 2005).

3.8.2 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:

- Violate any water quality standards or waste discharge requirements;

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- 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 which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place 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;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structure 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
- Inundation by seiche, tsunami or mudflow.

3.8.3 IMPACTS AND MITIGATION MEASURES

Impact #3.8-1: Violate any water quality standards or waste discharge requirements.

Discussion/Conclusion: The construction phase of the proposed project may cause stormwater runoff to enter drainages and, ultimately, waters of the U.S. The project proponent is required to prepare a SWPPP for the proposed project and submit it with a Notice of Intent to the RWQCB. SWPPPs include Best Management Practices (BMPs) that trap stormwater and prevent it from carrying sedimentation from the project site. SWPPPs are designed to control stormwater quality degradation to the extent practicable using BMPs during and after construction. Implementation of the approved SWPPP in accordance with a General Permit issued by the RWQCB for the proposed project and compliance with the requirements for obtaining a General Permit will reduce impacts to water quality to a level that is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.8-2: Depletion of groundwater supplies or interference with groundwater recharge.

Discussion/Conclusion: The Water Supply Assessment (see Appendix J) prepared for the proposed project concluded that groundwater will be available in sufficient supply to meet project needs as well as other planned future water demands in the City of Madera. The groundwater supply will be sufficient in a normal-year, single-dry-year, and multiple-dry-year scenarios. In addition, City of Madera's 1997 *Water System Master Plan* has identified options available for supplementing groundwater with a surface water supply, which can be used to recharge the aquifer and reduce overdrafting. The projected water demand for the Ventana Specific Plan area is 966 AFY for development of 1,000 dwelling units and 1405 AFY for 1,500 dwelling units. This projection is based on the use of low-flow toilets, faucets, and shower heads based on standards required of manufacturers through the National Energy Policy Act of 1992 (PL 102-486) as well as historical usage and usage in the City of Merced. In addition, the project proponent plans to use state-of-the-art landscaping and irrigation techniques in the centralized landscaped open space and Plan Area park areas. Since the project site is estimated to currently use 755 AFY for flood irrigation of grapes, the project would contribute to a net increase in groundwater usage of 211 AFY to 650 AFY with construction of between 1,000 and 1,500 dwelling units. It is estimated that in the year 2010, 15,932 AFY will be pumped from the Madera Subbasin. This project will result in a very small increase in comparison to the overall amount of water pumped from the Madera Subbasin. In addition, well depths are currently between 300 and 600 feet. The base of the fresh groundwater is 1,200 to 1,300 feet deep. The water level has only dropped 40 feet since 1970 and a recharge program would stabilize the overdraft condition and allow the city to continue to pump at current well depths. The city also has the option to extend well depths to gain access to additional water. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.8-3: Change the existing drainage pattern of the project area.

Discussion/Conclusion: The project site is flat, with any runoff that leaves the site draining into Burgess Lateral, which borders the south side of the site and drains from east to west. Based on submitted plans, the project will result in the creation of at least 200 acres of impervious surface in the form of houses and school buildings, parking areas, and other paved surfaces, and will increase the potential for contaminated runoff to enter Burgess Lateral. The project proposes to construct a 42-inch storm drain system on the project site. This storm drain line will collect the stormwater runoff and convey the runoff to the stormwater retention basin in the southwest corner of the project site. This system has adequate capacity to accommodate the runoff associated with the development of the site. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.8-4: Place people or structures within a 100-year floodplain.

Discussion/Conclusion: Most of the project site is located within a FEMA 100-year floodplain (see Figure 3.8-2). In major storm events, where large amounts of precipitation fall within a 24-hour period, runoff tends to pool in this floodplain. As a condition of development, the City of Madera requires applicants to submit an Elevation Certificate identifying the base flood elevation and certifying that the planned elevation of the lowest floor, including basements, is at least one foot above the Base Flood Elevation. A Conditional Letter of Map Revision (CLOMR) will be required to be filed with FEMA in conjunction with tentative map submittals. Thereafter, with construction of the project site, a Letter of Map Revision Based on Fill (LOMR-F) application will be filed with FEMA to certify removal of structures from the flood zone. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

3.9

LAND USE AND PLANNING

3.9 Land Use and Planning

This section of the Draft EIR provides a discussion of land uses at and within the vicinity of the project site and assesses the potential effects of construction and operation of the proposed project on land use. The county, state, and federal jurisdictions potentially affected by the proposed project are identified, as are their respective plans, policies, laws, and regulations (including zoning where applicable), and potentially sensitive land uses. During the NOP period no comments were received regarding land use and planning.

3.9.1 SETTING

Environmental Setting

The project site encompasses approximately 250.6 acres located west of State Route 99 in southwestern Madera just outside the City limits. Figure 2-1 in Chapter Two of this Draft EIR illustrates the location of the project site, which is bound by State Route 99 to the northeast, Avenue 13 to the north, Road 28 ¼ to the east, agricultural uses to the south, and a new residential development to the west. The project site consists of two parcels: APN 047-014-005 comprises the northern and western portions of the project site and APN 047-014-007 comprises the southeastern corner of the project site.

The annexation area includes the project site that is described above plus 18 parcels located to the north of Avenue 13 encompassing approximately 49.55 acres for a total annexation area acreage of 300.2 acres. Current parcelization of the annexation area is illustrated in Figure 2-2.

CURRENT LAND USES

Current land uses within the project site consist of an active vineyard, one residential unit, and accessory structures on the northwestern parcel (APN 047-014-005) as well as several agricultural structures located at the southeastern corner of APN 047-014-005. The 18 parcels located north of the project site and Avenue 13 that will be annexed upon project approval currently contain very low density residential structures or “ranchettes.”

According to a Department of Water Resources land use survey conducted in 2001 and site visits conducted by Quad Knopf staff in 2005, the project site is primarily surrounded by agricultural uses and scattered farmsteads; however, there are several exceptions. A new low density residential development (The Highlands at Rancho Valencia) is currently under construction to the west of the project site. Additionally, there are several small properties used for industrial storage and distribution located to the east and southeast of the area. The surrounding agricultural uses primarily include grape vineyards, olives, apricots, peaches, nectarines, mixed pasture and field crops.

Figure 3.9-1 illustrates the current land uses on the project site and its surrounding properties.

PROPOSED LAND USES

Land uses proposed for the project site include low and medium density residential, neighborhood commercial and public facilities uses, including neighborhood parks, an elementary school site, and a storm drain basin.

The existing land uses on the 18 parcels located north of the project site that will be annexed upon project approval will remain unchanged.

LOCAL LAND USE PLAN CONSISTENCY ANALYSIS

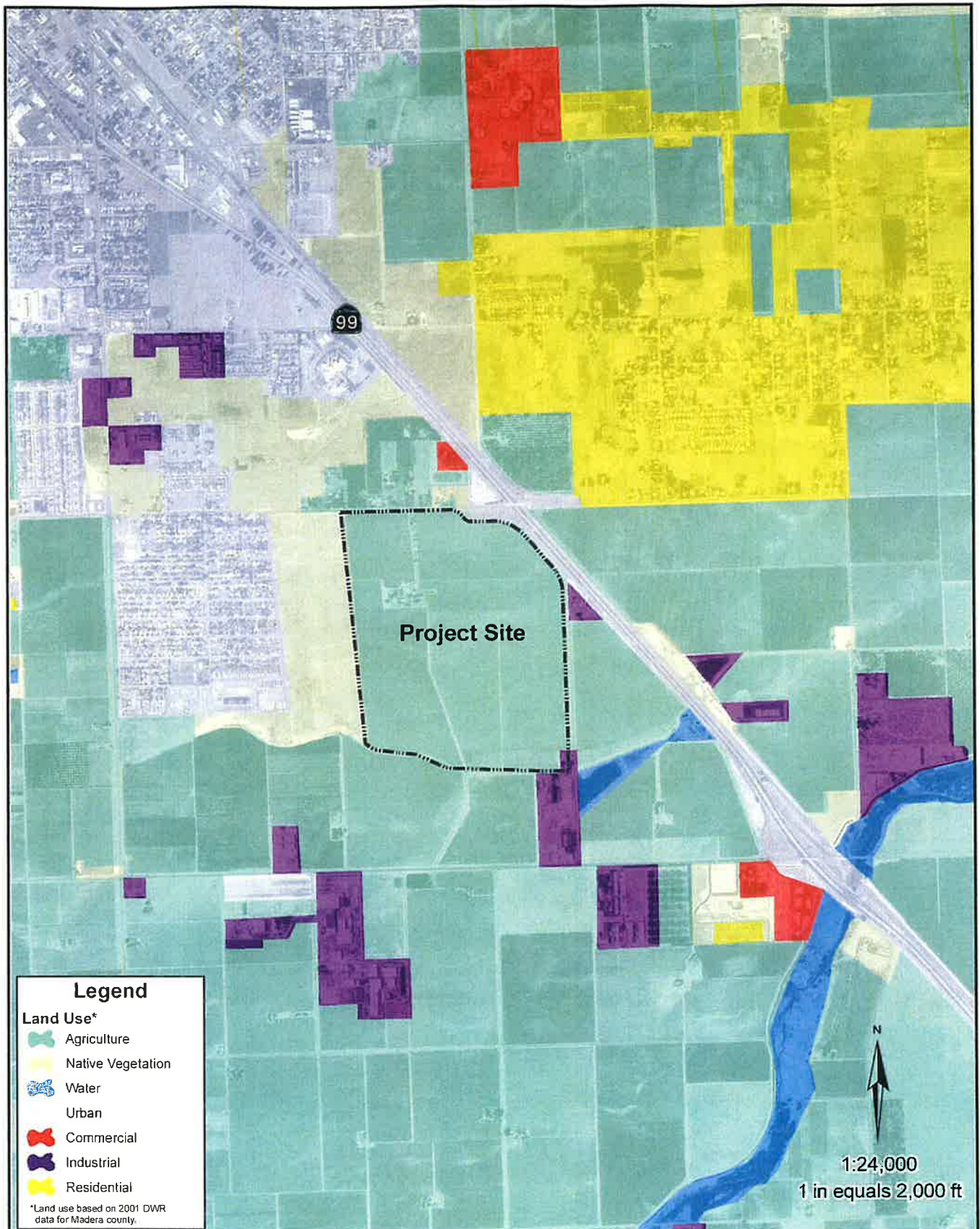
The project site is currently located within unincorporated Madera County; however, it is also located within the City of Madera's sphere of influence and has, therefore, been assigned land use designations by both the County and the City of Madera General Plans.

Both parcels on the project site are currently designated by the Madera County General Plan as "AE" Agriculture Exclusive. This designation provides for agricultural uses, limited agricultural support service uses, agriculturally-oriented services, timber production, mineral extraction, airstrips, public and commercial refuse disposal sites, recreational uses, public and quasi-public uses, and similar and compatible uses. Current Madera County General Plan land use designations are illustrated in Figure 2-3.

Both parcels on the project site are currently designated by the City of Madera General Plan as "RC (AG)" Resource Conservation – Agricultural. Current City of Madera land use designations are illustrated in Figure 2-4.

The project site is also currently zoned by the Madera County Zoning Ordinance as "ARE-20" Agricultural, Rural, Exclusive, Twenty-Acre District. This zoning district provides for various kinds of agricultural uses and one single family dwelling in permanent structure or one single family manufactured home on permanent foundation. Additionally, uses allowed with a zoning permit include one other single family dwelling, a guesthouse or home occupation. Numerous other uses are permitted within this zoning district with approval of a Conditional Use Permit. Current zoning of the area is illustrated in Figure 2-5.

As the proposed project is a mixed-use development, it is not consistent with the project site's current land use or zoning designations as discussed above. Implementation of the proposed project will require a general plan amendment to change the project site's designations to Low Density Residential, Medium Density Residential, Neighborhood Commercial, and Public and Semi-Public (ES and CY). The proposed general plan land use designations are illustrated in Figure 2-6. It will also require a rezoning request to establish the project site zoning as PD 3000, PD 4500, PD 6000, Neighborhood Commercial and Public Facility. The proposed rezoning classifications are illustrated in Figure 2-7. The City of Madera will process a General Plan Amendment and rezoning requests where necessary to achieve consistency with the land use and zoning districts established by the Specific Plan.



Source: California Dept. of Water Resources, 2001 / Quad Knopf, 2005

Similar to the project site, the area north of Avenue 13 that will be annexed upon project approval has been designated by both the City and County of Madera General Plans. The City's land use designations for these 18 parcels will not be changed as part of the proposed project. A rezoning request will be required to establish the zoning of these parcels as R(A) Residential (Agricultural). Approval of the rezoning request will ensure consistency with local land use plans for this area.

CONSERVATION PLANS

According to the U.S. Fish and Wildlife Service Conservation Plans and Agreements Database, there are no habitat conservation plans, safe harbor agreements or candidate conservation agreements within Madera County. According to the California Department of Fish and Game, there are no natural community conservation plans within Madera County.

Regulatory Setting

FEDERAL

There are no specific Federal regulations applicable to land use and planning.

STATE

Local Agency Formation Commission

California Government Code section 56668 enumerates factors by which the LAFCo Commission must consider in the review of a proposal including the following:

- The definiteness and certainty of the boundaries of the territory, the nonconformity of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.
- The conformity of the proposal and its anticipated effects with adopted Commission policies on providing planned, orderly, efficient patterns of urban development.

LOCAL

City of Madera General Plan

6. Further urbanization under the General Plan shall be phased in consideration of the overriding policy of avoiding fragmentation of the urban pattern and strain on the ability of local government to provide adequate levels of public service. This should include concentration on the "in-filling" of vacant lands which have been by-passed by the urban development process. Any limits that might be considered by LAFCO at the time when lands at the urban fringe are allowed to develop in favor of requiring "in-fill" must be reasonable in consideration of constraints that may discourage in-fill.

15. Separate specific plans or neighborhood plans may be appropriate for some areas of the City. Completion of the City-wide rezoning program will be the next step or phase in the implementation of the General Plan. However, in those areas or neighborhoods where such further planning is determined to be appropriate by the Planning Commission and/or City Council, required rezonings for the purpose of General Plan consistency need not be initiated until adoption of those specific or neighborhood plans. Existing zoning in those areas shall regulate land uses and, if development trends warrant, could be subject to development of a special interim overlay ordinance which requires Planning Commission and City Council confirmation of all proposals for new or expanded uses.
16. The elimination of excessive area in streets which is not necessary for traffic circulation, and which should be returned to the tax rolls for private use.

The average number of housing units per net acre (rather than the maximum) is to be used as the basis for developer calculations of the number of units that are allowed. The extent to which additional units may be allowed, up to a maximum of seven, is to be based on the merits of a request for the maximum. Such merits typically will include such factors as the density in any adjacent development, efficiency in street design, housing quality and proposed amenities.

Other than bonuses mandated by the Government Code, density bonuses are not permitted within low density areas.

3.9.2 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:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

3.9.3 IMPACTS AND MITIGATION MEASURES

Impact #3.9-1: Physically divide an established community.

Discussion/Conclusion: The proposed project will be located directly adjacent to existing residential development and will connect with these neighborhoods. The project is an extension of existing development and will, therefore, not divide an established community. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.9-2: Conflict with an applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Discussion/Conclusion: The project site is currently designated by the City of Madera General Plan for agricultural use and will require a general plan amendment to avoid a conflict with the City's General Plan. The project site is not currently located within the city limits and has, therefore, not been zoned by the City. A prezone request will be required to establish zoning classifications within the project site that will create consistency between the proposed development and the City's Zoning Ordinance.

The City of Madera General Plan land use designations established for the area north of Avenue 13 will remain unchanged and consistent with the existing designation. Similar to the proposed project, this area has not been zoned by the City and will require a prezone request to establish a zoning classification for this area that will create consistency with the City's zoning ordinance.

Adoption of the proposed project will result in the necessary changes to ensure that the project is in full compliance with these land use plans; therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.9-3: Create land use conflicts with adjacent properties.

Discussion/Conclusion: The project site is bound on the south, east, and partially to the north by agricultural lands. The construction of a large mixed-use development has the potential to result in land use conflicts with these surrounding agricultural uses. The City of Madera has adopted a right-to-farm ordinance which protects agricultural operations by creating a legal presumption that ongoing, standard farming practices are not a nuisance to adjoining residences (see Section 3.2, *Agriculture Resources*). This ordinance will help to alleviate complaints by residents and will protect the agricultural operations from legal action. Additionally, the proposed project will provide buffers, setbacks and screening as well as appropriate unit placement to minimize such conflicts; therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

3.10

MINERAL RESOURCES

3.10 Mineral Resources

This section of the Draft EIR analyzes the potential for the project to adversely impact the ability of public or private interests to extract mineral resources from the site. Mineral resources are those minerals which are considered to have value to the region and residents of the state. During the NOP period no comments were received regarding mineral resources.

3.10.1 SETTING

Environmental Setting

REGIONAL MINERAL RESOURCES AND EXTRACTION OPERATIONS

Commonly extracted mineral resources in Madera County include aggregate (sand, gravel, and crushed stone), asbestos, copper, gold, iron, and silver. 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.

Madera County has a rich history of mineral extraction, including gold, copper, and granite. Gold extraction in the County is now almost entirely recreational (gold panning), although gold is occasionally extracted as a by-product in other mineral extraction operations; copper mining is no longer commercially viable. Three types of mineral resources are currently commercially mined in Madera County: stone (subbase), dimension stone (granitic), and aggregate.

The majority of the City of Madera, including the project site, is currently classified as MRZ-1, indicating that it is an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists.

PROJECT SITE MINERAL RESOURCES AND EXTRACTION OPERATIONS

According to the U.S. Geologic Society's Mineral Resources Data System (MRDS) and Minerals Availability System/Mineral Industry Location System (MAS/MILS) databases, there are several active and inactive mineral extraction operations in the vicinity of the project site. To the south there is one inactive silver mine and two inactive sand and gravel pits near the San Joaquin River. To the east and northeast of the project site there are two inactive sand and gravel pits, one inactive gold mine, and one active clay extraction operation. The clay operation is owned by the Hans Sumpf Company, Inc. for the production of clay roof tiles.

These databases do not show any mineral extraction operations within the project site. Additionally, the City of Madera General Plan does not designate the project site as a site containing important mineral resources or mineral resource extraction operations.

Regulatory Setting

FEDERAL

There are no specific Federal regulations applicable to mineral resources.

STATE

California Surface Mining and Reclamation Act of 1975

The California Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Section 2710 et seq.; subsequently amended) is the primary regulation for onshore surface mining in the State. SMARA mandated that aggregate resources throughout the State be identified, mapped, and classified by the State geologist so that local governments could make land use decisions in light of the presence of aggregate resources and the need to preserve access to those resources. Local jurisdictions are required to enact specific plan procedures to guide mineral conservation and extraction at particular sites, and to incorporate mineral resource management policies into their general plans. The Division of Mines and Geology has prepared Mineral Land Classification Maps for aggregate resources. The Mineral Land Classification Maps designate four different types of resource sensitivities. The four sensitivity types 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.
- 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 does not contain any policies applicable to mineral resources.

3.10.2 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 the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3.10.3 IMPACTS AND MITIGATION MEASURES

Impact #3.10-1: Adverse effect on the availability of a known mineral resource of value to the region and/or residents of the State.

Discussion/Conclusion: The site is not within an area designated by the State for locally important mineral resources, and it does not lie within the Fresno Production-Consumption region, which is identified by the Madera County General Plan Background Report as having known mineral resources. *No impact* has been identified.

Mitigation Measure

No mitigation measures are required.

Impact #3.10-2: Adverse effect on the availability of a mineral resource recovery site.

Discussion/Conclusion: No current mining operations or mining claims are known to exist on or in the vicinity of the project site. *No impact* has been identified.

Mitigation Measure

No mitigation measures are required.

3.11

NOISE

3.11 Noise

This section provides a background summary of acoustical terminology and concepts as well as a general description of existing noise sources and levels in and around the project site, future noise sources and levels that may be expected with build out of the project site, and the regulatory setting. Following this discussion is an evaluation of the noise related impacts on sensitive receptors and mitigation measures that shall be used to reduce these impacts. During the NOP period no comments were received regarding noise.

3.11.1 SETTING

Acoustical Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough, they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. As a result, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by the A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels. Table 3.11-1 contains definitions of acoustical terminology used in this section.

Table 3.11-1
Acoustical Terminology

Term	Definition
Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Term	Definition
Decibel or dB	Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 to 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.

Source: j.c. brennan and associates, Inc., 2005

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The Day/Night Average Level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Environmental Setting

SENSITIVE RECEPTORS

Sensitive receptors are people that are most affected by high noise levels. Young children and elders are typically considered sensitive receptors. Areas with the highest concentrations of sensitive receptors include hospitals, convalescent homes, schools, parks, and residences. Industrial and commercial land uses have the lowest concentrations of sensitive receptors at any given time when compared to the other types of land uses.

TRAFFIC NOISE

The project site is located adjacent to State Route 99, which is a major noise source. Other significant noise sources include arterial roadways, and some collector roadways. The noise generated along these roadways is from traffic. Generally the noise levels peak in the morning and evening with the peak of traffic volume. Highways will generally create the most substantial amount of noise as the traffic volumes are much higher when compared to other roadways.

COMMERCIAL AND INDUSTRIAL OPERATIONS NOISE

Normal operations, such as truck deliveries, parking lot activity or mechanical equipment usage may produce nuisance noise levels at adjacent uses. Although commercial and industrial land uses are not considered noise sensitive land uses, most projects would be required to obtain a conditional use permit, which would require a thorough analysis of the noise impacts and mitigation to reduce impacts.

AGRICULTURAL OPERATIONS NOISE

Noise for agricultural operations may be audible at new developments within the project site. Typically, industrial and commercial uses are not considered noise sensitive uses and agricultural operations would not impose a nuisance. The County of Madera has a right-to-farm ordinance that states agricultural operations which are conducted for commercial purposes and meet proper standards cannot be determined a nuisance if it has been in operation for more than one year and was not determined to be a nuisance at the time it began. Residents of property in or near agricultural districts shall be prepared to accept the inconveniences and discomfort associated with normal farm activities.

CONSTRUCTION NOISE

Construction within the project site will involve grading, nailing, sawing and other activities that may generate high levels of noise. People may be exposed to periodic high noise levels during construction; however, construction is limited to normal business hours.

OTHER NOISE SOURCES

The project site is located near Union Pacific Railroad, which runs parallel to State Route 99 on the east side of the highway. Industrial and/or commercial land uses are typically prescribed for areas where railroads are located because they tend to have fewer sensitive receptors.

EXISTING BACKGROUND NOISE LEVELS

On September 12-13, 2005, j.c. brennan & associates, Inc. conducted continuous 24-hour noise level measurements on the project site. The noise measurement site was located at a distance of 170 feet from the State Route 99 roadway centerline. Table 3.11-2 shows the results of the noise measurement data. The intent of the noise level measurements was to determine the overall daily noise exposure from State Route 99, and to determine the effective day/night split for the State Route 99 traffic on the project site.

Equipment used for all noise level measurements included Larson-Davis-Laboratories (LDL) Model 820 precision integrating sound level meter. The sound level meter was calibrated in the field using an LDL Model CAL200 acoustical calibrator to ensure accuracy. The sound level meter was programmed to collect hourly noise level data, as well as identifying single event train passbys.

Table 3.11-2
Summary of Continuous Measured Noise Levels at Site 1
(170 feet from State Route 99 Centerline)

Ldn	Average Hourly Daytime (7:00 am - 10:00 pm)		Average Hourly Nighttime (10:00 pm - 7:00 am)	
	Leq	Lmax	Leq	Lmax
73.4 dB	70.5 dB	77.4 dB	66.0 dB	75.8 dB

Source: j.c. brennan & associates, Inc., 2005

EXISTING TRAFFIC NOISE LEVELS

j.c. brennan & associates, Inc. employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The model is based upon the California Vehicle Noise (CALVENO) noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. To determine existing traffic noise levels, direct inputs to the FHWA Model included traffic volumes reported by the project traffic consultant. Table 3.11-3 shows the results of the traffic noise prediction model for existing conditions. Appendix B of Appendix K of this Draft EIR shows a complete listing of the FHWA traffic noise model inputs and results.

Table 3.11-3
Predicted Existing Traffic Noise Levels

Receiver	Assumed Distance to Roadway C.L. ¹	Predicted L _{dn}	Distance to 60 dB L _{dn} Noise Contour ¹	Distance to 70 dB L _{dn} Noise Contour
State Route 99				
First row of residence back yards	225 feet	74 dB	1,820 feet	392 feet
Avenue 13				
First row of residences back yards	75 feet	59 dB	67 feet	14 feet
1 - Distances are from the roadway centerline. Note: A complete listing of FHWA Model inputs and results is provided in Appendix B.				

Source: j.c. brennan and associates, Inc., 2005

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 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.

The Federal Department of Housing and Urban Development (HUD) 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 may exceed 45 dBA; however, with proper insulation and other construction techniques, the interior noise level can be reduced to the 45 dBA level.

There are Federal regulations that influence the audible landscape, especially for projects where federal funding is involved. The FHWA requires abatement of highway traffic noise for highway projects through the Code of Federal Regulations (23 CFR Part 772), and the Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) each recommend thorough noise and vibration assessments for any mass transit or high-speed railroad projects that would pass by residential areas.

STATE

The California Department of Health Services developed guidelines for acceptable community noise levels that are frequently adopted by local agencies. Selected relevant noise levels are as follows:

- CNEL below 60: normally acceptable for low density residential use.
- CNEL of 55 to 70 dBA: conditionally acceptable for low density residential use.
- CNEL below 65: normally acceptable for high density residential, transient lodging, churches, educational and medical facilities.
- CNEL below 70 dBA: normally acceptable for playgrounds, neighborhood parks.

“Normally acceptable” is defined as satisfactory for the specified land use assuming that normal 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 within the overlapping range.

The State of 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 Services 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

Noise Abatement and Control Goals and Policies:

Goals:

1. To protect citizens from the harmful effects of exposure to excessive noise.
2. To protect the economic base of the City by preventing the encroachment of incompatible land uses near noise-producing roadways, industries, the railroad, and other sources.

Policies:

1. Areas within the City shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding 60 dB CNEL or the performance standards described in Table 3.11-4.
2. New development of residential or other noise sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into project designs to reduce noise to the following levels:
 - 60 dB CNEL or less in outdoor activity areas;
 - 45 dB CNEL within interior living spaces or other noise-sensitive interior spaces.

- Where it is not possible to achieve reductions of exterior noise to 60 dB CNEL or less by using the best available and practical noise reduction technology, an exterior noise level of up to 65 dB CNEL will be allowed.
 - Under no circumstances will interior noise levels be allowed to exceed 45 dB CNEL with windows and doors closed.
4. Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with the recommendations of the California Office of Noise Control.

Table 3.11-4
Noise Level Performance Standards

Uses Not to be Permitted if Noise Levels Exceed these Performance Standards in Areas Containing Residential, Schools or Other Noise Sensitive Uses			
Exterior Noise Level Standards *			
Nighttime 0:00 p.m. – 7:00a.m.	Sound Category	Max. Cumulative No. Minutes in any 1-Hr. Time Period	Daytime 7:00 a.m. – 10:00 p.m.
45	1	30	55
50	2	15	60
65	3	5	55
60	4	1	70
65	5	0	75

* Each of the noise level standards specified in this table shall be reduced by 5 dBA for pure tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. The standards should be applied at a residential or other noise-sensitive land use and not on the property of a noise-generating land use.

Source: City of Madera General Plan, 1992

3.11.2 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:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project site to excessive noise levels; or

- For a project within the vicinity of a private airstrip, expose people residing or working in the project site to excessive noise levels.

METHOD OF ANALYSIS

Changes in Traffic Noise Levels

To describe existing and projected noise levels due to traffic, the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

To determine the future traffic noise levels on the project site and relative increases in traffic due to the project, State Route 99 and other local roadway traffic information provided by kd Anderson Transportation Engineers was used. All relative elevations for lot pads and roadways were assumed to be at the same elevations. Appendix B of Appendix K of this Draft EIR shows the complete inputs to the FHWA Noise Prediction Model.

To determine the future traffic noise levels due to and upon the project site, traffic information provided by kd Anderson Transportation Engineers was used. All relative elevations (i.e. State Route 99 and lot pad elevations) were assumed to be at the same elevations. Tables 3.11-5 and 3.11-6 show the predicted future traffic noise levels, both with and without the project.

Table 3.11-5
Predicted Future No Project Traffic Noise Levels

Receiver	Assumed Distance to Roadway C.L. ¹	Predicted L _{dn}	Distance to 60 dB L _{dn} Noise Contour ¹	Distance to 70 dB L _{dn} Noise Contour
State Route 99				
First row of residence back yards on project site	225 feet	77	3075	662
Avenue 13				
Project site	75 feet	66	196	42
Road 28 ¼ to Raymond Thomas	75 feet	64	137	29
Raymond Thomas to State Route 145	75 feet	63	127	27
¹ Distances are from the roadway centerline. Note: A complete listing of FHWA Model inputs and results is provided in Appendix B.				

Source: j.c. brendan and associates, Inc., 2005

Table 3.11-6
Predicted Future with Project Traffic Noise Levels

Receiver	Assumed Distance to Roadway C.L. ¹	Predicted L _{dn}	Distance to 60 dB L _{dn} Noise Contour ¹	Distance to 70 dB L _{dn} Noise Contour
State Route 99				
First row of residence back yards on project site	225 feet	77	3075	662
Avenue 13				
Project site	75 feet	67	224	48
Road 28 ¼ to Raymond Thomas	75 feet	66	188	40
Raymond Thomas to State Route 145	75 feet	66	177	38
1 - Distances are from the roadway centerline. Note: A complete listing of FHWA Model inputs and results is provided in Appendix B.				

Standard residential construction (e.g., wood or stucco siding, STC-28 windows, door weather stripping, exterior wall insulation, composition plywood roof) results in an exterior to interior noise reduction of 25 dB with windows closed. Where residential uses are exposed to exterior noise levels in excess of 70 dB L_{dn}, it is expected that they will require mitigation to ensure that interior noise levels comply with the interior noise level criterion of 45 dB L_{dn}. Tables 3.11-5 and 3.11-6 show the distance to the generalized 70 dB L_{dn} roadway traffic noise contours.

Construction Noise

During the construction phases of the project, noise from construction activities will add to the noise environment in the immediate project vicinity. Activities involved in construction will generate maximum noise levels, as indicated in Table 3.11-7, ranging from 85 to 90 dB at a distance of 50 feet. Construction activities will be temporary in nature and normally occur during normal daytime working hours.

Table 3.11-7
Construction Equipment Noise

Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: Patrick R. Cuniff, *Environmental Noise Pollution*, 1977.

Noise will also be generated during the construction phase by increased construction-related traffic on local roadways. The intensity of this traffic will depend on how uses are under construction at any given time. A potentially significant project-generated noise source will be truck traffic associated with transport of heavy materials and equipment to and from construction

sites. This noise increase will be of short duration, and will likely occur primarily during daytime hours.

3.11.3 IMPACTS AND MITIGATION MEASURES

Impact #3.11-1: ***Development within the project site will be exposed to exterior traffic noise levels which exceed the City of Madera General Plan Noise Element exterior noise level criteria.***

Discussion/Conclusion: The first row of residence back yards on the project site is predicted to be exposed to a sound level of 77 dB Ldn from traffic noise on State Route 99 and a sound level of 67 dB Ldn from traffic noise on Avenue 13. The City of Madera General Plan Noise Element establishes a normally acceptable exterior noise exposure level within single-family residential land uses, of 60 dB CNEL and a conditionally acceptable level of 70 dB CNEL or less. The exterior noise level standard is applied at the outdoor activity area, which is generally considered to be the backyard areas of residential uses. Since the noise level which the project site will be exposed to is greater than the acceptable level, the impact is considered to be *potentially significant*.

Mitigation Measure

In order to reduce traffic noise levels at the project site, a barrier performance analysis was used to determine the appropriate barriers to reduce noise levels to a minimum of 70 dB Ldn, and where possible, the project shall comply with the lower limit 60 dB Ldn noise level criterion. The project design shall include the following barriers to comply with a minimum of 65 dB Ldn at the outdoor activity areas. Implementation of the following mitigation measure will reduce State Route 99 traffic noise levels at the front yards to 70 dB Ldn. Based upon the project design; the outdoor activity areas (e.g., backyard patios) are located on the opposite side of the building facades from the roadway. The building facades will provide a minimum of 5 dB of additional shielding, resulting in an exterior noise level of 65 dB Ldn. This will result in a noise level on the project site that is *less than significant*.

Mitigation Measure #3.11-1:

A barrier 10 feet in height shall be constructed along the west side of Roadway 28 ¼ within Phase 5. The barrier shall be reduced to 9 feet in height at the north end of Phase 6. The barrier shall gradually decrease in height to 6 feet at the mid-point of Phase 7, and continue as a 6-foot tall wall to the south end of Phase 8. Additionally, a barrier 7 feet in height shall be constructed along the south side of Avenue 13. This will reduce Avenue 13 traffic noise levels to 60 dB Ldn.

Impact #3.11-2: ***Development within the project site may be exposed to interior State Route 99 traffic noise levels which exceed the Madera County General Plan Noise Element criterion of 45 dB Ldn.***

Discussion/Conclusion: Interior noise levels from traffic noise may exceed the City of Madera interior noise level standard of 45 dB Ldn at residences on the project site. Standard residential construction practices conducted in accordance with local building codes provide approximately 25 dB exterior to interior noise level reduction (NLR) with windows closed and approximately 15 dB reduction with windows open.

Residential uses which are adjacent to and have a view of State Route 99 will be exposed to exterior traffic noise levels of 65 dB Ldn or less at first floors. No mitigation is required for those building facades. Second floor building facades which are adjacent to and have a view of State Route 99 will be exposed to exterior traffic noise levels of approximately 77 dB Ldn. Based upon the 25 dB exterior to interior NLR, standard construction practices will not be sufficient to achieve compliance with the City of Madera 45 dB Ldn interior noise level standard. This impact is considered *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce the impact to a *less-than-significant* level.

Mitigation Measure #3.11-2:

The first row of residences adjacent to State Route 99 shall be restricted to single story. As an alternative, second floor facades shall identify construction techniques that provide noise level reduction in all dwellings to ensure interior noise levels are less than 45 dBA.

Impact #3.11-3: Activities associated with construction will result in elevated noise levels within the immediate area.

Discussion/Conclusion: Activities involved in construction will typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction activities will be temporary in nature and will likely occur during normal daytime working hours. If construction activities occur outside the normal daytime hours, construction related noise may result in sleep interference at the existing residence and residences constructed in early phases of the development. This impact is considered *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce the impact to a *less-than-significant* level.

Mitigation Measure #3.11-3:

All construction equipment shall be equipped with factory recommended mufflers. All equipment shall be in good working order.

Construction activities shall be restricted to the hours between 7 a.m. and 7 p.m. Monday through Friday, and to the hours between 8 a.m. and 7 p.m. Saturday through Sunday. No construction activities shall occur on Federal holidays.

3.12

POPULATION AND HOUSING

3.12 Population and Housing

This section of the Draft EIR describes the existing population and housing characteristics of the Madera area. The potential changes to population and housing characteristics that may result from the proposed project are discussed, including impacts from new housing that will be generated by the proposed project. Population growth and housing demand are considered in the Draft EIR only to the extent they will result in physical changes to the environment. During the NOP period no comments were received regarding population and housing.

3.12.1 SETTING

Environmental Setting

POPULATION

Since incorporation, the City of Madera has grown to a population of 50,842, as reported in the January 1, 2005 Department of Finance Population Estimates. Table 3.12-1 below summarizes population and percent population change for the City of Madera, Madera County and California between 1980 and 2000. In 1980, the population of the City of Madera was 21,732, and by 1990 its population had increased to 29,283. This was an increase of approximately 35 percent, which was lower than Madera County's and slightly higher than California's increases in population for the same time period. From 1990 to 2000, the city's population increased approximately 48 percent to 43,207. Madera County's and California's population increases from 1990 to 2000 were lower at 40 and 14 percent, respectively.

Table 3.12-1
Historical Population Growth – City of Madera, Madera County and California, 1980-2005

	1980 Population	1990 Population	% Change 1980 to 1990	2000 Population	% Change 1990 to 2000
City of Madera	21,732	29,283	34.7	43,207	47.5
Madera County	63,116	88,090	40.0	123,109	40.0
California	23,667,902	29,758,213	25.7	33,871,648	13.8

Source: California Department of Finance; Quad Knopf, Inc.

Table 3.12-2 below shows population estimates and projections for the City of Madera, Madera County and California in 5- and 10-year increments for the period 2000 to 2020. The City of Madera General Plan provides two alternative population projections. The first assumes an average annual population growth rate of 6 percent between 1992 and 1999 and an average annual population growth rate of 4 percent between 2000 and 2010. Under this projection the city's total population in 2000 was projected to be 50,290. The second projection assumes an average annual population growth rate of 4 percent from 1992 to 2010 and gives a projected 2000 population of 41,570. Because the actual 2000 city population was approximately 43,207, the second population projection provided in the general plan was assumed to be more accurate and was used to estimate population to the year 2020.

Table 3.12-2**Population Estimates and Projections – City of Madera, Madera County and California, 2000-2020**

	City of Madera	Madera County	California
2000	43,207	123,109	33,871,648
2005	50,570	141,007	36,810,358
2010	61,520	150,278	39,246,767
2020	91,064	183,966	43,851,741

Source: California Department of Finance; Census Bureau; City of Madera General Plan; Quad Knopf, Inc.

Table 3.12-3 below summarizes the City of Madera's and Madera County's Number of Households, Population in Households, and Average Household Size for 1990 and 2000. In 1990, the city's Average Household Size was 3.15 while the county's Average Household Size was 3.05. Average Household Sizes in 2000 were 3.57 in the city and 3.18 in the county, showing a slight growth in household size for the general area.

Table 3.12-3**Household Estimates – City of Madera and Madera County**

Area	Year	Number of Households	Population in Households	Average Household Size
City of Madera	1990	9,159	28,872	3.15
City of Madera	2000	11,978	42,769	3.57
Madera County	1990	28,370	86,413	3.05
Madera County	2000	36,155	115,009	3.18

Source: U.S. Census 1990; U.S. Census 2000.

Note: The "Population in Households" data does not include individuals residing in group quarters

HOUSING

Table 3.12-4 below identifies total housing units for the City of Madera and Madera County in 1990 and 2000.

Table 3.12-4**Total Housing Units – City of Madera and Madera County**

	1990	2000	% Increase 1990 to 2000
City of Madera	9,530	12,654	32.7
Madera County	30,831	40,387	31.0

Source: U.S. Census 1990; U.S. Census 2000.

According to the 2000 U.S. Census, the City of Madera had 12,654 housing units in 2000, 65.2 percent of which were single family detached homes. Comparatively, Madera County had 40,387 housing units in 2000, 76.4 percent of which were single family detached homes.

Regulatory Setting**FEDERAL**

There are no specific Federal regulations applicable to population and housing.

STATE

There are no specific State regulations applicable to population and housing.

LOCAL

City of Madera General Plan

Housing Goals and Policies:

Goals:

1. To provide decent housing and a quality living environmental for all Madera residents regardless of race, religion, sex, marital status, ancestry, national origin, color or economic level.
2. To ensure an adequate number of sites available for housing to meet the projected needs of all economic segments of the community.
3. To provide for a variety of housing types, sizes, price ranges and densities compatible with the existing character and integrity of residential neighborhoods.
4. To achieve an orderly pattern of community development consistent with economic, social and environmental needs of the community.
5. To conserve and improve the housing stock.
6. To assure safe, sanitary, healthful and affordable housing units for all residents, especially for those of low and moderate income and those with special needs.

Policies:

1. To ensure continued availability of suitable sites for construction of a variety of housing through regular review and amendment of the General Plan and Zoning Map.
2. To continue to provide for second units on larger residential lots where service lines have the capacity for increased density.
3. To recognize the housing needs of low and moderate income persons and special need groups, and encourage development of housing to meet these needs.
4. To continue to review development proposals for compatibility and for logical and efficient extension of services.
5. To coordinate with the County of Madera to assure an orderly pattern or urban growth with adequate provision for urban services.

6. To promote the use of energy conservation measures in residential units to reduce household utility costs as well as to conserve energy.
7. To encourage the continuation of energy conservation programs offered through PG&E, including rebate programs and zero interest financing of energy conservation measures.

3.12.2 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:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

3.12.3 IMPACTS AND MITIGATION MEASURES

Impact #3.12-1: Directly induce substantial population growth in the Madera area.

Discussion/Conclusion: Direct population growth occurs when a project results in the construction of a substantial amount of new housing or otherwise directly causes a substantial increase in the city's population.

The proposed project will directly induce population growth by constructing up to 1,500 new residential units with approximately 30 percent medium density units and 70 percent low density units. According to the City's infrastructure master plans, medium density residential units will house approximately 2.5 individuals, while low density residential units will house 3.3 individuals. These averages result in a total population increase of approximately 4,590 at build-out of the proposed project, which is anticipated to occur within 5 to 10 years. This population increase represents a 7.5 percent increase to the city's 2010 population and a 5 percent increase to the city's 2020 population as projected in the General Plan. This impact is considered *potentially significant*.

Mitigation Measure

No mitigation measures are available that can reduce this impact to a level of insignificance; therefore, this impact is *significant and unavoidable*.

Impact #3.12-2: Indirectly induce substantial population growth in the Madera area.

Indirect growth inducement occurs when a project extends infrastructure to undeveloped areas or otherwise removes obstacles to population growth. To the east and south of the project site are undeveloped lands and to the north is very low density, rural development. The proposed project will indirectly induce population growth by extending infrastructure closer to these undeveloped or lesser developed areas.

The water and sewer service infrastructure plans contained in the proposed Specific Plan provide for the oversizing and extension of water and sewer lines to allow for potential connections to future development east and south of the project site. The current city and county general plans designate these nearby undeveloped areas for agricultural use and there are no pending applications for development on these parcels; therefore, implementation of the proposed project may facilitate indirect population growth in these areas.

The water and sewer infrastructure plans also call for infrastructure improvements north of the project site within Avenue 13, which may allow for future connection to the existing residential units in the annexation area. The current City General Plan designations and proposed zoning districts for this area allow for low density residential, medium density residential, and office development in the future. Extension of infrastructure to the area may accelerate this development.

The area directly south of the project site is currently under an active Williamson Act Contract; therefore, development in this area will be restricted in the near future. According to the city's water, sewer and storm drainage system master plans, the infrastructure improvements and extensions that will support the proposed project have been planned in anticipation of development of the project site and surrounding land. Additionally, these areas are located within the existing sphere of influence of the city further indicating that they are planned for annexation and development in the future.

The construction of new urban development adjacent to undeveloped areas may also potentially place pressure on land owners to develop by creating land use incompatibilities and resulting in nuisance complaints.

The proposed project design has incorporated buffers along project site boundaries to alleviate potential land use conflicts. Along the northern and eastern boundaries of the project site, Avenue 13 and Road 28 ¼ will both be widened to 70 feet of right-of-way and along the southern boundary Hazel Avenue will be widened to 53 feet of right-of-way thereby separating proposed development from the adjacent undeveloped or less developed lands. The construction of soundwalls and the establishment of landscaping along the boundaries of the site as well as the inward orientation of all homes will provide further buffering. The City's right-to-farm ordinance will provide protection for the adjacent agricultural lands from nuisance complaints. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.12-3: Displace substantial numbers of people and/or existing housing, thereby necessitating the construction of replacement housing elsewhere.

Discussion/Conclusion: Implementation of the proposed project will result in the demolition of one existing residential unit on the northwestern parcel of the project site. The proposed project also calls for the construction of up to 1,500 residential units. The project will not result in the displacement of substantial numbers of people and/or existing housing and will instead result in a substantial net increase in the city's housing stock; therefore, this impact is considered ***less than significant***.

Mitigation Measure

No mitigation measures are required.

3.13

PUBLIC SERVICES

3.13 Public Services

This section of the Draft EIR analyzes the potential demands on public services generated by the proposed project, and makes determinations on the significance of these impacts on the providers of these services. Public services included in this analysis are police protection, fire protection, emergency medical services, schools and libraries. Impacts to parks and recreational facilities are analyzed in Section 3.14, *Recreation* of this Draft EIR. During the NOP period comments regarding public services were received from the Madera City Police Department and the Madera City Fire Department. These comment letters can be found in Appendix B of this document.

3.13.1 SETTING

Environmental Setting

POLICE

The Madera City Police Department provides law enforcement services to the City of Madera and will provide services to the project site upon annexation. The department has one police station located at 203 West Fourth Street. As of May 2005, the department had a total of 52 sworn officers and 16 patrol vehicles.

The average response time for all calls is 15.9 minutes, while the average response time for high priority emergency calls is approximately 4 minutes. According to the department's operations commander, it is not possible to estimate an average response time to the project site as it is largely unimproved and has not been annexed into the city; however, the average response time for the nearest reporting area to the project site is 17 minutes for all calls.

A police beat is a designated area of a police department's service area that is regularly patrolled along a specified route by a police unit. According to the department's operations commander, the patrol beat in which the project site will be located depends on the staffing levels and beat schedule on a given day. In a two-beat scenario, in which the department's service area is divided into two patrol beats, the project site is located on the south end of Beat One which encompasses all of Madera east of State Route 145 and the Union Pacific Railroad. In a three-beat scenario the project site is still in Beat One, encompassing the area east and south of State Route 145 between Madera Avenue and Yosemite Avenue. There is generally one officer assigned to a beat unless staffing allows for a second officer. A second officer assigned to Beat One occurs approximately 75 percent of the time throughout the year.

According to Commander Randy Williams with the Madera City Police Department, the department has a staffing ratio goal of 1.5 officers per 1,000 city residents. The department is currently at a staffing ratio of 0.98 with six vacant officer positions; however, once these positions are filled the staffing ratio will increase to 1.14 officers per 1,000 residents.

FIRE

Fire protection and emergency medical services are provided by the Madera City Fire Department which is administered by the California Department of Forestry and Fire Protection (CDF) 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 department's available equipment includes two fire engines, one mini-pumper and one reserve engine. The department is staffed by city volunteers and CDF paid personnel. Through a mutual aid agreement, the County of Madera Fire Department also provides fire protection services within the city.

The ISO Public Protection Classification Program, created by the Insurance Services Office, Inc., grades a community's fire protection on a scale of 1-10, based on ISO's Fire Suppression Rating Schedule with 1 being the highest rating possible. According to Jeff Hartsuyker with the Madera City Fire Department, an ISO rating of 4 is required in urban areas of the city.

EMERGENCY MEDICAL SERVICES

Ambulance services in the Madera area are provided by Pistoiresi Paramedics located at 113 North R Street in Madera. This company provides 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 just a few miles north of the project site along State Route 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 just northeast of the site.

SCHOOLS

Public schools in the city are administered by the Madera Unified School District (MUSD), Golden Valley Unified School District and the Madera County Office of Education. The project site is located within the MUSD.

The MUSD consists of 15 elementary schools, 2 middle schools, 1 high school, 1 alternative school and 1 continuation school. The district has a total of 20 schools with a combined enrollment of 17,247 students and 812 fulltime teachers, resulting in a pupil-to-teacher ratio of 21.2. The district has 1,659 classes with an average class size of 27 students. This is slightly greater than the County average class size of 26.3 and slightly less than the state average class size of 27.4. Additionally, the MUSD contains one charter school with a total enrollment of 165 students and 8 teachers, resulting in a pupil-to-teacher ratio of 20.6.

There are several two-year colleges and four-year universities in the vicinity of the City of Madera. Nearby two-year colleges include Madera City College, the Madera extension of Kings River College, and the Madera Center of the State Center Community College District. Nearby

four-year universities include California State University at Fresno, University of California at Merced, and Fresno Pacific University.

LIBRARIES

Library services in the city are provided by the Madera County Library which has five branches located throughout Madera County. The main branch of the library and one additional branch are located in the City of Madera at 121 North G Street and 37167 Avenue 12 ½, respectively. The library system has 143,809 volumes, 433 periodical subscriptions, and numerous other resources.

Regulatory Setting

FEDERAL

There are no specific Federal regulations applicable to public services.

STATE

AB 2926 School Development Fees

As of January 1987, State law allows school districts to levy three different levels of development fees directly on new residential, commercial, and industrial development (Government Code Section 65995). Level One fees cannot exceed \$2.24 per square-foot of residential construction and \$0.36 per square-foot of commercial/industrial construction for K-12 facilities. Districts set their own fees within this limit based on a nexus study establishing their funding requirements. Since Proposition 1A was passed by the voters and SB 50 was passed by the State Legislature in 1996, school fees generated by new development have been deemed legally sufficient mitigation of any impacts based on generation of students on school facilities.

LOCAL

City of Madera General Plan

Goal No. 3:

The City should seek to manage the rate of urban expansion at a level which does not exceed the capacity of the City, the Madera Unified School District or other agencies of local government to provide the necessary levels of community services and facilities required consistent with all other goals of the General Plan. Management policies and techniques should rely more on indirect rather than direct means, recognizing that flexibility is both essential and desirable if significant progress toward goal achievement is to be realized over time.

Safety Policies:

1. The City will continue to give high priority to the support of police protection, and to fire suppression and prevention functions of the Madera Fire Department. Ultimate expansion of

the City's fire service is to include additional stations affording adequate response to all parts of the urban area.

2. The City will work to maintain a fire flow standard of 2000 gpm for all commercial and industrial areas of the community, and 1500 gpm for residential areas, to assure the capability to suppress urban fires.

3.13.2 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 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 may 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

3.13.3 IMPACTS AND MITIGATION MEASURES

Impact #3.13-1: Expanded need for staff, vehicles, and equipment to adequately provide police protection services to the project site.

Discussion/Conclusion: At build-out, the proposed project will consist of a maximum of 1,500 residential units, resulting in the addition of approximately 4,590 new residents to the city. This represents a substantial increase to the city's population and will result in greater demand for police protection services.

In addition, inclusion of properties north of Avenue 13 in the annexation area will add the approximately 56 existing residents (based on 3.3 persons per household) of those areas to the city population, further increasing the demand for police protection services from the City. Alternatively, in the event the Plan Area is annexed to the City without the properties north of Avenue 13, these properties will continue to be served with police protection by Madera County. While response times and staffing adequacy for Madera County to serve these properties north of Avenue 13 will remain the same (or perhaps even improve with the removal of the Plan Area from the County's area of responsibility), there may be slight inefficiencies in service, given that Madera County law enforcement will be required to cross the Plan Area served by the City of Madera to respond to calls from properties located north of Avenue 13. Such inefficiencies will not be significant, given the proximity of those properties to the major State Route 99 transportation corridor.

Because the department staffing ratio goal is 1.5 officers per 1,000 residents, projections on future staffing and facilities needs resulting from the proposed project are based on this ratio. As a result, the Madera City Police Department will require as many as seven new officers as well as all associated equipment, vehicles, training, support staff, and facilities.

The project applicant will be required to pay developer's fees to the City to help fund capital improvements such as an increase in police department staffing. Additionally, the City of Madera has implemented a citywide community facilities district for emergency services including police protection. The project site will be annexed into this district and property owners will fund the district in the form of a "special tax." Annexation into this community facilities district will ensure ongoing funding for the Madera City Police Department and the maintenance of the current level of service in the city; therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.13-2: Expanded need for staff, vehicles, and equipment to adequately provide fire protection services to the project site.

Discussion/Conclusion: At build-out, the proposed project will consist of a maximum of 1,500 residential units, resulting in the addition of approximately 4,590 new residents to the city. This represents a substantial increase to the city's population and will result in greater demand for fire protection services.

In addition, inclusion of properties north of Avenue 13 in the annexation area will add the approximately 56 existing residents (based on 3.3 persons per household) of those areas to the city, further increasing the demand for fire protection services. Alternatively, in the event the Plan Area is annexed to the City without the properties north of Avenue 13, these properties will continue to be the primary responsibility of the County of Madera Fire Department. Because the County of Madera Fire Department currently provides fire protection services within the City alongside the Madera City Fire Department through a mutual aid agreement, this will not be expected to result in any inefficiencies in service or expansions in the need for services beyond that which will exist upon annexation of the entire annexation area.

Both existing City fire stations are located several miles from the project site and will not be able to maintain an ISO rating of 4 within the proposed development. The department also does not currently have sufficient staffing or equipment to maintain this ISO rating. According to Jeff Hartsuyker, Fire Marshal with the Madera City Fire Department, the City plans to co-locate a new City fire station within an existing County station located at 14225 Road 28. This location is significantly closer to the project site and will be the primary station servicing the site. The City will require a new fire engine and three additional staff at fire apparatus engineer pay to adequately equip and staff this new station. Once the new station is established and adequately staffed and equipped, the project site will likely be identified as having an ISO rating of 4.

The project applicant will be required to pay developer's fees to the City to help fund capital improvements such as an increase in fire department staffing and the purchasing of a new fire engine. Additionally, the City of Madera has implemented a citywide community facilities district for emergency services including fire protection. The project site will be annexed into

this district and property owners will be responsible for payment of a “special tax” to fund emergency services in the district. Annexation into this community facilities district will ensure ongoing funding for the Madera City Fire Department and the maintenance of the current level of service in the city; therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.13-3: Potential impact on schools related to increased population and school enrollment from the proposed development.

Discussion/Conclusion: At buildout, the proposed project will consist of between 1,000 and 1,500 residential units, resulting in the addition of up to 4,590 new residents to the city. This represents a substantial increase to the city’s population and will result in a greater number of enrollments in local schools. Properties within the annexation area (north of the project site) are already part of the MUSD. Annexation of these properties will not be expected to directly affect enrollments to MUSD.

The project site is located within the MUSD and will be served by this district’s school facilities. The student generation rates adopted by the MUSD are summarized in Table 3.13-1 below. These student generation rates were applied to the proposed project and the anticipated new school enrollments are shown in Table 3.13-2 below.

**Table 3.13-1
MUSD Student Generation Rates**

Grade Level	Single Family Dwelling	Multi-Family Dwelling
K-6	0.499	0.536
7-8	0.135	0.097
9-12	0.171	0.128

Source: Kelly Porterfield, MUSD, pers. comm. 8/11/05.

**Table 3.13-2
Specific Plan Student Generation**

Housing Type	Grade Level	Generation Rate	No. of New Houses	No. of New Students
Single Family Residential	K-6	0.499	1,000 – 1,500	499 – 749
	7-8	0.135	1,000 – 1,500	135 – 203
	9-12	0.171	1,000 – 1,500	171 – 257
				805 – 1,209

Source: Kelly Porterfield, MUSD, pers. comm. 8/11/05; Quad Knopf, Inc.

According to Table 3.13-2 above, the proposed development will result in approximately 805 to 1,209 new student enrollments in MUSD schools depending on the final number of units constructed at build-out. The Specific Plan has designated a site at its northwest corner for the construction of a new elementary school to serve the residents of the project site and the

surrounding community; however, since the project will also generate new middle and high school enrollments, this impact remains *potentially significant*.

Mitigation Measure

As referenced in the *Regulatory Setting* above, school fees generated by new development have been deemed legally sufficient mitigation for any impacts based on generation of students on school facilities. Implementation of the following mitigation measure will reduce the impact on schools to a *less-than-significant* level.

Mitigation Measure #3.13-3:

Pursuant to Education Code Section 17620, the project applicant shall pay school impact fees according to the most current fee schedule adopted by the district per square foot of assessable space constructed as part of the proposed project. These fees shall be paid as a condition of issuance of any building permits.

3.14

RECREATION

3.14 Recreation

This section of the Draft EIR analyzes the potential demands on parks and recreational facilities and services generated by the proposed project, and makes a determination on the significance of this impact on the providers of these facilities and services. During the NOP period no comments were received regarding parks and recreational facilities.

3.14.1 SETTING

Environmental Setting

The City of Madera owns and maintains 10 parkland facilities with a total area of approximately 129 acres, not including building grounds, linear parks, median islands, and park strips. These 10 city parks include both community and neighborhood parks and landscaped open space and offer a sports complex and a swimming pool. Table 3.14-1 below lists the parks within the city. The nearest park to the project site is McNally Park, a community park located between Roosevelt and A Streets.

Table 3.14-1
City of Madera Parks Inventory

Park	Location	Type	Acreage	Amenities
Lions Town and Country Park	Howard Road	Open Space	50	Group and individual picnic sites, outdoor stage, softball fields, children's play areas, wooded area, restrooms
McNally Park	Corner of Roosevelt and A Street	Open Space	3	Picnic shelter, basketball court, children's play area, restrooms
Millview Pavilion	Millview Sports Complex	Open Space	50	Picnic shelter, softball and soccer fields, grassy areas
Pan-Am Park	Corner of Sherwood Way and N. Lake St	Open Space	4	Children's play area, volleyball court, basketball and picnic shelter, restrooms
Rotary Park	North Gateway Drive	Open Space	12	Softball and soccer fields, children's play area, picnic sites, restrooms
Knox Park	Knox Street	Open Space	2	Grassy and shaded areas
Maple Court Park	Maple Court	Open Space	1	Grassy and shaded areas
Riverside Park	Riverside Drive	Open Space	1.5	Grassy and shaded areas, swimming pool, restrooms
Riverview Park	Riverview Drive	Open Space	1.5	Grassy and shaded areas
Swimming Pool Park	4 th and Flume	Open Space	4	Swimming pool

Source: City of Madera, Parks Division.

The Madera Parks and Community Services Department has recently acquired an additional six acres of parkland adjacent to the Millview Sports Complex for expansion of the existing park

area. The City also owns and maintains the Frank A. Bergon Senior Center located on D Street, the Pan-American Community Center located on Sherwood Way, the Westside Activity Center located on West Yosemite, and the Rotary Youth Hut located on South Q Street, as well as the Fresno River Trail System and the Madera Municipal Golf Course. All of these parks and facilities are located within the city and are available for public use.

As of January 2005, the City's population was 50,842 resulting in a ratio of approximately 2.54 acres of available parkland per 1,000 city residents.

Regulatory Setting

FEDERAL

There are no specific Federal regulations applicable to parks and recreational facilities.

STATE

Quimby Act

Section 66477 of the Quimby Act enables dedication of land or payment of an in-lieu fee to provide park and recreation facilities to serve a subdivision. The amount of the fee is limited by statute and must be based upon the policies and standards contained in an adopted general or specific plan.

LOCAL

City of Madera General Plan

The following are recommended standards and definitions contained in the Open Space for Outdoor Recreation section of the General Plan. These standards are based on National Recreation and Park Association and League of Cities recommendations.

- The recommended standard for community parks is 2.5 acres per 1,000 people, with a minimum site area of 20 acres.
- The recommended standard for regional parks is five acres per 1,000 people, with a minimum site area of 50 acres.
- The recommended national standard for a neighborhood park is 2.5 acres per 1,000 residents served, with a desirable size being 5-20 acres.
- Drainage basins may be redesigned, graded and planted for appropriate recreational use during dry periods.

City of Madera Parks and Community Services Parkland Policy

The City has adopted a policy requiring three acres of parkland for every 1,000 residents.

3.14.2 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:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.14.3 IMPACTS AND MITIGATION MEASURES

Impact #3.14-1: Increased use of parks and other recreational facilities as a result of increased population from the proposed project.

Discussion/Conclusion: The proposed project will consist of a maximum of 1,500 new residential units and the addition of approximately 4,590 new residents. This represents a substantial increase in the number of residents in the City of Madera and will result in a significant demand for parks and recreational facilities.

The City has a policy of developing neighborhood and community parks at a ratio of 3 acres per 1,000 population. City park development is funded through the collection of development impact fees (Capital Facility Fee program) and inclusion of developed residential property in the City of Madera Community Facilities District (CFD). Developers at Ventana will contribute to development of parkland facilities outside of the Plan Area through the payment of development impact fees at time of building permit and by annexation of the project area into the Community Facilities District.

In addition, the Plan Area itself will contain approximately 18.7 acres of Plan Area parks and landscaped open space, in addition to landscaping within the public right-of-way. This area will be improved by the developers with the buildout of the Plan Area in accordance with the phasing plan. The cost of the development will be borne by the developers and amortized amongst the residential phases through reimbursement agreements. Developers/land owners shall acquire and develop new Plan Area parks and landscaped open space in the approximate locations and sizes as shown in Figure 2-8. The City may elect to offer fee credit to developers for a portion of the Plan Area parks and landscaped open space to the extent that any portion of the area is further enhanced with additional facilities and features to qualify as a neighborhood park as determined by the Parks and Community Services Director. Said fee credits will be determined after review by the Parks and Community Services Director and will be subject to approval of the City Council.

Inclusion of the project in the Madera Community Facilities District and payment of development impact fees covering City-wide park facilities with possible consideration for

offsetting fee credits for facilities installed with the Plan Area, shall render this impact *less than significant*.

Mitigation Measure

No mitigation measures are required.

3.15

TRANSPORTATION/TRAFFIC

3.15 Transportation/Traffic

This section is based entirely on the *Traffic Study for the Ventana Specific Plan/Annexation* prepared by kdAnderson Transportation Engineers in March 2006 and revised in June 2006. The full text of this report is contained in Appendix L. The report describes current traffic conditions on the portions of the circulation system that will serve the project site. The analysis addresses existing, future and cumulative traffic conditions with and without the proposed project.

During the NOP period comments regarding transportation/traffic were received from the California Public Utilities Commission, the California Department of Transportation, the U.S. Department of Transportation Federal Aviation Administration and the City of Madera Special Projects Engineer. These comment letters can be found in Appendix B of this document.

3.15.1 SETTING

Environmental Setting

LEVEL OF SERVICE METHODOLOGY

To assess the quality of existing and future traffic conditions, "Levels of Service" were calculated for study area intersections. "Level of Service" (LOS) is a qualitative measure of traffic operating conditions whereby a letter grade, "A" through "F," corresponding to progressively worsening traffic operating conditions, is assigned to an intersection or roadway segment. In general terms, Level of Service is calculated for an hour-long traffic condition at a signalized intersection, unsignalized intersection or roadway segment.

A traffic impact is considered significant if it renders an unacceptable Level of Service on a street segment or at a signalized intersection, or if it worsens already unacceptable conditions on a street segment or at a signalized intersection.

Levels of Service at the study intersections have been quantified using methodologies presented in the latest edition of the Highway Capacity Manual (2000 HCM). Unsignalized intersections were analyzed using the method documented in the 2000 HCM. This method calculates the weighted average total delay for each controlled movement and for the intersection as a whole. The analysis considers gap acceptance and average delay of motorists on minor streets and in turn lanes to establish service levels. Intersection levels of service presented in this analysis are based on the weighted average total delay per vehicle for the intersection as a whole based.

Table 3.15-1 summarizes performance measures associated with each of the Level of Service grades for intersections. The City of Madera identifies Level of Service 'D' as the operational threshold used to define acceptable intersection operations.

Table 3.15-1
Level of Service Definitions - Intersections

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: 2000 *Highway Capacity Manual*, Transportation Research Board (TRB) Special Report 209.

At unsignalized intersections, a traffic impact is considered "adverse but not significant" if the City LOS standard is exceeded but the projected traffic does not satisfy traffic signal warrants. Under these conditions, the only means to completely alleviate delays to stop controlled vehicles would be to install a traffic signal. However, the unmet signal warrants would imply that the reduction in delay for the stop-controlled vehicles may not justify the new delays that would be incurred by the major street traffic (which is not currently stopped). Under these circumstances, installation of a signal would not be recommended and the substandard LOS for stop-controlled vehicles would be considered an "adverse but not significant" impact.

Project Study Area - Existing Street System

The project site is located in southern Madera west of State Route 99 and south of Avenue 13. The project is bounded by Avenue 13 on the north and County Road 28¼ on the east.

Traffic conditions on Madera city streets, Madera county roads and State highways in the vicinity of the project site are influenced by commuter travel patterns. The regional circulation system in the area is comprised of the north-south freeway (State Route 99) and several surface street facilities. East-west circulation across State Route 99 is constrained by a limited number of grade separated crossings of the freeway. Consequently, access to the freeway and to areas west of the freeway can be circuitous.

Two significant Caltrans projects are planned in the near future. The first project will signalize the intersections on Avenue 12 near the State Route 99 interchange (i.e. Avenue 12/Golden State, Avenue 12, NB State Route 99, Avenue 12/County Road 29). The second project is the upgrade and reconstruction of the State Route 99/State Route 145 and State Route 99/Gateway Drive interchanges.

Project Study Area – Intersections

After a preliminary investigation of the existing traffic circulation patterns and discussions with Caltrans and City of Madera staff, it was determined that the traffic analysis should investigate the operational characteristics of the sixteen intersections on the streets serving the proposed project shown in Table 3.15-2 below. Traffic controls at these locations range from traffic signals to all-way stop signs to side street stop signs.

Table 3.15-2
Study Area Intersections

Intersection	Traffic Control
1. State Route 99 NB Ramps/Madera Avenue	Signal
2. State Route 99 SB On-Ramp/Olive Ave/Madera Ave	Signal
3. Olive Ave/State Route 99 SB Off Ramp	Signal
4. State Route 145/Almond Avenue	Signal
5. State Route 145/Pecan Avenue	Signal
6. State Route 145/Avenue 12	Signal
7. Almond Avenue/Gateway Drive	SB Stop
8. Pecan Avenue/Raymond Thomas Street	NS Stop
9. Avenue 13/County Road 28 ¼	NB/SB Stop
10. Avenue 13/County Road 28	SB Stop
11. Avenue 13/County Road 28 ½	SB Stop
12. County Road 28 ¼/Borden Road	WB Stop
13. County Road 28 ¼/Avenue 12	SB Stop
14. Golden State Blvd/SB State Route 99 Ramps	WB Stop
15. Avenue 12/Golden State Blvd	NB/SB Stop
16. Avenue 12/State Route 99 NB Ramps	NB/SB Stop

The locations of these intersections along with the existing road network are shown in Figure 3.15-1. Future project intersections are addressed in the study but not identified in this figure.

Pedestrian/Bicycle Facilities. While dedicated non-automotive transportation facilities are generally lacking in the rural area of southern Madera, sidewalks and bicycle lanes are being created incrementally as the area is developed. Sidewalks are present in the developed area within the City of Madera, but are generally discontinuous elsewhere.

Existing Traffic Volumes

Peak hour intersection traffic counts were conducted in April 2005 to supplement data collected in February 2004 and this data was used to quantify the traffic volumes at intersections in the study area. These counts are one to two years old. While these counts could have been adjusted to year 2006 conditions based on assumed growth rates, no adjustment was made based on the limited development occurring over that time period within the project area. Figure 3.15-2 presents existing a.m. and p.m. peak hour traffic volumes and current intersection traffic controls and lane geometry.

Existing Intersection Levels of Service

Levels of Service were calculated for key intersections in the study area. For this analysis, Level of Service D is the minimum acceptable condition. Table 3.15-3 summarizes the current Levels of Service at these intersections during the a.m. and p.m. peak hours. As shown, the overall levels of service in the peak hours are at acceptable levels at all intersections with two exceptions.

At the **Avenue 12/Golden State Blvd** intersection motorists waiting to turn onto Avenue 12 experience delays that are indicative of LOS F. **Avenue 12/Northbound State Route 99 ramps** motorists experience delays that are indicative of LOS E. Peak hour traffic volume or delay warrants are met at each location.

It is important to note that peak period traffic conditions at closely spaced intersections in the immediate vicinity of interchanges can be worse than suggested by Level of Service calculations. Where theoretical and actual intersection capacity are unequal, ‘constrained’ traffic volume counts may not be indicative of actual demands. In this case long delays are observed at the State Route 99 SB on-ramp/Olive Avenue/Madera Avenue intersection and at the Olive Avenue/SB State Route 99 off-ramp intersection during both peak periods. Level of Service ‘E-F’ conditions were in evidence during portions of each peak hour.

Table 3.15-3
Existing Intersection Levels of Service

Location	Control	AM Peak Hour		PM Peak Hour		Signal Warranted*?
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	15.8	B	19.9	B	N/A
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave**	Signal	23.2	C	28.6	C	
3. Olive Ave/SB SR 99 off ramp**	Signal	17.1	B	16.9	B	
4. SR 145/Almond Ave	Signal	34.4	C	26.3	C	
5. SR 145/Pecan Ave	Signal	23.1	C	20.9	C	
6. SR 145/Avenue 12	Signal	22.2	C	21.8	C	

Location	Control	AM Peak Hour		PM Peak Hour		Signal Warranted*?
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
7. Almond Ave/Gateway Dr (overall) SB left+right turn	SB Stop	(6.1) 10.8	(A) B	(5.7) 10.2	(A) B	No
8. Pecan Ave/Raymond Thomas (overall) NB left+right turn	NB Stop	(2.6) 10.1	(A) B	(2.9) 9.6	(A) A	No
9. Avenue 13/Golden State Blvd (overall) SB left+right turn	NB/SB Stop	(5.4) 15.3	(A) C	(5.5) 12.0	(A) B	No
10. Avenue 13/Road 28 (overall) SB left+right turn	SB Stop	(5.1) 10.8	(A) B	(4.2) 10.6	(A) B	No
11. Avenue 13/Road 28½ (overall) SB left+right turn	SB Stop	(3.0) 9.5	(A) A	(2.3) 9.2	(A) A	No
12. Rd 28¼/Borden Road (overall) WB left+right	WB Stop	(8.7) 9.3	(A) A	(8.7) 9.3	(A) A	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.6) 14.4	(A) B	(0.9) 16.5	(A) C	No
14. Golden State/SB SR 99 ramps (overall) WB left+right turn	WB Stop	(7.9) 15.4	(A) C	(8.0) 17.0	(A) C	No
15. Ave 12/Golden State (overall) SB left+right turn	NB/SB Stop	(36.1) 128.0	(E) F	(97.2) 354.7	(F) F	Yes
16. Ave 12/NB SR 99 ramps (overall) NB left+right turn	NB Stop	(7.8) 36.3	(A) E	(8.0) 35.0	(A) E	Yes
* Meets Warrant 10 – Peak Hour Warrant, or Warrant 11 – Peak Hour Volume Warrant						
** Observed Level of Service is worse than calculation due to capacity constraints.						

Mainline SR 99. Current conditions on mainline State Route 99 in southern Madera can be generally categorized based on daily traffic volumes that are available from Caltrans. Existing conditions on mainline State Route 99 are summarized in the Table 3.15-4.

Table 3.15-4
State Route 99 – Existing Conditions

From	To	Daily Volume (2004)	LOS
-	Avenue 12	61,000	D
Avenue 12	Gateway Drive	61,000	D
Gateway Drive	SR 145	59,000	D
SR 145	West Fourth Street	64,000	D
Source of LOS thresholds, FDOT LOS guidelines: LOS C-D = 67,200 on four lane freeway			

Project Description

Land Use. The project site covers approximately 250 acres south of Avenue 13 west of State Route 99. Three land uses will predominate within the project site. Approximately 5.8 acres of commercial uses will be located along the east side of the site along County Road 28¼. Residential uses will be developed over most of the balance of the site, and the total number of residential units that may be developed ranges from 1,000 to 1,500. An elementary school located on the northwest corner of the site is also a part of the site. Table 3.15-5 summarizes the land use inventory assumed for this analysis.

Table 3.15-5
Land Use Summary

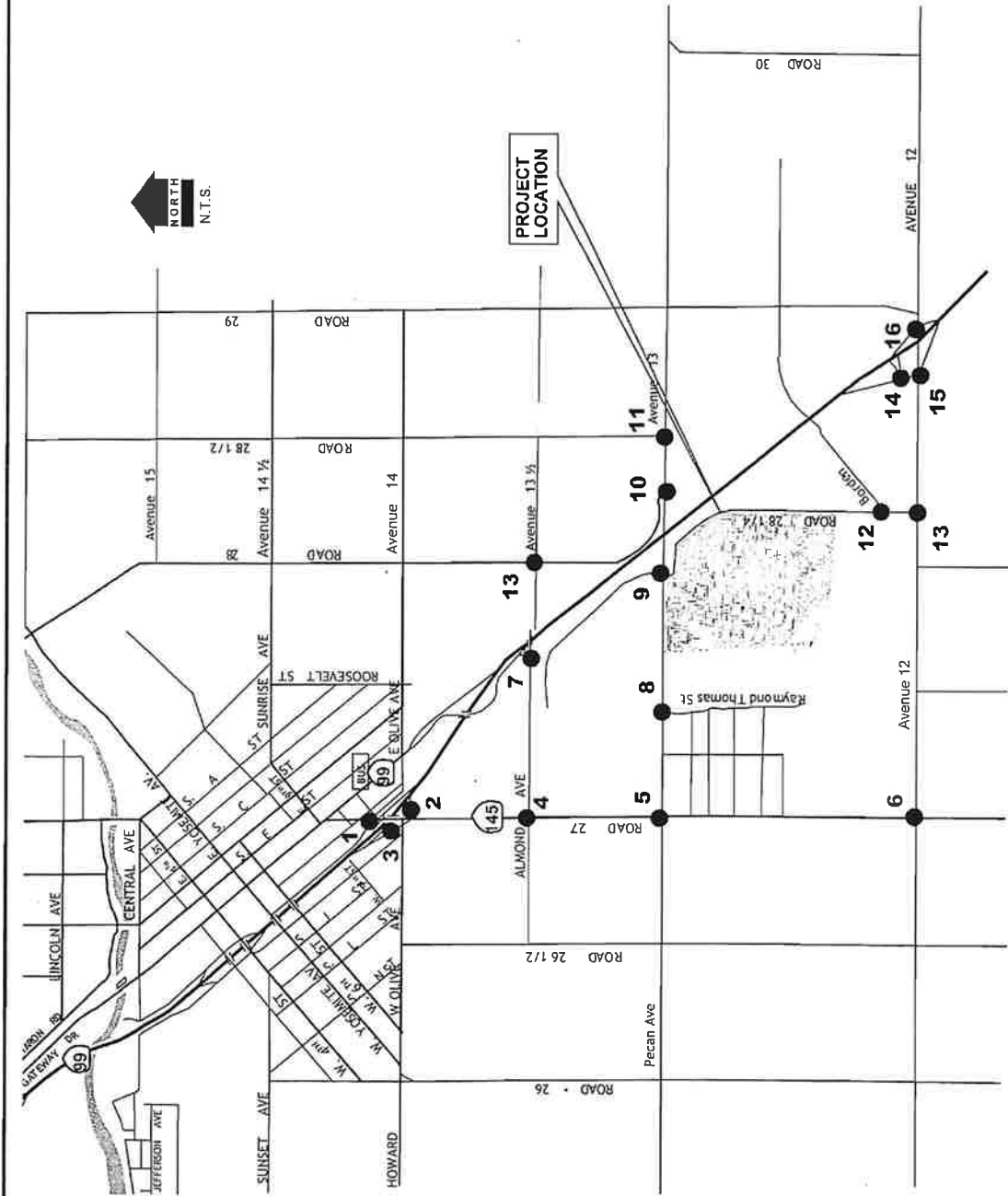
Land Use (Land Use Zone)	Trip Generation Parameters	
	Unit	Quantity
Residential	Dwelling	1,500
Elementary School	Students	800
Neighborhood Commercial	Square Feet	63,200*
* square footage based on 0.25 floor to area ratio (FAR)		

Circulation Concept. The Ventana Specific Plan circulation system is generally consistent with the overall layout of the City of Madera General Plan circulation network, and portions of the overall circulation network will be constructed as the specific plan is implemented.

As the plan is implemented, Avenue 13 and Road 28¼ will be the primary access to and from the site. Avenue 12 will provide access to State Route 99 south of the project. Avenue 13 will link the site with Madera Blvd State Route 145 to the west of the site. Golden State Blvd will connect the site with the Olive Avenue area east of State Route 99 and with northeastern Madera.

Access to the major roadways in the Ventana Specific Plan will be limited in order to promote efficient traffic flow. Along Avenue 13, two points of access are proposed west of the Golden State Blvd intersection – a primary access which will serve as a main entry to the project site and a secondary access point proposed at the adjoining local street intersection bounding the elementary school's easterly edge. The primary access is proposed as a full access intersection while the secondary access permits right-turn only movements, in order to reduce conflicts (storage or otherwise) with the main entry. Internally, an east-west running 60-foot wide minor street is proposed between the elementary school site and the project site's main entry as a means to provide the elementary school site with a direct route to the full access intersection at Avenue 13.

Access is also proposed to Road 28 ¼. Two northern connections will serve the majority of the site, and the planned commercial center will have direct access to Road 28 ¼. A third connection along the southern boundary of the plan area will eventually be constructed to extend westerly through adjoining subdivision to SR 145. A second local street connection into the adjoining subdivision is also planned.

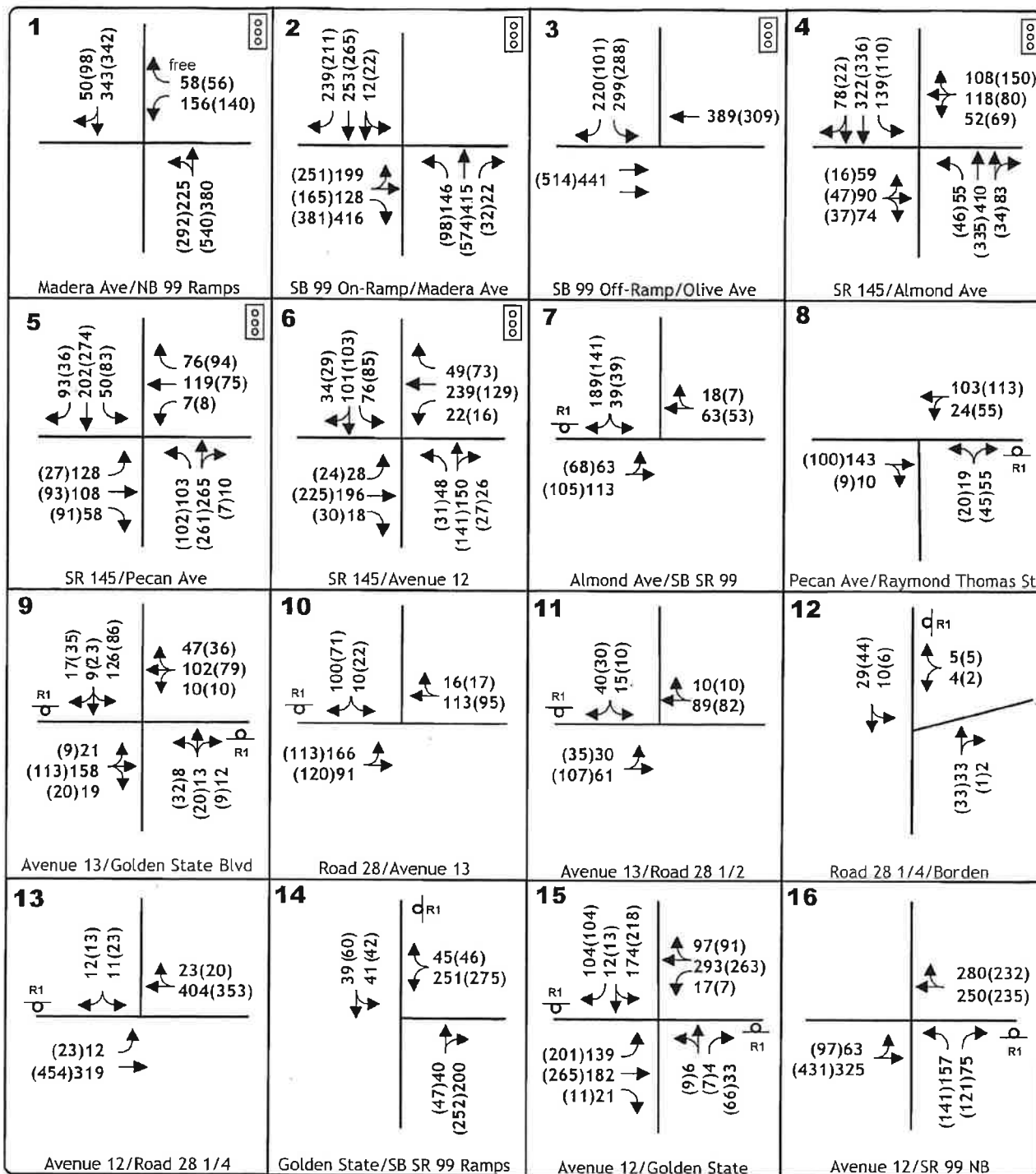


Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006



VICINITY MAP AND STUDY AREA INTERSECTIONS

Figure 3.15-1



Legend	
XX	AM Peak Hour Volume
(XX)	PM Peak Hour Volume
R1	Stop Sign
ooo	Signalized Intersection

Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006

Project Trip Generation

The amount of traffic generated by the uses in the Specific Plan has been estimated through application of trip generation rates contained in the Institute of Transportation Engineers (ITE) publication, *Trip Generation (Seventh Edition)*.

Table 3.15-6 presents the trip generation rates identified for each of the land use categories on the project site. These rates were applied to the project's land use inventory to develop the trip generation forecasts presented in Table 3.15-7.

Table 3.15-6
Trip Generation Rates

	Unit	Trip Generation Parameters						
		Trip Generation Rates Per Unit						
		Daily	AM Peak Hour			PM Peak Hour		
			Inbound %	Outbound %	Rate	Inbound %	Outbound %	Rate
Residential	Dwelling	9.57	25%	75%	0.75	63%	37%	1.01
Elementary School	Student	1.29	55%	45%	0.42	-	-	-
Neighborhood Commercial	1,000 Square Feet	47.83	61%	39%	1.05	48%	52%	4.45

As shown in Table 3.15-7, the land uses proposed for the project site may generate a gross total of about 20,427 daily trip ends. The extent to which these trips leave the site and impact the regional street system is generally dependent on the interaction between trip "productions" (i.e., residences) and trip "attractions" (i.e., non-residential uses). Of the total trips, about 5percent of the residential trips have been assumed to be internal home-shopping trips. During the a.m. peak hour, 10percent of the residential trips have been assumed to be directed to the local school. Eventually, a share of the trips generated by the neighborhood commercial uses will be drawn from traffic already passing the site on County Road 28, and a 15 to 30 percent "pass-by" trip reduction has been assumed.

Table 3.15-7
Trip Generation Forecast

	Quantity	Trip Generation Parameters						
		Trip Generation						
		Daily	AM Peak Hour			PM Peak Hour		
			Inbound	Outbound	Total	Inbound	Outbound	Total
Residential	1,500 units	14,355	281	844	1,125	955	560	1,515
Elementary School	800 students	1,032	185	151	336	-	-	-
Neighborhood Commercial	63.20 ksf ¹	5,040	72	47	119	222	242	464
Total (All Trips)		20,427	538	1,042	1,580	1,177	802	1,979
Net Internal: Residential to Commercial @ 5% of residential, Residential to		<1,885>	<168>	<168>	<336>	<76>	<76>	<152>

¹ ksf = thousand square feet

	Trip Generation Parameters							
	Quantity	Trip Generation						
		Daily	AM Peak Hour			PM Peak Hour		
			Inbound	Outbound	Total	Inbound	Outbound	Total
School at 10% of Residential in AM								
Pass-By Trips - Shopping Center ²	<1,512>	<11>	<7>	<18>	<67>	<73>	<140>	
Total External Trips	17,030	359	867	1,226	1,034	653	1,687	

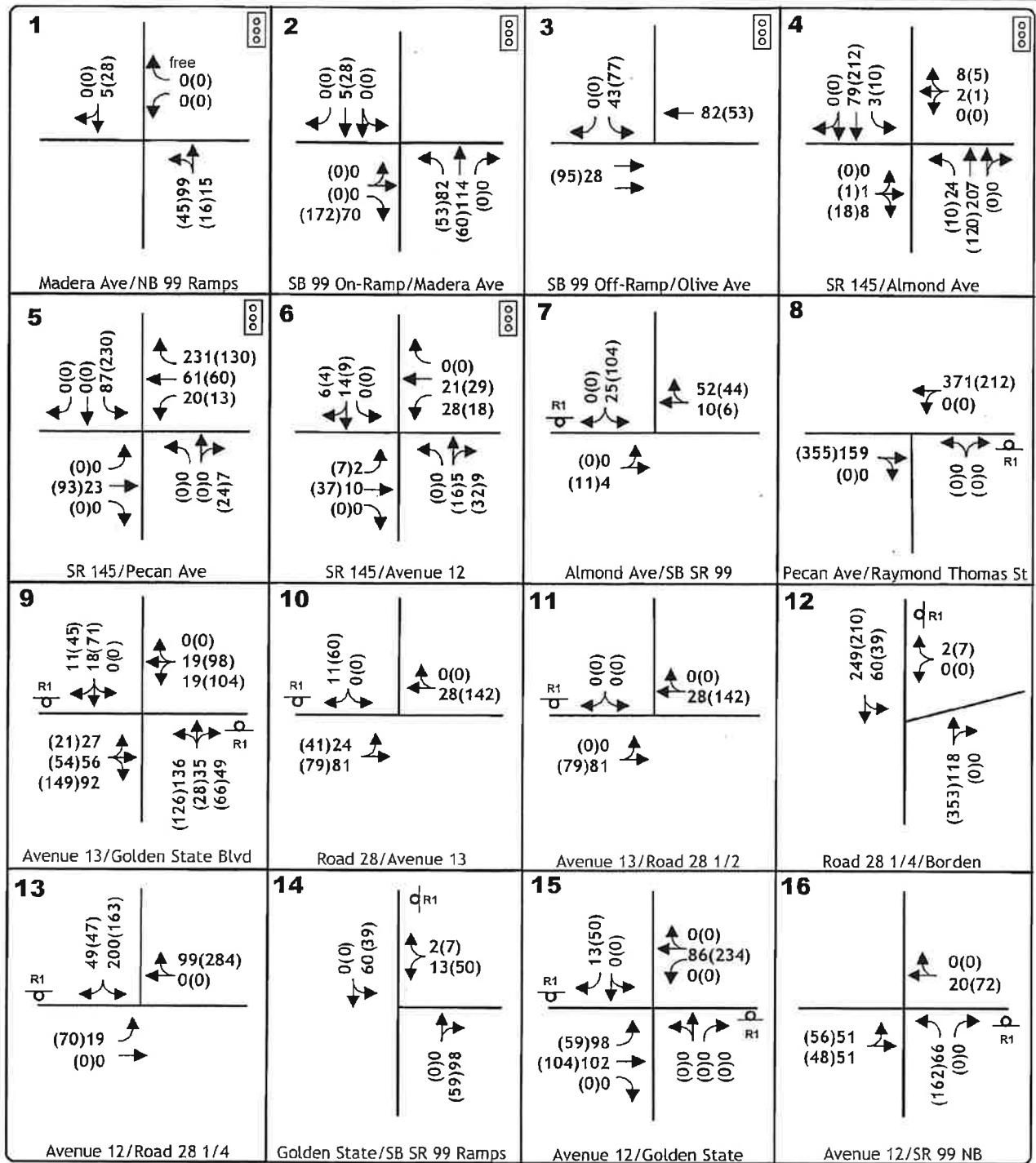
Trip Distribution

The distribution of trips within the project site and onto the regional circulation system was based upon review of existing traffic conditions, and on consideration of the location of projected future development in the South Madera area. The distribution of project trips is presented in Table 3.15-8. Resulting "Project Only" traffic volumes in the Existing condition are presented in Figure 3.15-3.

**Table 3.15-8
Project Trip Distribution**

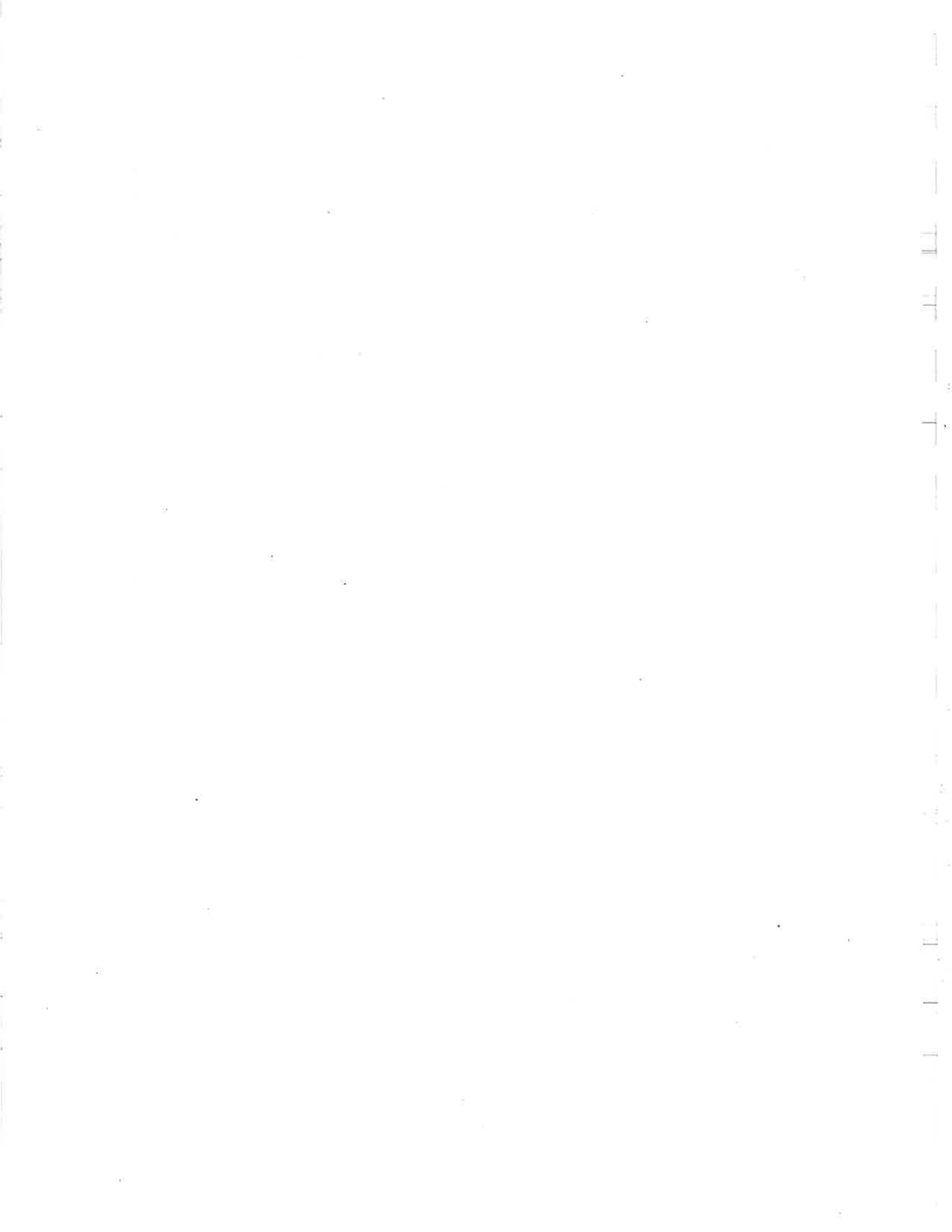
Route	Percentage of Traffic			
	AM		PM	
	Residential	Commercial	Residential	Commercial
North via State Route 99	15%	15%	15%	15%
South via State Route 99	15%	10%	15%	10%
South via State Route 145	5%	-	5%	-
North via Gateway Dr	5%	-	8%	-
North via D St	1%	-	1%	-
North via Roosevelt Ave	1%	-	1%	-
North via Road 28	1%	-	1%	-
North via Road 29	2%	-	2%	-
North – east to East Olive Specific Plan and Triple L	5%	10%	12%	10%
West via Olive Ave	12%	10%	12%	10%
West via Almond	3%	-	2%	-
West via Pecan Ave	7%	10%	8%	10%
West via Avenue 12	3%	10%	3%	10%
East via Avenue 13 ½	2%	-	2%	-
East via Avenue 13	2%	-	2%	-
East via Avenue 12	6%	10%	6%	10%
Residential to School	10%	-	-	-
Residential to Commercial	5%	25%	5%	25%
Total Trips	100%	100%	100%	100%

² Pass-by rates from Caltrans Traffic Impact Study Guidelines @ 15% in AM 30% in pm and daily



Legend	
XX	AM Peak Hour Volume
(XX)	PM Peak Hour Volume
dR1	Stop Sign
[Three small squares]	Signalized Intersection

Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006



Regulatory Setting

FEDERAL AND STATE

There are no specific federal or state regulations applicable to transportation/traffic.

LOCAL

Applicable General Plan Policies

General Goals and Policies:

- **Policy One.** Design a balanced transportation system which includes adequate provisions for public transit, pedestrians and bicycles as well as facilities necessary for the efficient circulation of motor vehicles traffic.
- **Policy Two.** Provide for the safe and efficient movement of people and goods.
- **Policy Three.** Provide safe and workable areas for pedestrians in the downtown area and near public facilities such as schools.
- **Policy Four.** Utilize available monies and programs to provide transit services, especially for the elderly, handicapped and economically disadvantaged persons.
- **Policy Five.** Encourage the use of ridesharing and other Transportation Demand Management (TDM) tactics for reducing area traffic congestion and improving air quality.
- **Policy Six.** Protect future right-of-way needed for arterial and collector streets.
- **Policy Seven.** Prohibit backout driveways onto arterial and collector streets.
- **Policy Eight.** Minimize disruption of residential areas caused by through traffic.
- **Policy Nine.** Establish priorities to properly allocate limited funds to areas and facilities of highest need.
- **Policy Ten.** Implement an impact fee system to offset the costs of off-site improvements required or triggered by new development.
- **Policy Eleven.** Ensure consistency between the transportation system and adjacent land uses in order to minimize conflicts.
- **Policy Twelve.** Maintain a high level of coordination with the County of Madera and Caltrans, through the Madera County Transportation Commission, in developing the “select system” of streets consistent with Section B of the Community Development Element.

Policies Relating to State Highways:

- **Policy One.** Sound walls should be established along sections of the freeway which are or will be adjacent to or sufficiently close to residential areas which would experience a sound level at or above the threshold standard for exterior noise of 65 dBA Ldn or CNEL.

Arterial and Collector Street Policies:

- **Policy One.** Due to the high costs of upgrading deficient arterial and collector streets, priority should be given to upgrades on those streets where either: 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; or where the rate of serious accidents has been high and where hazards to public safety are great.
- **Policy Two.** Improvements to arterial and collector streets should be made on a highly selective basis which seeks to improve capacity, flow and safety by the use of traffic engineering solutions where feasible as compared to major structural improvements. This might include the restriction or elimination of traffic movements such as U-turns, medial left turns on arterials and collectors and left turns to and from minor streets.
- **Policy Three.** Residential lots may be required to back onto arterial and collector streets, including waiver of vehicular access rights, limitation on the number and interval of street intersections, and provision for ornamental screen walls and landscaping.
- **Policy Four.** Direct access to arterials and collectors from residential development is to be discouraged except where physical conditions do not allow for other design solutions. Access from the street side yard of a corner lot which sides onto an Arterial shall be prohibited in new subdivisions or on undeveloped lots in existing subdivisions.
- **Policy Five.** Left turn lanes shall be provided where necessary for access from arterials and collectors into high traffic commercial centers as a condition of development approval.

Minor Street Policies:

- **Policy One.** To keep Minor 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 Two.** Design standards shall permit innovation and flexibility by the developer in relation to land use proposals under Planned Development procedures of the Zoning Ordinance.

3.15.2 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:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicles trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways
- 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
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

3.15.3 IMPACTS AND MITIGATION MEASURES

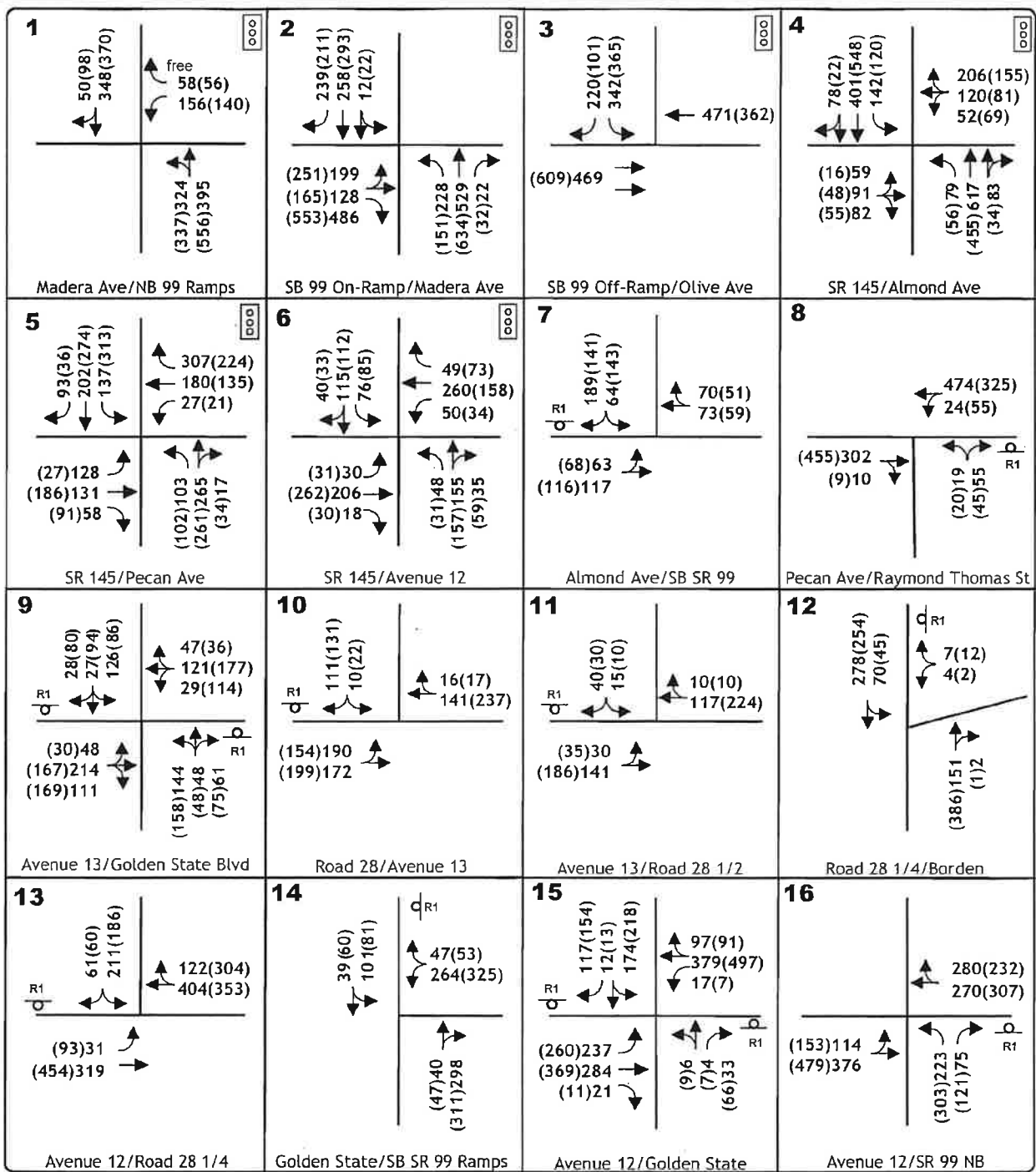
Impact #3.15-1: Increase traffic in relation to the existing traffic load and capacity of the street system and/or individually exceed a level of service standard established by the county congestion management agency for designated roads or highways.

Discussion/Conclusion: Implementation of the proposed project will result in an increase in traffic surrounding the project site as well as the exceeding of multiple levels of service standards. The traffic study prepared for the proposed project (kdAnderson 2005) analyzed the existing traffic conditions in the vicinity of the site as well as the increase in traffic that is expected to occur at build out of the proposed project. Trips generated by development of the Ventana Specific Plan were superimposed onto the 2005 base condition. Resulting traffic volumes are presented in Figure 3.15-4. Resulting traffic conditions at key area intersections are presented in Tables 3.15-9 and 3.15-10.

Table 3.15-9

Existing Plus Project Intersection Levels of Service – AM Peak Hour

Location	Control	AM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Project		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	15.8	B	31.2	C	n/a
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave**	Signal	23.2	C	23.8	C	
3. Olive Ave/SB SR 99 off ramp**	Signal	17.1	B	17.7	B	
4. SR 145/Almond Ave	Signal	34.4	C	40.1	D	
5. SR 145/Pecan Ave	Signal	23.1	C	24.3	C	
6. SR 145/Avenue 12	Signal	22.2	C	23.0	C	
7. Almond Ave/Gateway Dr (overall) SB left+right turn	SB Stop	(6.1) 10.8	(A) B	(6.2) 12.2	(A) B	No
8. Pecan Ave/Raymond Thomas (overall) NB left+right turn	NB Stop	(2.6) 10.1	(A) B	(1.4) 13.8	(A) B	No
9. Avenue 13/Golden State Blvd (overall) SB left+right turn	NB/SB Stop	(5.4) 15.3	(A) C	(21.1) 49.8	(C) E	Yes
10. Avenue 13/Road 28 (overall) SB left+right turn	SB Stop	(5.1) 10.8	(A) B	(5.3) 11.7	(A) B	No
11. Avenue 13/Road 28½ (overall) SB left+right turn	SB Stop	(3.0) 9.5	(A) A	(2.6) 9.7	(A) A	No
12. Rd 28¼/Borden Road (overall) WB left+right	WB Stop	(8.7) 9.3	(A) A	(12.0) 13.1	(B) B	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.6) 14.4	(A) B	(26.9) 112.7	(D) F	No
14. Golden State/SB SR 99 ramps (overall) WB left+right turn	WB Stop	(7.9) 15.4	(A) C	(11.9) 27.5	(B) D	No
15. Ave 12/Golden State (overall) SB left+right turn	NB/SB Stop	(36.1) 128.0	(E) F	(135.1) 603.8	(F) F	Yes
16. Ave 12/NB SR 99 ramps (overall) NB left+right turn	NB Stop	(7.8) 36.3	(A) E	(47.3) 208.5	(E) F	Yes
* Meets Warrant 10 – Peak Hour Warrant, or Warrant 11 – Peak Hour Volume Warrant						
** Observed Level of Service is worse than calculation due to capacity constraints.						



Legend	
XX	AM Peak Hour Volume
(XX)	PM Peak Hour Volume
d R1	Stop Sign
ooo	Signalized Intersection

Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006

Table 3.15-10

Existing Plus Project Intersection Levels of Service – PM Peak Hour

Location	Control	PM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Project		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	19.9	B	31.7	C	n/a
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave**	Signal	28.6	C	35.5	D	
3. Olive Ave/SB SR 99 off ramp**	Signal	16.9	B	18.2	B	
4. SR 145/Almond Ave	Signal	26.3	C	26.9	C	
5. SR 145/Pecan Ave	Signal	20.9	C	23.4	C	
6. SR 145/Avenue 12	Signal	21.8	C	22.5	C	
7. Almond Ave/Gateway Dr (overall) SB left+right turn	SB Stop	(5.7) 10.2	(A) B	(7.5) 13.4	(A) B	No
8. Pecan Ave/Raymond Thomas (overall) NB left+right turn	NB Stop	(3.1) 9.9	(A) A	(1.6) 15.5	(A) C	No
9. Avenue 13/Golden State Blvd (overall) SB left+right turn	NB/SB Stop	(5.5) 12.0	(A) B	(105.1) 346.1	(F) F	Yes
10. Avenue 13/Road 28 (overall) SB left+right turn	SB Stop	(4.2) 10.6	(A) B	(9.1) 12.2	(A) B	No
11. Avenue 13/Road 28½ (overall) SB left+right turn	SB Stop	(3.0) 9.5	(A) A	(1.9) 9.5	(A) A	No
12. Rd 28¼/Borden Road (overall) WB left+right	WB Stop	(8.7) 9.3	(A) A	(12.8) 13.1	(B) B	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.9) 16.5	(A) B	(40.4) 234.2	(E) F	Yes
14. Golden State/SB SR 99 ramps (overall) WB left+right turn	WB Stop	(8.0) 17.0	(A) C	(13.9) 30.5	(A) D	No
15. Ave 12/Golden State (overall) SB left+right turn	NB/SB Stop	(97.2) 354.7	(F) F	(285.7) >999	(F) F	Yes
16. Ave 12/NB SR 99 ramps (overall) NB left+right turn	NB Stop	(7.8) 35.0	(A) E	(131.3) 490.5	(F) F	Yes

* Meets Warrant 10 – Peak Hour Warrant, or Warrant 11 – Peak Hour Volume Warrant
** Observed Level of Service is worse than calculation due to capacity constraints.

Levels of Service were calculated for key intersections in the study area. As shown in Tables 3.15-9 and 3.15-10, unsatisfactory Levels of Service (i.e., LOS E or worse) will occur at four intersections:

- The **Avenue 13 (Pecan Ave)/Golden State Blvd intersection** is projected to operate at LOS F. A traffic signal or a roundabout intersection will be warranted at this intersection with build out of the project.

- The **Avenue 12/Road 28 ¼ intersection** is projected to operate at LOS F. A traffic signal will be warranted at this intersection.
- The **Avenue 12/Golden State Blvd intersection** is projected to operate at LOS F. A traffic signal will be warranted at this location, as is currently the case and the pending Caltrans project includes a signal.
- The **Avenue 12/State Route 99 NB ramps intersection** is projected to operate at LOS F. A traffic signal will be warranted at this intersection, as is the case today. Signalization by Caltrans is pending.

State Route 99 Mainline

Development of the proposed project will add traffic to mainline State Route 99, as shown in Table 3.15-11. However, the addition of project trips will not alter the existing levels of service on the State highway.

Table 3.15-11
State Route 99 – Existing Levels of Service

From	To	Existing		Existing Plus Project		
		Daily Volume (2004)	LOS	Daily Volume		LOS
				Project Only	Total	
-	Avenue 12	61,000	D	2,500	63,500	D
Avenue 12	Gateway Drive	61,000	D	1,200	62,200	D
Gateway Drive	SR 145	59,000	D	1,500	60,500	D
SR 145	West Fourth Street	64,000	D	2,600	66,600	D

Traffic Conditions Near Elementary School

The traffic associated with operation of an elementary school was evaluated in a separate traffic study prepared for the school district. It is recognized that some degree of short term delay and congestion accompanies the beginning and end of the school day. With regard to the design of the proposed project, the provision for “right turn only access” at the local street intersection on Avenue 13 is intended to minimize conflicts between that location and the signalized main Ventana access intersection. As a result, no significant operational problems are anticipated.

This impact is *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce this impact to a *less than significant* level.

Mitigation Measure #3.15-1:

The developers of the Ventana Specific Plan project site shall be required to complete the following improvements, which will be constructed at the time the impact will be expected to occur:

- Construct Avenue 13 and County Road 28 ¼ Frontage Improvements (Intersection 11). The portions of Avenue 13 and County Road 28 ¼ fronting the project will need to be constructed to applicable City of Madera Arterial and Collector standards. In each case the opposite side of each road shall be widened as needed to provide a left turn lane and one through lane opposite the project. This is a standard condition of approval for development projects in the City of Madera.*
- Signalize the Avenue 12/County Road 28 ¼ intersection (Intersection 13). A traffic signal will be required when the project is built out and auxiliary left turn lanes will be required to accommodate signalization.*
- Signalize the Main Project Access on Avenue 13 (Intersection 18). Traffic conditions at this location shall be monitored as the site develops, and a traffic signal shall be installed when warranted.*
- Develop Access Plan for Commercial Site. Because no formal site plan exists for the development of the commercial site west of Road 28 ¼, it is not possible to evaluate the adequacy of site access or to provide recommendations for access/circulation. Specific traffic controls may be needed, depending on the scale and configuration of future commercial development. Further analysis, leading to the development of an Access Plan will be needed when site plans are prepared.*

The following improvements have previously been identified by the City as required mitigation for other approved residential development projects located near the project site. Given that development of the Ventana Specific Plan contributes to the need for these improvements, developers of projects in the Ventana Specific Plan area shall be required to pay their fair share of the cost of these improvements. Such fair share contribution shall be made pursuant to the City of Madera's Traffic Impact Mitigation Fee program for those improvements located within the City of Madera and pursuant to a fee study-based regional traffic fee program alongside other developers where the improvement is located outside the city.

- Signalize the Avenue 13/Golden State Blvd intersection (Intersection 9). A traffic signal or roundabout will be warranted at this location by the time that the proposed project is fully occupied. (City of Madera)*
- Signalize the Golden State/SB State Route 99 ramps intersection (Intersection 14). A traffic signal will be warranted when the project is built out. It is likely that Caltrans will require that all or a portion of the planned State Route 99/Avenue 12 interchange improvement project be constructed at that time in order to ensure that the*

improvement has an adequate useful life. (County of Madera; California Department of Transportation)

- *Signalize the Avenue 12/Golden State intersection (Intersection 15). A traffic signal will be required when the project is built out. Caltrans is currently pursuing plans to install traffic signals at this location. (County of Madera; California Department of Transportation)*
- *Signalize the Avenue 12/NB State Route 99 ramps intersection (Intersection 16). A traffic signal will be required when the project is built out. Caltrans is currently pursuing plans to install traffic signals at this location. (County of Madera; California Department of Transportation)*

Impact #3.15-2: Potential to cumulatively exceed a level of service standard established by the county congestion management agency for designated roads or highways.

Discussion/Conclusion: The impacts of the Ventana Specific Plan have been considered within the context of both short-term and long-term future traffic conditions that reflect development over the remainder of the City of Madera and implementation of long-range circulation system improvements. For short-term conditions this analysis assumes occupancy of approved subdivisions west of the site. East of State Route 99, this analysis assumes completion of the recently approved portion of the East Olive Specific Plan area and the pending Triple L Specific Plan south of Avenue 13. For long-term conditions, traffic volume forecasts from the Madera County Transportation Commission (MCTC) travel demand-forecasting model are the source of base information.

Five additional intersections have been included in this cumulative analysis that were not included in the project-only analysis (identified as Locations #17 through #21 in Tables 3.15-10 and 3.15-11). Each of these intersections will serve as access points to the proposed project and are, therefore, not relevant to the project-only analysis.

In addition to the intersections, the project has the potential to cumulatively impact mainline State Route 99.

Existing Plus Project Plus Approved Projects Conditions

A.m. and p.m. peak hour traffic volume forecasts has been made assuming occupancy of the other approved projects.

West of the site, a total of 352 approved single family dwellings (Highlands at Rancho Valencia) have been assumed to be occupied in the area abutting the proposed project. Development of planned connections through Ventana to County Road 28 ¼ have also been assumed to have been made.

Two projects are assumed east of State Route 99. The approved East Olive Specific Plan is development of the area located west of County Road 28 between Avenue 13 and Avenue 14. The pending Triple L Specific Plan is the northwestern corner of the Madera State Center Community College Specific Plan (MSCCCSP) that was approved in the 1990's. The Triple L Plan area covers approximately 250 acres south of Avenue 13. This area is to be developed as approximately 920 residential units, an elementary school and 25 acres of commercial uses.

Figures 3.15-5 and 3.15-5A present a.m. and p.m. peak hour traffic volumes at study area intersections under "Existing Plus Approved Projects Plus Ventana Specific Plan" conditions assuming that development as noted above. The Triple L Project will be making frontage improvements to intersections on Avenue 13 east of State Route 99. Expected improvements are shown at the Avenue 13/Road 28 and Avenue 13/Road 28 ½ intersections. Completion of Triple L will also result in the extension of Road 28 south of Avenue 13, with a subsequent redistribution of existing and new traffic along Avenue 13. Tables 3.15-12 and 3.15-13 present the results of Level of Service analysis for each location.

Table 3.15-12

Existing Plus Approved Projects Plus Ventana Specific Plan Intersection Levels of Service – AM Peak Hour

Location	Control	AM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Approved Projects Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB State Route 99 Ramps	Signal	15.8	B	122.0	F	n/a
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave**	Signal	23.2	C	33.6	C	
3. Olive Ave/SB SR 99 off ramp**	Signal	17.1	B	18.3	B	
4. SR 145/Almond Ave	Signal	34.4	C	63.2	F	
5. SR 145/Pecan Ave	Signal	23.1	C	26.3	C	
6. SR 145/Avenue 12	Signal	22.2	C	23.4	C	
7. Almond Ave/Gateway Dr (overall) SB left + right turn	SB Stop	(6.1) 10.8	(A) B	(11.3) 22.2	(B) C	Yes
8. Pecan Ave/Raymond Thomas (overall) NB left + right turn	NB Stop	(2.6) 10.1	(A) B	(1.8) 21.9	(A) C	No
9. Avenue 13/Golden State Blvd (overall) SB left + right turn NB left + right turn	NB/SB Stop	(5.4) 15.3 11.8	(A) C B	(267.6) >999 371.7	(F) F F	Yes
10. Avenue 13/Road 28 (overall) SB left + right turn NB left + right turn	NB/SB Stop	(5.1) 10.8 -	(A) B -	(>999) >999 >999	(F) F F	Yes
11. Avenue 13/Road 28½ (overall) SB left + right turn NB left + right turn	NB/SB Stop	(3.0) 9.5 -	(A) A -	(3.3) 12.8 17.4	(A) B C	No

Location	Control	AM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Approved Projects Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
12. Rd 28¼/Borden Road (overall) WB left + right	WB Stop	(8.7) 9.3	(A) A	(14.4) 16.4	(B) C	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.6) 14.4	(A) B	(86.4) 302.4	(F) F	Yes
14. Golden State/SB SR 99 ramps (overall) WB left + right turn	WB Stop	(7.9) 15.4	(A) C	(17.5) 49.3	(C) E	Yes
15. Ave 12/Golden State (overall) SB left + right turn NB left + right turn	NB/SB Stop	(36.1) 128.0 14.3	(E) F B	(295.0) >999 52.5	(F) F F	Yes
16. Ave 12/NB SR 99 ramps (overall) NB left + right turn	NB Stop	(7.8) 36.3	(A) E	(101.1) 427.9	(F) F	Yes
17. Ave 13/West Access (overall) NB right turn	NB Stop			(0.2) 9.5	(A) A	No
18. Ave 13/Central Access (overall) NB left + right turn	NB Stop			(33.1) 105.7	(D) F	Yes
19. Road 28¼/Central Access (overall) WB left + right turn	WB Stop			(4.3) 11.2	(A) B	No
20. Road 28¼/South Access (overall) WB left + right turn	WB Stop			(4.3) 11.6	(A) B	No
21. Road 28 ¼/Hazel Ave (overall) WB left + right turn	WB Stop			(4.1) 12.5	(A) B	No
* Meets Warrant 10 – Peak Hour Warrant, or Warrant 11 – Peak Hour Volume Warrant						
** Observed Level of Service is worse than calculation due to capacity constraints.						

Table 3.15-13
Existing Intersection Plus Approved Projects Plus Project Intersection Levels of Service
– PM Peak Hour

Location	Control	PM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Approved Projects Plus Ventana		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	19.9	B	144.0	F	n/a
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave**	Signal	28.6	C	81.8	F	
3. Olive Ave/SB SR 99 off ramp**	Signal	16.9	B	18.6	B	

Location	Control	PM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Approved Projects Plus Ventana		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
4. SR 145/Almond Ave	Signal	26.3	C	30.9	C	
5. SR 145/Pecan Ave	Signal	20.9	C	36.0	D	
6. SR 145/Avenue 12	Signal	21.8	C	23.0	C	
7. Almond Ave/Gateway Dr (overall) SB left + right turn	SB Stop	(5.7) 10.2	(A) B	(26.1) 42.7	(D) E	Yes
8. Pecan Ave/Raymond Thomas (overall) NB left + right turn	NB Stop	(3.1) 9.9	(A) A	(2.0) 33.8	(A) D	No
9. Avenue 13/Golden State Blvd (overall) SB left + right turn	NB/SB Stop	(5.5) 12.0	(A) B	(>999) >999	(F) F	Yes
10. Avenue 13/Road 28 (overall) SB left + right turn NB left + right turn	NB/SB Stop	(4.2) 10.6 -	(A) B -	(>999) >999 >999	(F) F F	Yes
11. Avenue 13/Road 28½ (overall) SB left + right turn NB left + right turn	NB/SB Stop	(3.0) 9.5 -	(A) A -	(2.5) 11.5 14.4	(A) B B	No
12. Rd 28¼/Borden Road (overall) WB left + right turn	WB Stop	(8.7) 9.3	(A) A	(15.5) 16.2	(C) C	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.9) 16.5	(A) B	(121.1) 599.4	(F) F	Yes
14. Golden State/SB SR 99 ramps (overall) WB left + right turn	WB Stop	(8.0) 17.0	(A) C	(36.3) 95.2	(E) F	Yes
15. Ave 12/Golden State (overall) SB left + right turn NB left + right turn	NB/SB Stop	(97.2) 354.7 15.6	(F) F C	(983.1) >999 159.3	(F) F F	Yes
16. Ave 12/NB SR 99 ramps (overall) NB left + right turn	NB Stop	(7.8) 35.0	(A) E	(335.1) >999	(F) F	Yes
17. Ave 13/West Access (overall) NB right turn				(0.1) 10.4	(A) B	No
18. Ave 13/Central Access (overall) NB left + right turn	NB Stop			(26.3) 186.4	(D) F	Yes
19. Road 28¼/Central Access (overall) WB left + right turn	EB Stop			(3.3) 14.9	(A) B	No

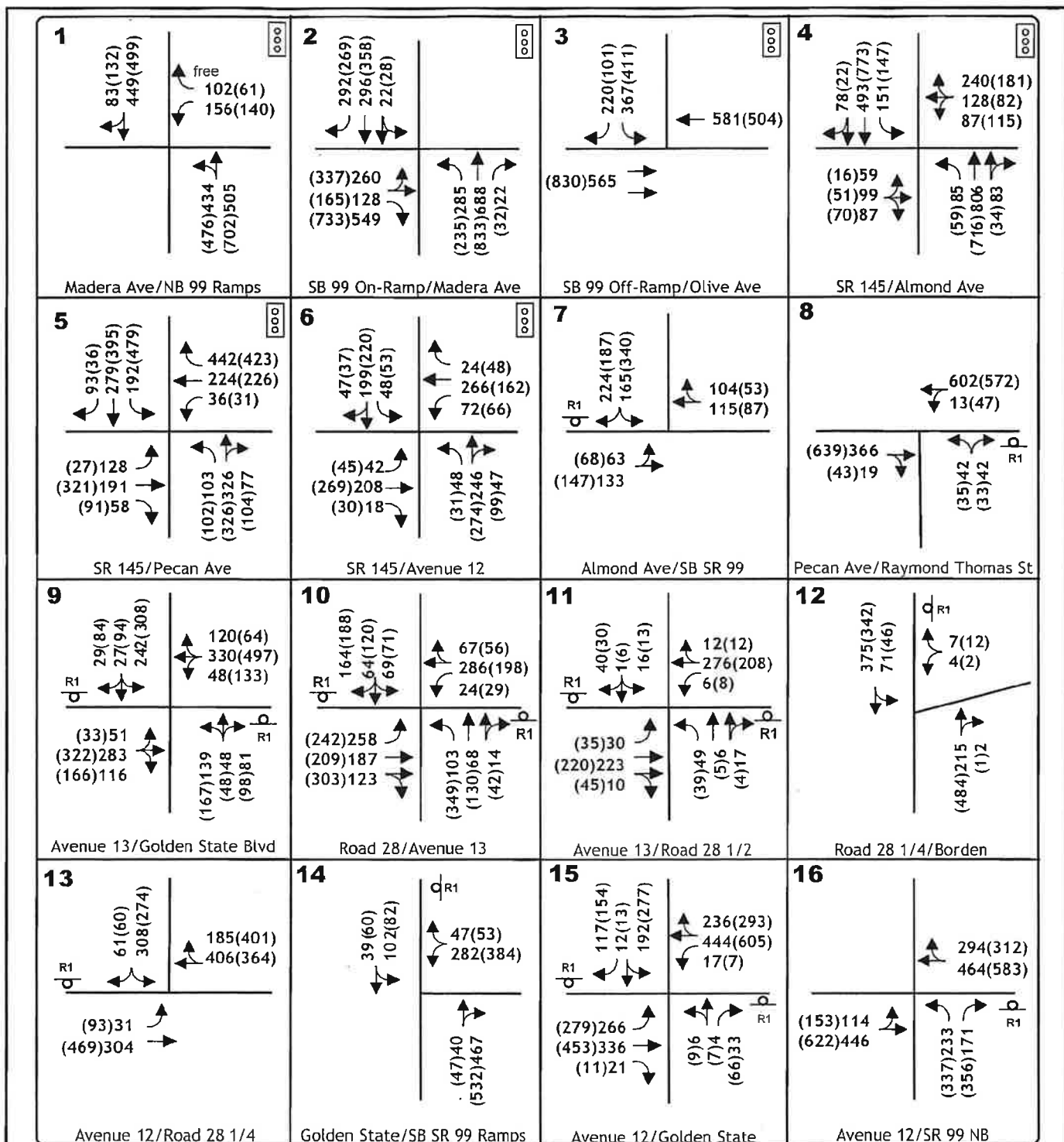
Location	Control	PM Peak Hour				Signal Warranted*?
		Existing		Ex Plus Approved Projects Plus Ventana		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
20. Road 28¼/South Access (overall) EB left + right turn	EB Stop			(3.8) 14.8	(A) B	No
21. Road 28¼/Hazel Ave (overall) EB left + right turn	EB Stop			(3.7) 14.8	(A) B	No
* Meets Warrant 10 – Peak Hour Warrant, or Warrant 11 – Peak Hour Volume Warrant ** Observed Level of Service is worse than calculation due to capacity constraints.						

As shown in Tables 3.15-12 and 3.15-13, eleven intersections will operate at levels of service in excess of the LOS “D” standard and/or meet signal warrants. In addition to the four intersections noted as impacted under “Existing Plus Project” conditions, the following six locations will exceed City of Madera standards:

- The intersection of **Madera Blvd/State Route 99 NB and Madera Blvd/State Route 99 SB ramps will operate at LOS F**. Locally, there is no apparent interim improvement that can be installed prior to the overall State Route 99/State Route 145 improvement project planned by Caltrans. Thus, short-term conditions in excess of City standards are expected until that project is implemented.
- The **Almond Avenue/Gateway Blvd intersection** is projected to operate at LOS E, and a traffic signal will be needed at this location.
- The intersection of **State Route 145/Almond Avenue will operate at LOS F**. To deliver LOS D or better conditions it will be necessary to widen the Almond Avenue approaches to provide auxiliary lanes.
- The **Avenue 13/County Road 28 intersection** is projected to operate at LOS F. Signalization will be needed, as was identified as a mitigation measure for the Triple L project.
- The **Golden State Blvd/State Route 99 SB Ramps intersection** is projected to operate at LOS F. A traffic signal will be needed to deliver satisfactory Level of Service.
- The **main project access on Avenue 13** will operate at LOS F. This location will warrant a traffic signal.

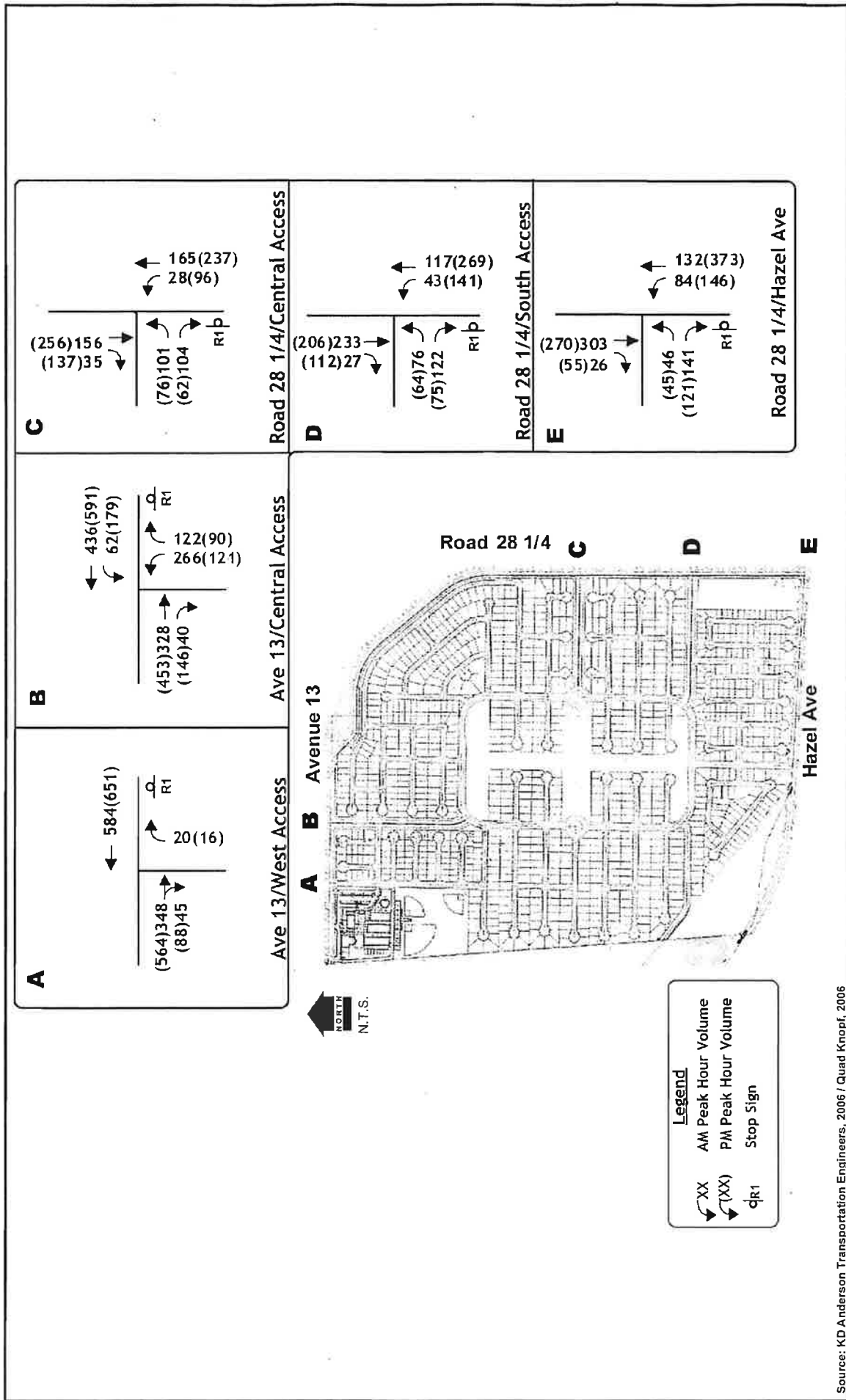
Year 2025 Conditions

The Madera County Transportation Commission regional travel demand forecasting model is the accepted tool for identifying long-term traffic conditions in the Madera area. The land use set already included in the model’s year 2025 forecast includes development of much of the Madera



Legend	
XX	AM Peak Hour Volume
(XX)	PM Peak Hour Volume
dR1	Stop Sign
ooo	Signalized Intersection

Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006



Quad Knopf

EXISTING PLUS APPROVED PROJECTS PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Figure 3.15-5A

area, and based on information available from MCTC staff it is apparent that the model includes development of the MSCCCSP, including the approved projects east of State Route 99. However, development of the Ventana site has not already been included in the model or in other regional traffic studies that have been completed to define the scope of long-term improvement requirements in the Madera area.

Background Assumptions. The Year 2025 base condition assumes land use and circulation system assumptions contained in the current City of Madera General Plan as applied to the MCTC traffic model.

Circulation System. The assumed circulation system improvements included in the traffic model and considered in the cumulative conditions of the analysis include:

1. Madera Avenue (State Route 145) widened to four lanes from the northbound State Route 99 ramp junction to south of the Olive Ave/State Route 99 southbound on-ramp junction;
2. Gateway Drive widened to four lanes between 9th Street and Olive Avenue;
3. Installation of a southbound State Route 99 on-ramp in the area of Almond Avenue.

The following land configurations were assumed to accompany these projects:

- Madera Avenue (State Route 145)/W. Olive Ave: add southbound left turn lane and second through lane, add second northbound left turn lane and second through lane, add second eastbound left turn lane;
- Madera Ave/State Route 99 northbound ramps: add dual left turn lanes, add second northbound through lane, add second southbound through lane.

In addition, the extension of County Road 28 south of Avenue 12 ½ to the County Road 28 intersection has been assumed as part of the MSCCCSP.

Traffic Volume Forecasts. Alternative approaches were taken to develop “Year 2025 Plus Project” traffic volumes. In the area of the State Route 99/Avenue 12 interchange Year 2030 peak hour volumes reported in the referenced PSR were reduced by 3 percent annually to approximate year 2025 volumes. The resulting traffic volumes, which were presented in the Triple L Specific Plan traffic study, represent the 2025 baseline condition. In the immediate area of the East Olive Specific Plan, cumulative plus project traffic volumes presented in that project’s traffic study were re-used. At other locations, future traffic volume forecasts were developed by applying growth rates derived from the daily MCTC traffic model to current peak hour approach volumes.

Trips generated by the Ventana Specific Plan were superimposed onto the baseline year 2025 volumes to create the “2025 Plus Project” condition.

Year 2025 Cumulative Levels of Services. Figure 3.15-6 presents baseline year 2025 a.m. and p.m. peak hour traffic volumes, while Figures 3.15-7 and 3.15-7A present the projected traffic volumes conditions in the project vicinity assuming development of the proposed project. Resulting intersection Levels of Service are presented in Tables 3.15-14 and 3.15-15.

Table 3.15-14

2025 Plus Ventana Specific Plan Intersection Levels of Services – AM Peak Hour

Location	Control	AM Peak Hour				Signal Warranted*?
		2025 Base		2025 Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	21.6	C	22.3	C	n.a.
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave	Signal	59.0	E	63.5	E	
	Mitigated	33.0	C	36.8	D	
3. Olive Ave/SB SR 99 off ramp	Signal	89.1	F	102.6	F	
	Mitigated	21.6	C	21.9	C	
4. SR 145/Almond Ave	Signal	93.5	F	122.0	F	
	Mitigated			45.0	D	
5. SR 145/Pecan Ave	Signal	32.8	D	64.9	E	
	Mitigated			45.7	D	
6. SR 145/Avenue 12	Signal	29.1	C	30.0	C	
7. Almond Ave/Gateway Dr (overall) SB left + right turn	SB Stop	(20.3) 32.9	(C) D	(42.3) 69.4	(E) F	Yes
	Mitigated			22.3	C	
8. Pecan Ave/Raymond Thomas (overall) NB left + right turn	NB Stop	(1.7) 16.4	(A) C	(1.9) 29.2	(A) D	No
9. Avenue 13/Golden State Blvd (overall) SB left + right turn	NB/SB Stop	(>999) >999	(F) F	(>999) >999	(F) F	Yes
	Mitigated			31.6	C	
10. Avenue 13/Road 28 (overall) SB left + right turn	SB Stop	(>999) >999	(F) F	(>999) >999	(F) F	Yes
	Mitigated			30.5	C	
11. Avenue 13/Road 28½ (overall) SB left + right turn	SB Stop	(3.1) 12.4	(A) B	(3.0) 13.1	(A) B	No
12. Rd 28¼/Borden Road (overall) WB left + right	WB Stop	(1.9) 9.0	(A) A	(1.5) 11.2	(A) B	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(0.9) 24.6	(A) C	(82.9) 495.0	(F) F	Yes
	Mitigated			16.1	B	
14. Golden State/SB SR 99 ramps (overall) WB Stop	WB Stop	(301.4) 611.1	(F) F	(474.1) >999	(F) F	Yes
15. Ave 12/Golden State	Signal	248.7	F	288.8	F	n.a

Location	Control	AM Peak Hour				Signal Warranted*?
		2025 Base		2025 Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
	Signal	28.6	C	30.5	C	n.a
16. Ave 12/NB SR 99 ramps	Signal	125.2	F	135.2	F	n.a.
	Mitigated	20.4	C	21.8	C	n.a
17. Ave 13/West Access (overall) NB right turn	NB Stop			(0.2) 13.2	(A) B	No
18. Ave 13/Central Access (overall) NB left + right turn	NB Stop			(123.7) 521.9	(F) F	Yes
	Signal			20.3	C	
19. Road 28¼/Central Access (overall) WB left + right turn	WB Stop			(4.5) 12.2	(A) B	No
20. Road 28¼/South Access (overall) WB left + right turn	WB Stop			(3.7) 11.1	(A) B	No
21. Road 28 ¼/Hazel Ave (overall) WB left + right turn	WB Stop			(4.0) 12.5	(A) B	No

Table 3.15-15

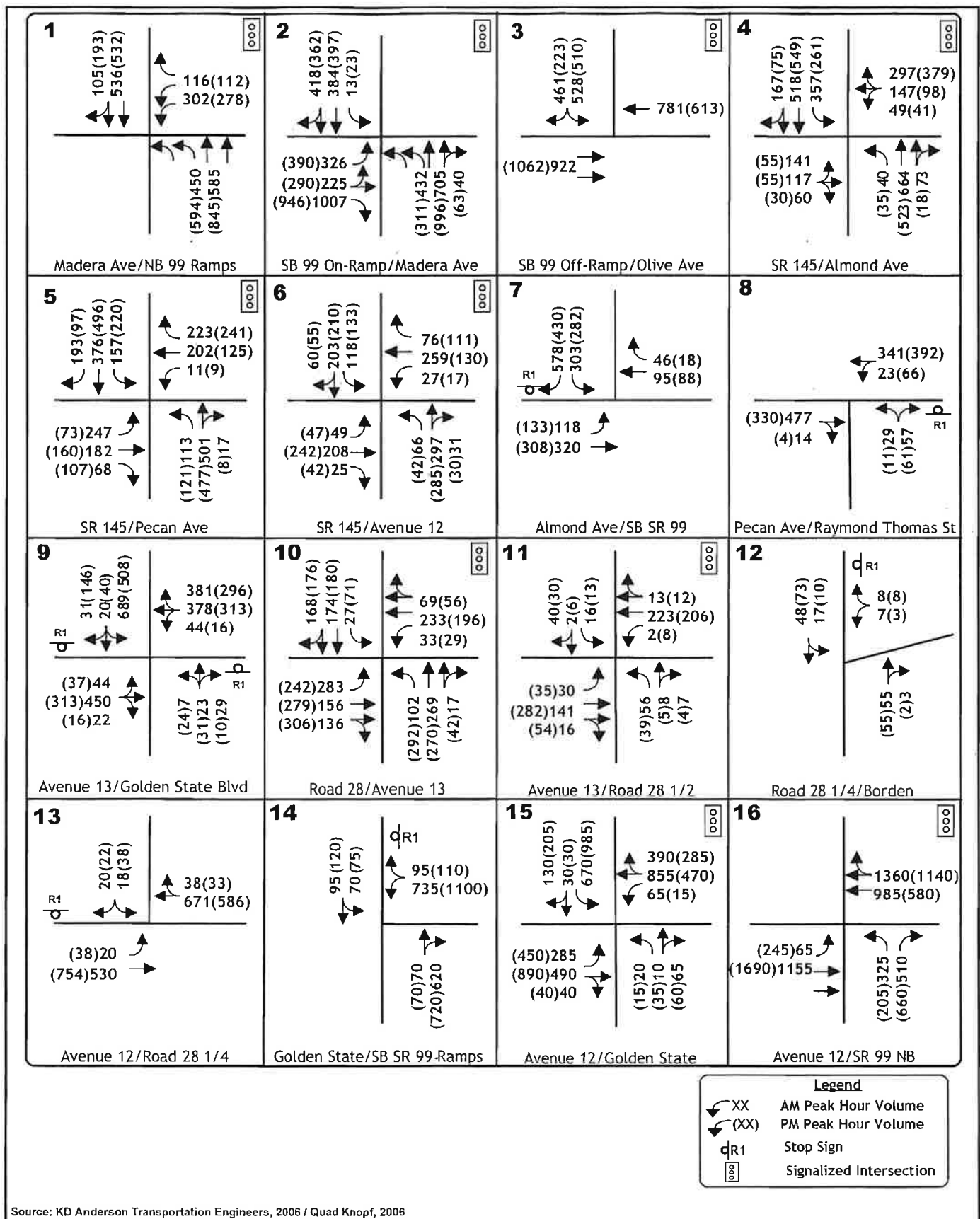
2025 Plus Ventana Specific Plan Intersection Levels of Service – PM Peak Hour

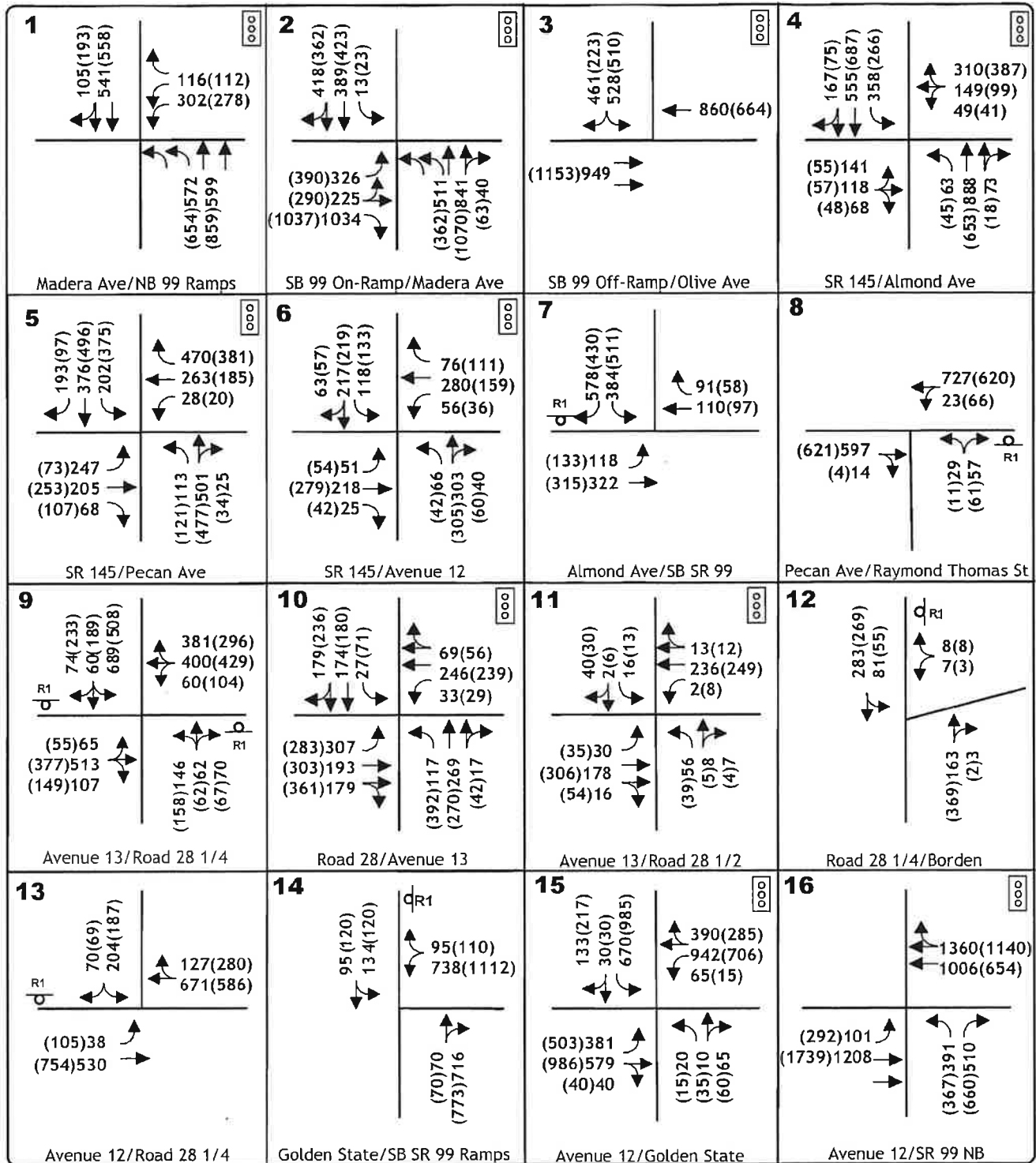
Location	Control	PM Peak Hour				Signal Warranted*?
		2025.Base		2025 Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
1. Madera Blvd/NB SR 99 Ramps	Signal	20.6	C	21.0	C	n.a.
2. SB 99 SB On Ramp/Olive Ave/ Madera Ave	Signal	51.9	D	71.0	E	
	Mitigated	36.4	D	48.4	D	
3. Olive Ave/SB SR 99 off ramp	Signal	33.0	C	35.7	D	
4. SR 145/Almond Ave	Signal	45.1	D	53.6	D	
5. SR 145/Pecan Ave	Signal	33.0	C	49.3	D	
6. SR 145/Avenue 12	Signal	28.3	C	29.5	C	Yes
7. Almond Ave/Gateway Dr (overall) SB left + right turn	SB Stop	(17.7) 29.9	(C) D	(112.3) 183.1	(F) F	
	Mitigated			21.3	C	
8. Pecan Ave/Raymond Thomas (overall) NB left + right turn	NB Stop	(1.7) 12.6	(A) C	(1.5) 20.3	(A) C	No
9. Avenue 13/Golden State Blvd (overall) SB left + right turn	NB/SB Stop	(>999) >999	(F) F	(>999) >999	(F) F	Yes
	Mitigated			34.7	C	
10. Avenue 13/Road 28 (overall) SB left + right turn	SB Stop	(>999) >999	(F) F	(>999) >999	(F) F	Yes
	Mitigated			37.8	D	

Location	Control	PM Peak Hour				Signal Warranted*?
		2025 Base		2025 Plus Ventana SP		
		Average Delay (sec)	Level of Service	Average Delay	Level of Service	
11. Avenue 13/Road 28½ (overall) SB left + right turn	SB Stop	(2.3) 15.1	(A) C	(2.2) 16.1	(A) C	No
12. Rd 28¼/Borden Road (overall) WB left + right	WB Stop	(1.1) 8.9	(A) A	(0.8) 12.3	(A) B	No
13. Rd 28¼/Avenue 12 (overall) SB Stop	SB Stop	(2.0) 43.8	(A) E	(143.6) >999	(F) F	Yes
	Mitigated			19.2 sec	B	
14. Golden State/SB SR 99 ramps (Overall) WB left+right turn	WB Stop	(729.8) >1000	(F) F	(967.0) >1000	(F) F	Yes
	Signal	12.2	B	14.1	B	n.a
15. Ave 12/Golden State	Signal	259.4	F	319.2	F	n.a
	Mitigated	32.5	C	36.1	D	n.a.
16. Ave 12/NB SR 99 ramps	Signal	141.6	F	143.9	F	n.a.
	Signal	26.5	C	28.9	C	n.a.
17. Ave 13/West Access (overall) NB right turn	NB Stop			(0.2) 13.4	(A) A	No
18. Ave 13/Central Access (overall) NB left + right turn	NB Stop			(42.0) 304.6	(E) F	Yes
	Signal			18.5	B	
19. Road 28¼/Central Access (overall) WB left + right turn	WB Stop			(3.3) 15.6	(A) C	No
20. Road 28¼/South Access (overall) WB left + right turn	WB Stop			(2.6) 11.7	(A) B	No
21. Road 28 ¼/Hazel Ave (overall) WB left + right turn	WB Stop			(3.4) 12.1	(A) B	No

As shown, there are 12 intersections that are projected to operate with Levels of Service exceeding the LOS D standard. These include:

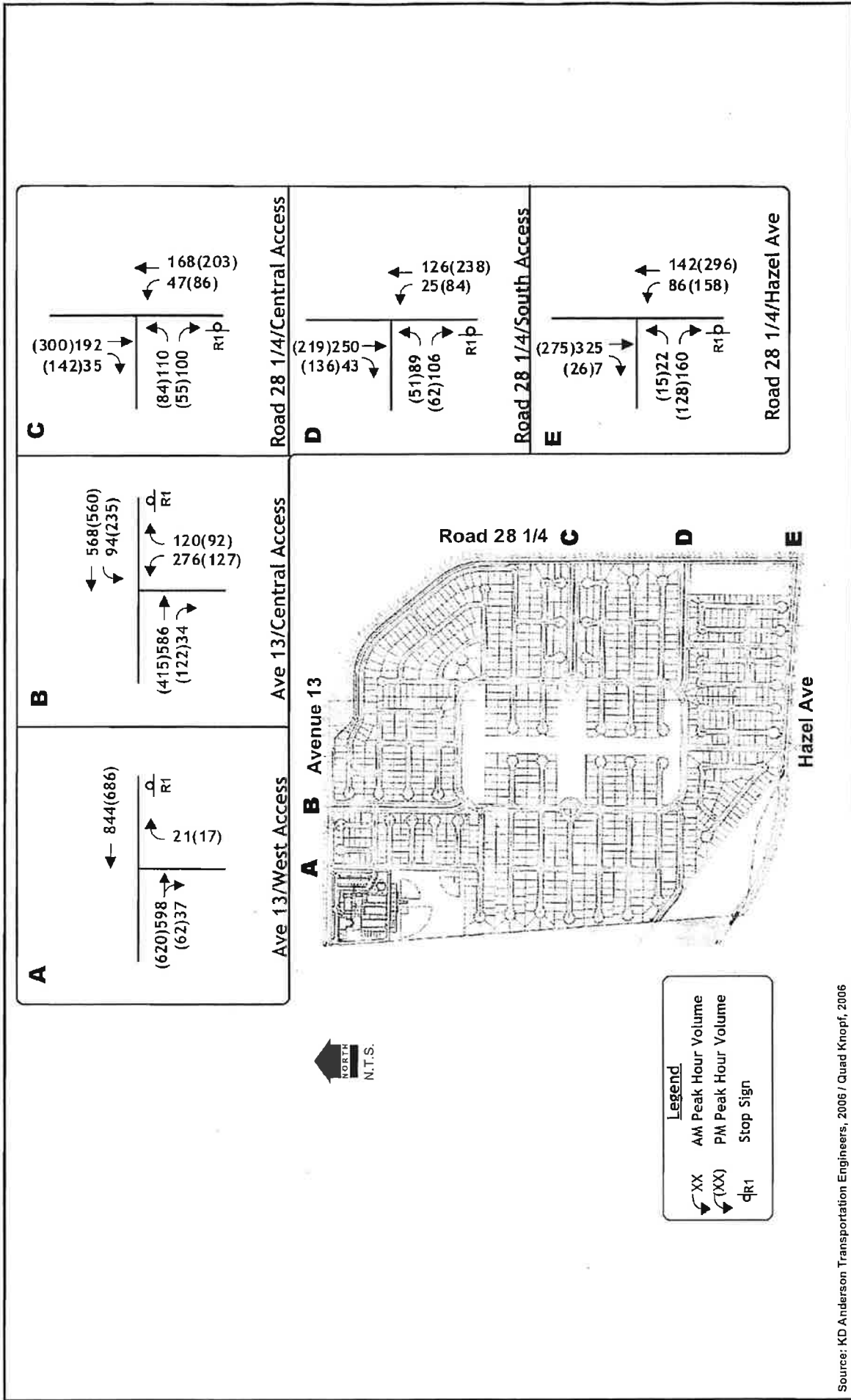
- Int. 2. Madera Avenue/State Route 99 SB on ramps (LOS E with and without the project)
- Int. 3. Olive Avenue/SB State Route 99 off ramp (LOS F with and without the project)
- Int. 4. State Route 145/Almond Avenue (LOS F with and without the Proposed Project)
- Int. 5. State Route 145/Pecan Avenue (LOS E with the Proposed Project)
- Int. 7. Almond Avenue/Gateway Blvd (LOS F with the Proposed Project)
- Int. 9. Avenue 13/Golden State Blvd (LOS F with and without the Proposed Project)
- Int. 10. Avenue 13/Road 28 (LOS F with and without the Proposed Project)
- Int. 13. Avenue 12/Road 28½ (LOS F with the Proposed Project)
- Int. 14. Golden State Blvd/SB State Route 99 ramps (LOS F with and without the Proposed Project)
- Int. 15. Avenue 12/Golden State Blvd (LOS F with and without the Proposed Project)





Legend	
XX	AM Peak Hour Volume
(XX)	PM Peak Hour Volume
dR1	Stop Sign
Signalized Intersection	

Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006



Source: KD Anderson Transportation Engineers, 2006 / Quad Knopf, 2006



Quad Knopf

CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Figure 3.15-7A

- Int. 16. Avenue 12/State Route 99 NB ramps (LOS F with or without the proposed project)
 Int. 18. Avenue 13/Main Project Access (with the Proposed Project)

State Route 99 Mainline. Development of the proposed project will add traffic to mainline State Route 99. As shown in Table 3-15-16 with planned long range improvements (i.e., 8 lane State Route 99) the facility will operate at LOS D with and without this project. However, a six lane facility will only provide LOS F.

Table 3.15-16
Year 2025 Plus Project – Mainline State Route 99 Levels of Service

From	To	Base		Base Plus Project		
		Daily Volume (2004)	LOS	Daily Volume		LOS
				Project Only	Total	
-	Avenue 12	118,000	D	2,500	120,500	D
Avenue 12	Gateway Drive	134,500	D	1,200	135,700	D
Gateway Drive	SR 145	122,150	D	2,500	123,650	D
SR 145	West Fourth Street	127,000	D	2,600	129,600	D
LOS C-D threshold is 105,800 on 6 lane freeway and 140,200 on 8 lane freeway						

Access Intersection Left-Turn Queue Lengths. Year 2025 peak hour intersection level of service work sheets were reviewed to identify the length of queues anticipated in the left turn lanes providing access to the site. Table 3.15-17 summarizes these peak period queues. At the signalized main access on Avenue 13 the westbound queue in the p.m. peak hour is projected to be seven (7) vehicles. Concurrently, queues at unsignalized intersections on Road 28 ¼ are projected to be much shorter, primarily due to the low background traffic volume on that road. Queues have also been identified for the Avenue 13/Golden State Blvd intersection assuming this location is signalized.

Table 3.15-17
Year 2025 Plus Project - Queue Lengths

Street	Intersection	Left Turn Lane	AM Peak Hour		PM Peak Hour	
			Volume	Queue	Volume	Queue
Avenue 13	Central Access	NB	276	8	157	5
		WB	94	4	235	7
Road 28 ¼	Central Access	EB	110	1	84	1
		WB	47	<1	86	<1
	South Access	EB	89	<1	51	<1
		NB	25	<1	84	<1
	Hazel Avenue	EB	22	<1	15	<1
		NB	86	<1	158	<1
Avenue 13	Golden State Blvd	NB	146	5	158	7
		SB	689	(12)	508	(8)
		EB	65	4	55	4
		WB	60	3	104	5
() Dual left turn lane						

The extent of improvements that are needed to deliver satisfactory operating Levels of Service has been determined as shown below:

The **Madera Blvd/SB 99 SB On Ramp/Olive Ave intersection is projected to operate at LOS E.** Additional improvements beyond those planned by Caltrans are needed, including a separate southbound right turn lane and a separate eastbound through lane. With this level of improvement the intersection will operate at LOS D with average delays of 36.8 seconds and 48.4 seconds during the a.m. and p.m. peak hours, respectively.

The **Olive Avenue/SB State Route 99 off ramp intersection is projected to operate at LOS F.** An additional right turn lane at the State Route 99 off ramp to Olive Avenue is needed, and the intersection will operate at LOS C with this improvement.

The intersection of **State Route 145/Almond Avenue will operate at LOS F.** To deliver LOS D or better conditions it will be necessary to widen the Almond Avenue approaches to provide auxiliary lanes. If a separate westbound left turn lane and a right turn lane overlapping the southbound left turn is provided, the intersection will operate at LOS D under "Year 2025 Plus Project" conditions with average delays of 45.0 seconds and 28.0 seconds during the a.m. and p.m. peak hour respectively.

The **State Route 145/Pecan Street (Avenue 13) intersection will operate at LOS E.** To deliver LOS D it will be necessary to widen State Route 145 to a four lane section through the intersection as ultimately planned by Caltrans. Widening State Route 145 to a four-lane facility will deliver LOS D under "Year 2025 Plus Project" conditions with average delays of 45.7 seconds and 36.8 seconds during the a.m. and p.m. peak hour, respectively.

The **Almond Avenue/Gateway Drive intersection is projected to operate at LOS F,** and a traffic signal will be needed at this location. With this level of improvement the intersection will operate at LOS C under Year 2025 Plus Project conditions during the a.m. and p.m. peak hours, with average delays of 22.3 seconds and 21.3 seconds respectively.

The **Avenue 13/Golden State Blvd/Avenue 28½ intersection is projected to operate at LOS F.** The intersection will need to be widened to the ultimate 4 lane section for Avenue 13, and signalization or installation of a roundabout intersection will be required. A signalized intersection will need to include dual southbound left turn lanes and the balance of the standard layout for an arterial/collector intersection. A traffic signal with this configuration will deliver LOS C under Year 2025 Plus Project Conditions with average delays of 31.6 seconds and 34.7 seconds during the a.m. and p.m. peak hour, respectively.

Due to the proximity of the proposed access and the alignment of Avenue 28 ¼ approaching the intersection, a roundabout shall be considered at this location. A two lane roundabout will be needed to accommodate projected traffic volumes.

The **Avenue 13/County Road 28 intersection is projected to operate at LOS F.** Signalization will be needed, as was identified as a mitigation measure for the Triple L project. With

signalization and implementation of frontage improvements required for the Triple L project, the intersection will operate at LOS C – D with average delays of 30.5 seconds and 37.8 seconds during the a.m. and p.m. peak hour, respectively.

The intersection of Avenue 12/Avenue 28¼ is projected to operate at LOS F. A traffic signal is needed, and auxiliary left turn lanes will be required on each approach. With this level of improvement, the intersection will operate at LOS B under “Year 2025 Plus Project” conditions with average delays of 16.1 seconds and 19.2 seconds during the a.m. and p.m. peak hour, respectively.

The intersections in the vicinity of the **State Route 99/Avenue 99 Interchange** are projected to **operate at LOS F.** The “interim” improvements identified by Caltrans in the *State Route 99/Avenue 12 Interchange Modification PSR* are needed. With this level of improvement the ramp intersections will operate at LOS D or better.

The Main Project Access on Avenue 13 will operate at LOS F. This location will warrant a traffic signal. The intersection is widened to the City of Madera standard for a collector intersection on an arterial street (i.e., two through lanes in each direction on Avenue 13 and separate left turn lanes on each approach). With this level of improvements the intersection will operate at LOS C under Year 2025 Plus Project conditions during the a.m. and p.m. peak hour with average delays of 20.3 and 18.5 seconds, respectively.

This impact is *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce this impact; however, there are no mitigation measures available that can reduce this impact to a level of insignificance since although many of these projects are planned, there is not a guaranteed source of funding identified yet. Therefore, this impact will remain *significant and unavoidable*.

Mitigation Measure #3.15-2:

Long-term conditions in the study area reflect continuing development of the MSSCCSP and the implementation of major planned improvements to the State Route 99/Avenue 12 and State Route 99/State Route 145 interchanges.

Developers of projects in the proposed project shall be required to pay their fair share of the cost of the improvements identified below. Where such improvements are within the jurisdiction of the City of Madera (as noted below), such fair share contribution shall be made pursuant to the City of Madera’s Traffic Impact Mitigation Fee program. Where the improvement is within the jurisdiction of an agency other than the City to approve or complete such fair share shall be determined pursuant to any study-supported fee program that is put in place by such agency for construction of the improvement prior to the issuance of building permit. In the event there is no such fee program in place by the time of building permit issuance, those portions of the project built before such program

is in place shall be considered part of the existing environment and shall fund their fair share of regional improvements (including those identified below) in the same manner as all other existing development.

- During the p.m. peak hour the intersection of Madera Blvd/State Route 99 NB ramps (intersection 1) will operate at LOS F. Locally, there is no apparent interim improvement that can be installed prior to the overall State Route 99/State Route 145 improvement project planned by Caltrans. Thus, short-term conditions in excess of City standards are expected until that project is implemented. The project shall contribute its fair share of the cost of these improvements.*
- Widen the westbound Almond Avenue approaches to Madera Boulevard (State Route 145) (intersection 4).*
- Signalize Avenue 13/County Road 28 intersection (intersection 10).*
- Signalize Golden State Blvd/State Route 99 ramps intersection (intersection 14).*
- Improve Madera Blvd/Olive Avenue/State Route 99 SB on-ramps intersection (intersection 2). It will be necessary to add additional lanes to the improvements already planned by Caltrans. These improvements include a separate southbound right turn lane and a separate eastbound through lane. The project shall contribute its fair share to the cost of this improvement.*
- Improve the Olive Avenue/SB State Route 99 off-ramp intersection (intersection 3). A separate right turn lane is needed.*
- Widen Almond Avenue approaches to Madera Blvd (State Route 145) intersection (intersection 4). It will be necessary to provide a separate left turn lane and a westbound right turn lane at this intersection. (California Department of Transportation)*
- Widen State Route 145/Pecan Street (Avenue 13) intersection (intersection 5). It will be necessary to widen State Route 145 to a four lane section.*
- Signalize the Almond Avenue/Gateway Drive intersection (intersection 7). With the development of a new southbound State Route 99 off-ramp as planned by Caltrans, the volume of traffic through this intersection will increase. A traffic signal is needed in addition to the intersection improvements planned by Caltrans. The project shall contribute its fair share to the cost of these improvements. (City of Madera)*
- Widen Avenue 13/Golden State intersection (intersection 9). As new freeway access to Almond Avenue is created the volume of traffic through the Avenue 13/Golden State intersection will increase as well. This intersection will need to be widened to the City's four lane arterial street standard, and dual southbound left turn lanes shall*

also be accommodated or a roundabout intersection shall be installed. The project shall contribute its fair share of the cost of these improvements. (City of Madera)

- *Install "interim" improvements to the State Route 99/Avenue 12 Interchange (Intersections 14, 15, 16). The "interim" modification project described in the "Caltrans State Route 99/Avenue 12 Interchange Modification PSR" will improve performance to Level of Service "D." While these improvements are identified in a PSR, Caltrans has stated during the environmental review of other proposed projects that certain of the improvements are not funded or scheduled. If the City of Madera expands its fee program to include the "interim" improvements identified in Caltrans' PSR, then the developers of the proposed project shall contribute their fair share towards the improvements through the fee program.*
- *Development of the Proposed Project shall contribute its fair share to the cost of cumulative mitigation through the existing City of Madera Traffic Impact Mitigation Fee. The fee will address contribution to improvements to the Avenue 13/Road 28 intersection (intersection 10).*
- *Caltrans District 6 comments on the NOP for this project suggest that additional geometric improvements beyond those currently anticipated may be needed at the State Route 99/State Route 145 interchange. If the City of Madera expands its fee program to include this additional work, then the proposed project shall contribute its fair share at this location through the fee program.*

Impact #3.15-3: 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.

Discussion/Conclusion: A private landing strip is located within two nautical miles to the southwest of the project site. There are no other public or private landing strips located in the vicinity of the project site. Implementation of the proposed project will not result in a change in air traffic patterns. *No impact* has been identified.

Mitigation Measure

No mitigation measures required.

Impact #3.15-4: Substantially increase hazards due to a design feature or incompatible uses.

Discussion/Conclusion: The traffic study prepared for the proposed project as well as subsequent work by traffic engineers did not identify any traffic hazards that will 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 13 and Road 28 ¼) are relatively straight providing adequate site 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. This impact is considered *less than significant*.

Mitigation Measure

No mitigation measures required.

Impact #3.15-5: Result in inadequate emergency access.

Discussion/Conclusion: All Project designs and engineering are required to comply with the Uniform Fire Code and City standards to ensure adequate emergency access. In addition, the Ventana Specific Plan will be reviewed by City staff and any necessary design revisions will be made to ensure adequate access. This impact is *less than significant*.

Mitigation Measure

No mitigation measures required.

Impact #3.15-6: Result in inadequate parking capacity.

Discussion/Conclusion: The City of Madera Zoning Code Section 10-3.1202 contains parking capacity requirements by land use. According to this section, residential units having two or more bedrooms are required to have two parking spaces per unit at least one of which must be covered. Elementary schools are required to have one space for each faculty member and employee. Retail food stores and banks are required to provide one parking space for every 250 square feet of gross floor area while all other retail uses are required to provide one space for every 300 square feet of gross floor area.

Compliance with the parking capacity regulations contained in the Madera Zoning Code and described above will ensure that adequate parking is provided on the project site. This impact is *less than significant*.

Mitigation Measure

No mitigation measures required.

3.16

UTILITIES AND SERVICES SYSTEMS

3.16 Utilities and Service Systems

This section of the Draft EIR addresses the impacts of the proposed project on the utilities and service systems in the City of Madera. The utilities and service systems considered in this analysis are water, wastewater, solid waste, electric and gas, and telecommunications. Storm drainage services and infrastructure are discussed in Section 3.8 of this document. During the NOP period a comment regarding utilities and service systems was received from the City of Madera Public Works Department. This comment letter can be found in Appendix B of this document.

3.16.1 SETTING

Environmental Setting

WATER

Water Supply, Storage and Distribution

Groundwater from the Madera Subbasin of the San Joaquin Valley Groundwater Basin is the primary source of domestic water supply in the City of Madera. In 2004, the City pumped 12,886 acre-feet of water from this subbasin. The City of Madera's Water Supply is discussed in depth in Section 3.8, *Hydrology and Water Quality* of this Draft EIR.

The city's water supply system consists of 16 groundwater wells, a one million-gallon elevated water storage tank and over 200 miles of water distribution pipelines. One additional groundwater well is currently under construction. The City's *Water System Master Plan* projected the need for four new wells between 2005 and 2010, another four wells between 2010 and 2015, and five new wells between 2015 and 2020. These future wells are expected to be sited in areas of anticipated growth. The Master Plan also project the need for new distribution mains to serve these new developments.

Water Conservation Standards, Meters, and Fees

The city currently has a water conservation program for lawn watering only. This program is in effect from April 1 to October 31 each year and permits the watering of lawns from 7 p.m. to 11 a.m. on certain days according to street address number. The program also requires compliance with a number of other water conservation techniques including the use of water flow control devises on hoses and the quick repair of all water leaks.

Although the City of Madera requires the installation of water meters for all new development pursuant to SB 229, the City only meters the water usage of commercial and industrial development. Therefore, water meters will be installed during construction of each neighborhood within the Plan Area at the expense of the developer/land owner; however, only the neighborhood commercial development will be metered and billed accordingly.

According to the City of Madera Finance Department, single family residential units currently pay a flat rate of approximately \$50.00 for all city-provided utilities including water, sewer,

garbage, drainage and street cleaning. A recent fee increase was adopted by the City Council to approximately \$72.50 per unit. Utility fees are not reviewed by the City on a regular basis and no additional increases are currently anticipated for the near future.

The City does not currently have any surface water rights. In order for the City to obtain surface water from Friant Dam through the Madera Canal they will have to comply with Title 34 of the Central Valley Project Improvement Act which requires the implementation of water conservation standards, metering of water, and water pricing reform.

Water Quality

See Section 3.8, *Hydrology and Water Quality*, for a discussion of water quality and treatment.

Existing Supply and Infrastructure

The Plan Area is currently used for the production of raisin grapes and is irrigated through a combination of drip and flood irrigation pumped from groundwater wells on-site. Current water usage is estimated to be approximately 3 acre-feet per acre per year or 755 acre-feet per year (afy). The Plan Area does not contain or utilize any city-maintained water infrastructure.

WASTEWATER

Wastewater Collection and Treatment

The City of Madera's sewer system is maintained by the City's Public Works Department, Water and Sewer Division which maintains over 130 miles of sanitary sewer mains ranging in size from 6 to 48 inches. Wastewater is gravity fed to five lift pump stations located throughout the city and transported to the City of Madera Wastewater Treatment Plant for treatment and disposal.

The City of Madera Wastewater Treatment Plant is located at 13048 Road 21 ½ in Madera, approximately 3.5 miles southwest of the City 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 fourteen 20-acre percolation ponds where the effluent is allowed to evaporate as well as percolate into the soil.

The capacity of the wastewater treatment plant is currently 7.0 million gallons per day (mgd); however, expansion of the plant to 10.0 mgd is anticipated be completed by August 2007. The peak daily demand is currently 5.5 mgd while the average daily demand is 1.5 mgd.

Existing Infrastructure

The Plan Area currently contains one residential unit and an active vineyard. The Plan Area is not currently serviced by public water and sewer service; therefore, wastewater is treated and disposed of on-site by a septic system.

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 stormwater 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 stormwater. The stormwater 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 the 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.

Stormwater Collection and Disposal

According to the City of Madera's 1997 *Storm Drainage Master Plan*, the city is divided into several distinct drainage areas. Each drainage area has a system of conveyance facilities, pumps, and/or retention basins to collect and dispose of runoff. The stormwater runoff is ultimately discharged into man-made retention basins, irrigation canals or pipes, and the Fresno River.

The city's existing stormwater conveyance facilities consist of storm drainage pipes varying in size from 8 to 36 inches. Runoff discharges by gravity or is pumped into various irrigation canals and pipelines or the Fresno River, which carry stormwater outside the urban area. About 20 storage retention basins are located throughout the city, ranging in size from less than 1 acre-foot to 100 acre-feet. Of the city's 20 stormwater pump stations, 4 pump stations discharge into the Fresno River, 14 discharge into Madera Irrigation District (MID) facilities, and 2 discharge into street gutters.

Existing Infrastructure

There are two retention basins located near the Plan Area. Retention basin #169050 is a 2.5-acre-foot capacity retention basin located near the southeast corner of the Plan Area at the intersection of Road 28 ¼ and Borden Street. It is a permanent, public basin maintained by the MID.

Retention basin #163050 is located adjacent to the southwestern corner of the Plan Area. It is also a permanent, public basin that was originally constructed as part of the Highlands at Rancho Valencia development to the west of the Plan Area and dedicated to the city. The proposed project design calls for the expansion of this basin eastward onto the Plan Area to service both this existing development and the proposed community.

SOLID WASTE

Solid Waste Collection and Disposal

Solid waste disposal for the city and the project site 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.

There is currently one active, permitted landfill that services the City of Madera. The Fairmead Solid Waste Disposal Site is a Class III landfill located at Avenue 22 and Road 19 in the City of Chowchilla. It is owned by the County of Madera Public Works Department and operated by Madera Disposal Systems, Inc. It is located on 121 acres with a total permitted disposal area of 77 acres surrounded by agricultural, open space, residential and rural land uses. This landfill accepts agricultural, construction/demolition, green materials, industrial, tires, asbestos, and mixed municipal wastes with a maximum of 1,100 tons accepted per day. The estimated permitted capacity of the landfill is 9.4 million cubic yards of which approximately 5,552,894 cubic yards or 59.1 percent remain. The estimated closure date of the landfill is December 31, 2033. Table 3.16-1 below summarizes the total disposal tonnage accepted at this landfill each year from 1999 to 2001.

Table 3.16-1
Disposal Tonnages (Tons) – Fairmead Solid Waste Disposal Site

Quarter	1999	2000	2001
First	19,677	23,832	23,558
Second	24,832	24,863	24,876
Third	23,528	24,058	26,960
Fourth	21,857	23,554	25,063
Total	89,894	96,307	100,457

Source: California Integrated Waste Management Board

Waste Reduction Programs

The City of Madera last updated their Source Reduction and Recycling Element (SRRE) in 1997. This element describes the City's efforts to reduce the amount of solid waste entering landfills. This is accomplished through source reduction, recycling, composting, and programs to handle special wastes. The implementation of these programs has resulted in a 50 percent diversion rate as of 2000.

ELECTRIC AND GAS

Natural gas and electrical power in the City of Madera are supplied by Pacific Gas and Electric Company (PG&E). See Appendix M for a will-serve letter from this company.

TELECOMMUNICATIONS

Telephone service in the City of Madera is provided by Pacific Bell Telephone Company and cable television is provided by Comcast Cable Television. See Appendix M for will-serve letters from both of these companies.

Regulatory Setting

FEDERAL

There are no specific Federal regulations applicable to utilities and service systems.

STATE

SB 610 Water Supply Assessments

SB 610 (Section 10910-10915 of the California Public Resources Code) requires local water providers to conduct a water supply assessment for projects proposing over 500 housing units or over 500,000 square-feet of commercial space, or 650,000 square-feet of industrial park space.

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.

Assembly Bill 939 California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation or land disposal, the State Legislature passed Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989, 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 through source reduction, recycling and composting, and environmentally safe transformation.

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 receive 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.

Title 24 Building Energy Efficiency Standards

Building energy consumption is regulated under Title 24 of the California Code of Regulations. The efficiency standards contained in this title apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting.

LOCAL

Water Use Regulations

The City's Public Works Department, Water and Sewer Division has adopted water use regulations intended to conserve water during the summer and warm weather months (April through October). These regulations prohibit outside irrigation between 11 a.m. and 7 p.m. and designate certain days of the week according to address numbers during which outside irrigation is permissible. The regulations also require residents to comply with several water conserving measures such as not hosing down driveways and immediately repairing water leaks. Violations of these regulations are enforced by citations and fines.

City of Madera General Plan

Open Space for Health, Welfare, and Well-Being Policies:

2. The City should continue to its program for enlargement of sewerage system capacity in order to meet the needs of urban expansion under policies of the General Plan.

City of Madera Storm Drainage Master Plan

Conveyance Facilities – Future Development. No flooding in the streets should be allowed during either the 2-year (residential areas) or 10-year (commercial areas) storms for future development.

Retention Basins – Future Development. No flooding in the streets should be allowed as a result of storage in retention basins serving new expansion area developments. This study recommends that new retention basins be designed with the assumption of no infiltration.

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 Clean Water Act. 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 SWQMP also provides a series of measurable goals which are used to gauge the objectives of the program.

The City's SWQMP provides an NPDES permit for the area within the city's legal boundaries except in areas that are covered under existing, separate permits. These areas include State Route 99 and State Route 145, 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. Once annexed, the Plan Area will become part of this permit boundary and if in compliance with the SWQMP, will be covered by this NPDES permit.

3.16.2 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:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which may cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which may cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- 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;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Comply with federal, state, and local statutes and regulations related to solid waste.

3.16.3 IMPACTS AND MITIGATION MEASURES

Impact #3.16-1: Increase in demand for water supply and construction of additional water supply infrastructure.

Discussion/Conclusion: Implementation of the proposed project will result in an increased demand for municipal water and will require the construction of an extension of the existing city water system to provide this water to the project site.

Current agricultural use of the properties on the project site consumes an estimated 755 afy of groundwater. The proposed change in land use to residential development (1,000 to 1,500 dwelling units) will extract an additional 45 to 101 percent of groundwater from the Madera Subbasin compared to the current agricultural land use. This increase equates to an additional pumpage of between 341 afy and 811 afy by the City of Madera to serve the project, or a 2.6 to 6.3 percent increase in the amount it pumped from the aquifer in 2004. The Water Supply Assessment (see Appendix J and discussion in Section 3.8 of this Draft EIR) prepared for the proposed project concluded that groundwater will be available in sufficient supply to meet project needs as well as other planned future water demands in the city. The groundwater supply will be sufficient in a normal-year, single-dry-year and multiple-dry-year scenarios.

The southern service area, which includes the project, is primarily supplied by well #21, located north of the site. According to the City's *Water System Master Plan*, water pressure in this service area will be insufficient to service future development, such as the proposed project, and will require either the drilling of a new well or connection of the service area's system to another service area.

The City's *Water System Master Plan* estimated the average water usage of the Madera area at 280 gallons per day per capita (gpcd). The continued implementation of water conservation measures is expected to maintain this rate of water usage into the future. Using this rate, the Water Supply Assessment prepared for the proposed project estimated that at build out, the project site will require 1,405 afy based on the maximum build out of 1,500 dwelling units. This water demand projection includes both residential and non-residential water uses and is fully described in Table 3.16-2 below.

Table 3.16-2
Projected Water Demand from Proposed Project – Maximum Build Out

	Residential Use	Non-Residential Use	Total Consumption
GPD	1,170,000	85,000	1,255,000
AFY	1,310	95.3	1,405

Source: Quad Knopf, Inc. *Water Supply Assessment Ventana Specific Plan Project*. January, 2006

The preliminary water system design for the Plan Area, as illustrated in Figure 3.16-1, includes a 12" water main in a centrally-located loop system with four 12-inch water mains extending from this central system. The first extends westward to connect with a proposed public well (public well #33) that will supply the system. The second extends south to the Hazel Avenue right-of-way to supply the southern portion of the Plan Area and to allow for a potential connection to future development south of the Plan Area. The third extends north to Avenue 13 to allow for future connection to city-proposed water infrastructure within Avenue 13 and for potential future connection to the existing residential units north of Avenue 13. The fourth extends along the northeast entrance and connects to the 12-inch main in Road 28 ¼.

The off-site water system improvements will include a 12-inch main being installed along the north, south, and east boundaries of the Plan Area as shown in Figure 3.16-1. The northerly section will include the extension of the 12-inch water main in Avenue 13 easterly to the intersection with Golden State Boulevard (Road 28 ¼). At this intersection, the water main will be stubbed to the east for a future cross-freeway connection. A water main will also be extended north along Golden State Boulevard and connect to the newly constructed cross-freeway water line installed by the East Olive Specific Plan development.

At the easterly portion of the Plan Area, a water main will be extended north from the Hazel Avenue/Road 28 ¼ intersection to the northern most project entry along Road 28 ¼. At the southerly portion of the Plan Area, a water main will be extended west from the Hazel Avenue/Road 28 ¼ intersection and connected to the Highlands at Rancho Valencia development water system.



This system will be supplied by a proposed well (public well #33) to be located to the west of the project site within the Highlands at Rancho Valencia development (see Figure 3.16-1). This well is projected to produce between 1,500 and 2,000 gallons per minute (gpm) or 2,160,000 to 2,880,000 gallons per day (gpd) and will serve the proposed project as well as the Highlands at Rancho Valencia community. The construction of an additional water well is likely necessary to ensure redundancy and adequate fire flow per City of Madera guidelines.

Consistent with City policy, the project proponent will be required to pay developer's fees in order to contribute the project's fair share of capital improvement costs related to water supply that are constructed off the project site. All water service infrastructure constructed on the project site will be funded by project developers/land owners.

This impact is considered *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure will reduce this impact to a *less-than-significant* level.

Mitigation Measure #3.16-1:

As a condition of approval at the tentative map stage, the applicant shall commission a study to evaluate the project site's water system for adequacy of water pressures and fire flows when connecting to existing off-site facilities and proposed wells. This more detailed analysis or model will determine the necessity for additional well sites based on City of Madera design standards. City design standards require a minimum of 5 gpm per service plus fire flow. Fire flow shall be determined using the most current edition of the Insurance Services Office Guide for Determination of Required Fire Flow or as designated by the City of Madera Fire Department.

Impact #3.16-2: Increase in demand for wastewater service and construction of additional wastewater infrastructure.

Discussion/Conclusion: Implementation of the proposed project will result in an increased demand for wastewater service and will require the extension of city wastewater infrastructure to the project site as well as the construction of new wastewater infrastructure on the project site.

Using a standard wastewater generation rate of 90 percent of total water used, the proposed project is estimated to generate approximately 1,321,660 gpd or 1,480 afy of wastewater. The Madera Wastewater Treatment Plant currently has a capacity of 7 mgd and is anticipated to be expanded to 10 mgd by August 2008. According to Wayne Clay, Operations Manager at the Madera Wastewater Treatment Plant, the plant will have sufficient capacity to service the proposed project.

In order to accommodate much of the projected growth beyond the project site to the east of State Route 99, the proposed project includes installation of parallel 24-inch dry-line sewer main in Avenue 13 as recommended in the City's *Sewer System Master Plan*.

Additional sewerage capacity for those areas east of State Route 99 and for the southern service areas is provided for by the installation of a 30-inch dry-line sewer main adjacent to the Plan Area in Road 28 ¼ and Hazel Avenue which will allow for ultimate future connection to the 42-inch Avenue 13 trunk sewer at Avenue 25.

Although the City's *Sewer System Master Plan* proposed a 12-inch local trunk sewer through the northern portion of the Plan Area, this is a conceptual design intended to be finalized by the individual developer. The proposed project's preliminary wastewater infrastructure design includes 8-, 10- and 12-inch sewer lines that run northward through the Plan Area connecting to the Avenue 13 trunk sewer. The preliminary main pipeline for the wastewater collection system was designed based on the criteria established by the City's *Sewer System Master Plan*. Figure 3.16-2 illustrates the preliminary wastewater infrastructure plan.

Consistent with city policy, the project proponent will be required to pay developer's fees in order to contribute the project's fair share of capital improvement costs related to wastewater service that are constructed off the project site. All wastewater infrastructure constructed as part of the proposed project will be funded by project developers/land owners.

This impact is considered *potentially significant*.

Mitigation Measure

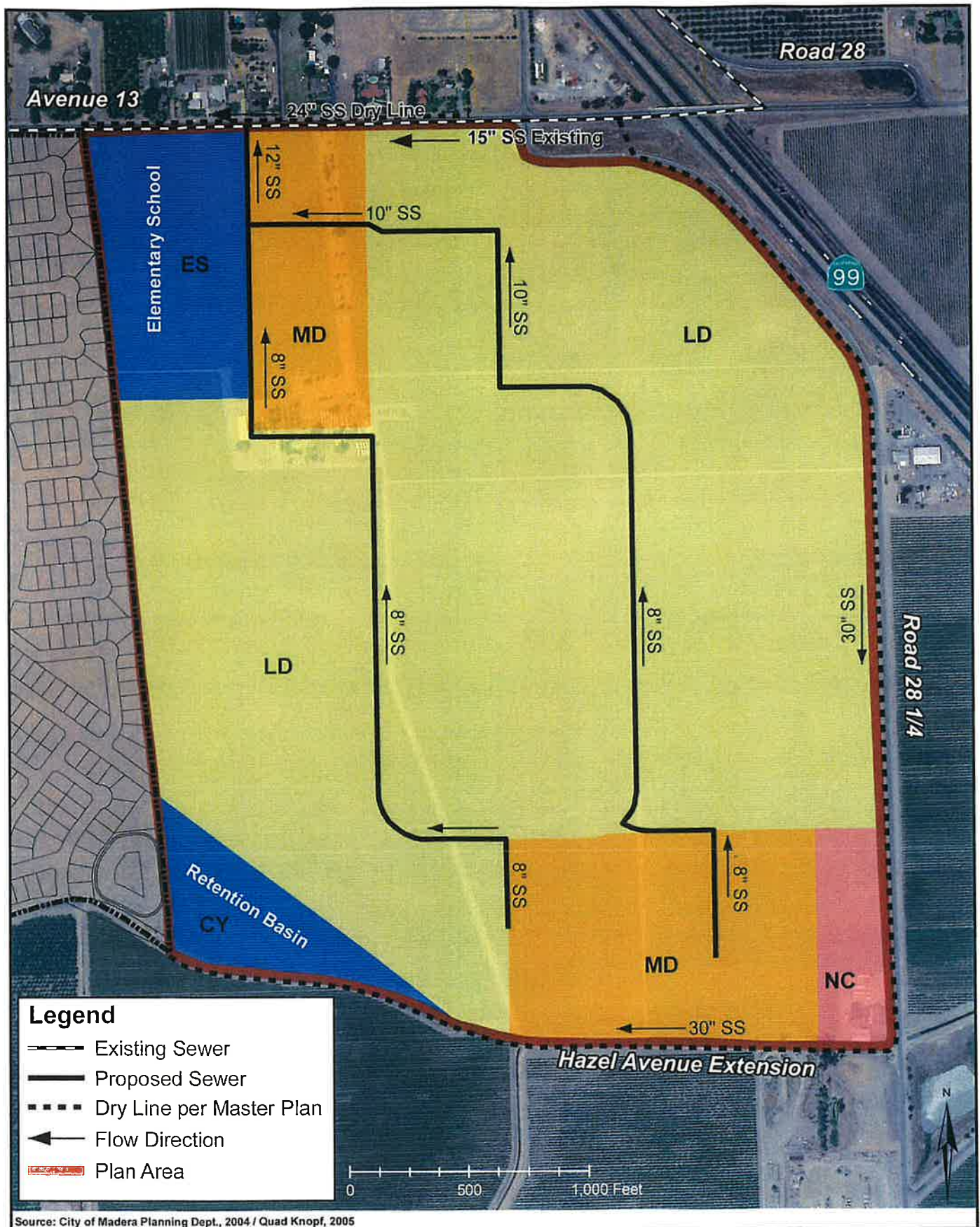
Implementation of the following mitigation measure will reduce this impact to a *less-than-significant* level.

Mitigation Measure #3.16-2:

As part of the conditions of approval the applicant shall commission a study to analyze specifically, the adequacy of the 15-inch line in Avenue 13 and other sewer line sizing and alignments as well as downstream effects. The project sewer system shall be in compliance with peak design flows contained in the City's Sewer System Master Plan as well as with the City's sanitary sewer pipe and appurtenances plans and specifications.

Impact #3.16-3: Increase in demand for solid waste services.

Discussion/Conclusion: At build-out, the proposed project will consist of a maximum of 1,500 residential units, a 15.7-acre elementary school site, a 5.8-acre neighborhood commercial site, 18.7 acres of Plan Area parks and landscaped open space and a 9-acre retention basin. Assuming maximum build out consisting of 30 percent medium density units, the proposed project is projected to house approximately 4,590 new residents. The California Integrated Waste Management Board (CIWMB) has estimated that residents in the Central Valley region of California generate approximately 0.36 tons of solid waste per person per year. This results in a



projected 1,652.4 tons of solid waste generated by the residents of the proposed project each year (4.53 tons per day). According to the CIWMB Solid Waste Characterization Database, education services (including elementary schools) have an average waste disposal rate of 0.8 tons per student per year. The expected enrollment at the elementary school is approximately 700, resulting in an estimated 560 tons of solid waste generated each year by this land use. Specific uses on the commercial site have not yet been determined and solid waste generation rates provided by the CIWMB vary considerably among retail uses; therefore, the highest disposal rate, restaurants at 3.1 tons per employee per year, was used to estimate waste disposal for this use. An average employment density of 500 square-feet per employee and an estimated 63,200 square-feet of retail space were used resulting in an estimated 391.8 tons of solid waste per year or 1.07 tons per day.

The solid waste generation projections for the proposed project total 2,604.2 tons per year or 7.13 tons per day. From 1999 to 2001 the Fairmead Solid Waste Disposal Site accepted an average of 95,553 tons per year or 262 tons per day. The maximum permitted disposal for this site is 1,100 tons per day. The addition of 7.13 tons per day represents a 2.7 percent increase in solid waste accepted at this site each day; therefore, this impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

Impact #3.16-4: Impacts resulting from construction of off-site utilities.

Discussion/Conclusion: Implementation of the proposed project will include several off-site improvements. These improvements, which will be constructed outside the project site boundaries, will include the following:

- Extension of water and sewer lines in Golden State Drive north from the intersection of Golden State Drive and Avenue 13;
- Extension of water and sewer lines in Apricot Lane;
- Extension and/or installation of water and sewer lines in Avenue 13 and Road 28 ¼;
- Extension of Hazel Avenue eastward for length of property boundary from its existing point of terminus at the southwestern property corner to Road 28 ¼; and
- Installation of new traffic signals along Avenues 12 and 13 as identified by the traffic impact study prepared for this project;

All of these improvements will be completed within existing rights-of-way surrounding the project site; therefore, no additional adverse impacts are expected to occur as a result of these improvements. This impact is *less than significant*.

Mitigation Measure

No mitigation measures are required.

CHAPTER FOUR

EVALUATION OF ALTERNATIVES

CHAPTER FOUR

EVALUATION OF ALTERNATIVES

4.1 Introduction

CEQA Guidelines Section 15126.6(a) requires an EIR to assess a range of “reasonable” alternatives that would feasibly attain most of the basic project objectives while avoiding or substantially lessening any of the significant effects of the project. The EIR does not have to consider every conceivable alternative to a project, but instead must consider a reasonable range of potentially feasible alternatives to foster informed decision-making and public participation. Per requirements of CEQA Guidelines Section 15126.6(e), the “no project” alternative must be considered. The value of such discussion is to inform public decision-makers of the different environmental impacts that may be associated with each potential alternative, and to enable a reasoned judgment to be made as to which alternative to the proposed project is environmentally superior.

The alternatives to be evaluated should include those that offer substantial environmental advantages over the proposed project and that may feasibly be accomplished considering the various economic, environmental, technological, social and legal factors. Two such alternatives to the proposed project along with the no project alternative were evaluated, as follows:

- Alternative 1: No Project Alternative
- Alternative 2: Reduced Density Alternative
- Alternative 3: Reduced Size Alternative

The discussion below presents a description and analysis of each alternative. The discussion focuses on a comparison of the environmental impacts of the alternatives and the degree to which each alternative would accomplish the project objectives. CEQA does not require the alternatives to be analyzed at the same level of detail as the proposed project; rather, the alternatives discussion can be based on a qualitative analysis and comparative methodology to identify the environmentally superior alternative.

4.2 Alternative Project Site

The key question and first step in the analysis of alternative project locations is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location, and only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR.

A search was performed for a suitable alternative project site using city and county parcel data as well as city and county general plan data and a geographic information system. There are no vacant parcels or groups of parcels of an adequate size within the city limits. One location adjacent to the city limits was found that was of adequate size and had few existing structures.

This alternative site is located farther west of the city and is surrounded entirely by agricultural uses and open space while the project site is adjacent to existing and planned development. Additionally, this alternative site is very similar to the project site and would result in very similar impacts. In particular, it would result in the conversion of a similar amount of Important Farmland, would create similar changes to the visual character and quality of an area similar to the project site, would result in similar trip generation and resulting traffic and air quality impacts, and would induce the same amount of population growth as the project as proposed. It was determined that this alternative site would not result in the lessening of any environmental impacts and could, therefore, not be used for this analysis. There are numerous locations further away from the city limits than the project site that would be suitable for the proposed project; however, annexation of such areas into the city limits would not be possible without creating numerous additional environmental impacts, including but not limited to substantial growth-inducing impacts.

Based on the above, analysis of alternative project sites was eliminated from further consideration.

4.3 No Project Alternative

4.3.1 DESCRIPTION

In accordance with Section 15126.6(e)(3)(B) of the CEQA Guidelines, the No Project alternative consists of a description of an analysis of the circumstances under which the proposed project does not proceed. This alternative entails a general discussion of what can reasonably be expected to occur on the project site in the foreseeable future if the proposed project is not approved, based on the existing general plan land use designation, zoning, and available infrastructure and services.

As of the date of publication of this Draft EIR, the project site has not been annexed to the City; therefore, in accordance with Section 15126.6(e)(3)(B) of the CEQA Guidelines, this No Project alternative assumes a continuation of the existing County General Plan designations and policies currently governing the project site.

4.3.2 IMPACT ANALYSIS

Aesthetics

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Because the project site would not be converted, no view sheds would be affected and the existing visual character and quality of the site and its surroundings would be maintained. Neither the proposed project nor this alternative would result in impacts to views or visual resources within a scenic highway. Overall, this alternative is *superior* to the proposed project in terms of aesthetics.

Agriculture Resources

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Additionally, no infrastructure would be extended closer to undeveloped lands thereby potentially facilitating their future development. Therefore, no Important Farmlands would be converted directly or indirectly. This alternative would be consistent with all applicable land use plans and policies while the proposed project would require a request for residential, commercial, and public rezoning. Neither this alternative nor the proposed project would conflict with a Williamson Act contract. Overall, this alternative is *superior* to the proposed project in terms of agriculture resources.

Air Quality

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Additionally, none of the existing structures on the project would be demolished eliminating the risk of release of airborne asbestos fibers. Construction activities and operation of the proposed project would not occur; therefore, there would be no increase in emissions of particulate matter or ozone precursors. Although the proposed project would not result in a significant increase in carbon monoxide levels, this alternative would further reduce this impact by not generating any new sources of CO. Additionally, under this alternative there would be no potential for the creation of a new source of hazardous air pollutants. There would be no cumulative air quality impacts under this alternative. Overall, this alternative is *superior* to the proposed project in terms of air quality.

Biological Resources

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Although no special-status species have been identified on the project site and it lacks suitable habitat for such species, this alternative would fully eliminate any potential impacts on special-status species related to implementation of the proposed project. No riparian habitat, sensitive natural communities, or federally protected wetlands exist on the project site; therefore, neither alternative would result in adverse impacts on these features. This alternative would not result in any interferences of 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 as no new development would occur. Neither this alternative nor the proposed project would conflict with any local policies or ordinances protecting biological resources of any adopted Habitat Conservation Plans. Overall, this alternative is *superior* to the proposed project in terms of biological resources.

Cultural Resources

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Because the project site would not undergo preconstruction or construction activities, no buried cultural resources would be disturbed. This alternative is *superior* to the proposed project in terms of cultural resources.

Geology and Soils

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production; therefore, no grading or other soil-disturbing activities that cause soil erosion and soil instability would occur. Neither this alternative nor the proposed project would result in any other impacts related to geology and soils. This impact is *superior* to the proposed project in terms of geology and soils.

Hazards and Hazardous Materials

Neither this alternative, nor the proposed project, would result in the routine transport, use or disposal of hazardous materials or wastes. The project site is not listed as a hazardous materials site under EPA's Superfund List or as part of the State of California's Cortese List; therefore, no related impacts would result from either this alternative or the proposed project. Under this alternative, the project site would remain under agricultural production and no new people would be exposed to the potential soil contamination on the project site. Agricultural operations would continue to utilize pesticides and fertilizers as necessary. The project site is located in an area that is at risk for wildland fire; therefore, neither this alternative nor the proposed project would result in related impacts. Overall, this impact is *similar* to the proposed project in terms of hazards and hazardous materials.

Hydrology and Water Quality

Under this alternative, no construction activities would occur resulting in associated water quality degradation and water quality standards or waste discharge requirements would be violated. No additional groundwater supplies would be needed as no new residents would be added to project site and no other development would occur. Furthermore, groundwater recharge would not be interfered with as no new impervious surfaces would be created on the site. This alternative would not change any existing drainage patterns on the project site and no additional storm runoff would be generated. Finally, no new people or structures would be placed in a FEMA 100-year floodplain. Overall, this impact is *superior* to the proposed project in terms of hydrology and water quality.

Land Use and Planning

Under this alternative the project site would not be converted to urban uses and would instead remain under agricultural production. Because the project site would not undergo any land use changes, it would remain in compliance with all applicable land use plans, policies and regulations. This alternative would also not result in any new land use conflicts. Neither this alternative nor the proposed project would result in the division of an established community. Overall, this alternative is *superior* to the proposed project in terms of land use planning.

Mineral Resources

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. Because the project site would not undergo any

preconstruction or construction activities, no unknown mineral resources would be disturbed. The project site does not contain any known mineral resources or extraction operations. This alternative is *similar* to the proposed project in terms of mineral resources.

Noise

Under this alternative, the project site would not be converted to urban uses and would instead remain under agricultural production. No residential units would be exposed to excessive noise levels from Avenue 13 or State Route 99; therefore, no sound walls or noise barriers of any kind would need to be constructed. Additionally, because no construction would occur, no construction-related noise would impact the surrounding area. This impact is *superior* to the proposed project in terms of noise.

Population and Housing

This alternative would not result in the construction of any housing or the extension of any infrastructure and would, therefore, not directly or indirectly result in population growth in the area. Neither the proposed project, nor this alternative, would result in the substantial displacement of people and/or existing housing. Overall, this alternative is *superior* to the proposed project in terms of population and housing.

Public Services

This alternative would not result in an increase to the area's population and would, therefore, not result in any impacts to police and fire protection services or an increase in enrollment in the local public school system. This impact is *superior* to the proposed project in terms of public services.

Recreation

This alternative would not result in an increase to the regional population and would, therefore, not require the creation of any new parkland. Additionally, this alternative would not result in the construction of any new parkland or recreational facilities and related environmental impacts. This impact is *similar* to the proposed project in terms of recreation.

Transportation/Traffic

This alternative would not result in an increase in traffic on the project site or in its vicinity. No level of service standards would be worsened or exceeded and no intersection signalization would be required. No hazards would be created and emergency access and parking capacity would not be affected. Overall, this impact is *superior* to the proposed project in terms of transportation/traffic.

Utilities and Services Systems

This alternative would not result in the construction of any new residential, commercial or public uses and would, therefore, not require additional water supply or the water service infrastructure that is proposed in the Specific Plan. Similarly, this alternative would not require any additional wastewater treatment services or the wastewater infrastructure proposed for the project. No additional solid waste would be generated under this alternative and the local solid waste disposal site would not be impacted. Overall, this impact is *superior* to the proposed project in terms of utilities and services systems.

4.4 Reduced Density Alternative

4.4.1 DESCRIPTION

This alternative consists of a project density reduction in which all lot sizes are approximately 12,000 square-feet (consistent with the R(A) Residential-Agricultural Zoning District as described in the City of Madera zoning ordinance). Using the neighborhood layout and acreage counts of the proposed project, this alternative would contain approximately 743 residential units and would add approximately 2,653 new residents to the area.

This alternative would not fulfill several of the project objectives including:

- To create a mixture of residential land uses and housing products that provide housing for various income levels and types of households.

This alternative would not provide a mix of residential land uses or housing products as it would consist entirely of low density lots and single family units. The elimination of medium density lots and smaller units would also result in less affordable housing, thereby further limiting income levels.

- To create housing in compact urban forms adjacent to transit corridors so as to maximize use of transit and shorten commute times for city residents.

This alternative would not create housing in compact urban forms; instead, it would create low density housing in a suburban form. This alternative would also not maximize the use of the nearby transit corridor (State Route 99) by housing fewer residents on the project site.

- To create maximum opportunities for the residents of the project site and vicinity to walk to planned educational, recreational and commercial uses, thereby reducing the need for residents to travel outside the area.

This alternative would create large lots spread throughout the project site, thus reducing opportunities for residents to walk or bike to the planned educational, recreational and commercial uses. Additionally, this alternative may not house enough residents to support these educational, recreational, and commercial uses. In particular, the commercial site would need a

large, local consumer base to be economically feasible and this alternative would house approximately half that of the proposed project.

4.4.2 IMPACT ANALYSIS

The Reduced Density Alternative would significantly lessen several environmental impacts.

Aesthetics

This alternative would result in the same amount of land being converted from a rural/agricultural use to an urban/built up use; however, the development would be less dense and would, therefore, retain some of the rural, agricultural nature of the project site. View sheds in the area would be adversely impacted by this alternative, but to a lesser extent than the proposed project. Additionally, the existing visual character and quality of the site would not be as severely affected because a greater portion of the project site would remain undeveloped for use as residential yards. Neither the proposed project nor this alternative would result in impacts to views or visual resources within a scenic highway. This alternative is *superior* to the proposed project in terms of aesthetics.

Agriculture Resources

Similar to the proposed project, this alternative would result in the conversion of approximately 250.6 acres of Important Farmland and the loss of an agriculturally productive operation. Neither the proposed project nor this alternative would conflict with a Williamson Act contract; however, both would require a rezoning of the entire project site in order to be consistent with the city's zoning ordinance. This alternative would extend infrastructure to undeveloped lands and would apply pressure to adjacent land owners to develop; however this impact has been determined to be less than significant for both the proposed project and this alternative, as such development has been planned for in city infrastructure plans. This alternative is *similar* to the proposed project in terms of agriculture resources.

Air Quality

Similar to the proposed project, this alternative would result in the demolition of the existing structure on the project site and the potential release of hazardous airborne asbestos fibers. Also similar to the proposed project, this alternative would result in construction and operational activities that increase particulate matter and ozone precursor emissions. However, this alternative would require less construction and would result in fewer area and operational emissions due to a smaller number of new residents being introduced into the area. Although neither project design would result in a significant increase in carbon monoxide emissions, this alternative would further lessen this impact by resulting in fewer vehicle trips. This alternative would have the same acreage zoned for neighborhood commercial development and would have the same potential for a new source of hazardous air pollutants from dry cleaning facilities. Cumulative air quality impacts would result from implementation of this alternative but at a smaller scale than the proposed project. Overall, this alternative is *superior* to the proposed project in terms of air quality.

Biological Resources

Neither this alternative nor the proposed project would have any significant impacts on biological resources with appropriate mitigation. Under this alternative, the project site would still be converted to entirely urban uses; however, the project site does not contain any special-status species, riparian habitat, sensitive natural communities or federally recognized wetlands. The project site does contain a small grouping of trees that could potentially be used as nesting habitat for migratory bird, although this is unlikely. Proper mitigation would reduce this impact to less than significant. Neither this alternative nor the proposed project would conflict with any local policies or ordinances protecting biological resources or with the provisions of an adopted Habitat Conservation Plan. Overall, this alternative is *similar* to the proposed project in terms of biological resources.

Cultural Resources

According to the Cultural Resources Assessment prepared for the proposed project, the project site does not contain any known cultural resources and the extensive cultivation of the area makes it unlikely that any unknown resources exist. Preconstruction and construction activities of both the proposed project and this alternative still have the potential to adversely affect such resources. However, this alternative would require less grading and other construction activities that have the potential to disturb unknown cultural resources; therefore, this alternative would have a lesser impact on cultural resources than the proposed project. This alternative is *superior* to the proposed project in terms of cultural resources.

Geology and Soils

According to the *Geotechnical Engineering Investigation and Geohazards Evaluation* report prepared for the proposed project, the project site is not located within an active fault trace or special studies earthquake fault zone and has a low potential for any seismic-related ground failure. Therefore, this impact is similar and would require the same mitigation regardless of project density. This alternative would require less grading and soil-disturbing activities that cause soil erosion and/or soil instability. Overall, this alternative is *superior* to the proposed project in terms of geology and soils.

Hazards and Hazardous Materials

This alternative would consist of the same basic uses (e.g., residential, parks, neighborhood commercial and public) and would, similar to the proposed project, not result in the routine transport, use or disposal of hazardous materials or wastes. The project site is not listed as a hazardous materials site under EPA's Superfund List nor as part of California's Cortese List, thereby eliminating any related impacts under both the proposed project and this alternative. The project site has been used for various agricultural uses and has some soil contamination from fertilizer and pesticide use. Similar to the proposed project, this alternative would require appropriate mitigation to reduce potential related impacts to future residences, visitors and employees on the project site. The site is not located in an area subject to wildland fires.

Overall, this alternative is *similar* to the proposed project in terms of hazards and hazardous materials.

Hydrology and Water Quality

Under this alternative, construction activities would occur that could result in the violation of a water quality standard or waste discharge requirement. However, similar to the proposed project, appropriate mitigation including the preparation of a SWPPP and the implementation of Best Management Practices (BMPs) leading to the issuance of a General Permit by the Regional Water Quality Control Board (RWQCB) would fully reduce this impact to a level of insignificance. Fewer residences would be constructed under this alternative and would require less groundwater. Additionally, the decreased density would result in less impervious surfaces and less interference with groundwater recharge. Implementation of this alternative would change the existing drainage pattern on the project site and would require the construction of a storm drainage basin; however, less impervious surface results in less runoff and reduces this impact when compared to the proposed project. Neither this alternative nor the proposed project would place people or structures in a 100-year floodplain. Overall, this alternative is *superior* to the proposed project in terms of hydrology and water quality.

Land Use and Planning

Neither the proposed project, nor this alternative, would result in the division of an established community as the project site is adjacent to existing residential development and has been planned for development in the city's general plan. Both the proposed project and this alternative would require a General Plan Amendment to avoid a conflict with the city's general plan as well as a request for a prezone to ensure consistency with the city's zoning ordinance. This alternative would result in similar land use conflicts with surrounding agricultural lands. This alternative is *similar* to the proposed project in terms of land use and planning.

Mineral Resources

The project site does not contain any known important mineral resources and does not contain any mineral resource extraction operations; therefore, neither the proposed project nor this alternative would have an affect on mineral resources. This alternative is *similar* to the proposed project in terms of mineral resources.

Noise

Fewer project site residents would be impacted by noise from State Route 99 and Avenue I3; however, these impacts would still be considered significant and would require mitigation similar to the proposed project, including sound walls along the northern and eastern boundaries of the site and certain construction limitations in Phase 5. Construction noise impacts on the surrounding area may be slightly reduced due to fewer units being constructed. Overall, this impact is *similar* to the proposed project in terms of noise.

Population and Housing

This alternative would result in the addition of approximately 2,653 new residents to the City of Madera. While this addition does constitute substantial population growth, it is less substantial than that of the proposed project estimated to be between 3,570 and 5,355. Similar to the proposed project, this alternative would also result in indirect population growth by extending infrastructure closer to other undeveloped areas, thereby potentially facilitating their future development. The project site currently contains only one residential unit; therefore, neither the proposed project nor this alternative would displace substantial numbers of people or existing housing. Overall, this alternative is *superior* to the proposed project in terms of population and housing.

Public Services

This alternative would result in an increased demand for police and fire protection services as well as increased public school enrollments; however, the reduced population under this alternative would lessen these impacts. In order to maintain the City of Madera Police Department's staffing ratio goals of 1.5 officer's per 1,000 residents under this alternative, the department would require 4 new officers. This is 1 to 4 officers less than that required by the proposed project. Because the existing Madera Fire Department stations are located too far away to adequately service the project site, this alternative would have a similar impact to fire protection services and would require similar mitigation. This alternative would result in approximately 599 new student enrollments, which is 206 to 610 fewer than the proposed project. Overall, this alternative is *superior* to the proposed project in terms of public services.

Recreation

This alternative would result in an increased demand for parks and recreational facilities; however, the reduced population under this alternative would lessen this impact. In order to comply with the city's parkland policy requiring a minimum of three acres of parkland per 1,000 residents, this alternative would require the creation of eight acres of park. This is between three and eight acres less than that required by the proposed project. This alternative is *superior* to the proposed project in terms of recreation.

Transportation/Traffic

This alternative would result in the addition of fewer residents to the area and would, therefore, result in fewer additional trips on the site and in the vicinity. Impacts to traffic and existing levels of service would be reduced compared to the proposed project. Impacts related to hazards, emergency access, and parking capacity would be similar to those of the proposed project. Overall, this impact would be *superior* to the proposed project in terms of transportation/traffic.

Utilities and Services Systems

This alternative would result in an increased demand for utilities and service systems including water, wastewater, solid waste, electricity and natural gas, and telecommunications. However,

these demands would be less than those of the proposed project as fewer new residents would be housed on the project site. Construction of on-site water and wastewater infrastructure would still be required and would be fully funded by the developers/land owners. Additionally, developers/land owners would contribute to the cost of off-site capital improvements related to utilities through the payment of developer's fees. Solid waste generated under this alternative would be less than under the proposed project; however, the local solid waste disposal site has adequate capacity to service the project site under either design scenario. This alternative is *similar* to the proposed project in terms of utilities and services systems.

4.5 Reduced Size Alternative

4.5.1 DESCRIPTION

This alternative consists of a project size reduction of 50 percent or approximately 750 residential units. A 50 percent project reduction would decrease the area proposed for development to approximately 125 acres with parcel sizes remaining between 3,000 and 6,000 square-feet. This scenario would maintain the level of density of the proposed project but would decrease the area of the project site. This alternative would result in a total of approximately 2,296 new area residents and 2.9 acres of commercial development.

This alternative would not fulfill certain of the project objectives, including:

- To provide a community that can be developed in an integrated fashion through a Specific Plan rather than through fragmented subdivision processes.

This alternative would result in an inefficient use of the project site by developing only half and leaving a small portion that could continue to be farmed. Instead, the owner of this remaining portion, which would be surrounded by urban development, would experience pressure to develop and may experience conflicts with nearby residences due to normal agricultural operations. This would likely result in fragmented development projects rather than one integrated, cohesive community.

- To create housing in compact urban forms adjacent to transit corridors so as to maximize use of transit and shorten commute times for City residents.

This alternative would not maximize the use of transit by positioning fewer residents adjacent to State Route 99. Additionally, a reduction in density in the project area may ultimately create pressure to develop other areas of unincorporated Madera County with residential uses, potentially placing residents farther from the city and major transportation corridors and lengthening commute times.

4.5.2 IMPACT ANALYSIS

The Reduced Size Alternative would significantly lessen several environmental impacts.

Aesthetics

This alternative would result in less land being converted from a rural/agricultural use to an urban/built up use and would, therefore, have a lesser impact on view sheds. Additionally, the existing visual character and quality of the site would be maintained on 50 percent of the project site. Neither the proposed project nor this alternative would result in impacts to views or visual resources within a scenic highway. This alternative is *superior* to the proposed project in terms of aesthetics.

Agriculture Resources

This alternative would result in the conversion of fewer acres of Important Farmland than the proposed project and would, therefore, lessen this impact. Neither this alternative nor the proposed project would conflict with a Williamson Act Contract; however, both would require a request for rezoning to ensure compliance with the City's zoning ordinance. This alternative would also have the potential for land use conflicts with surrounding agricultural and undeveloped lands; however, the reduced size would lessen this impact and make more extensive buffering possible. Overall, this impact is *superior* to the proposed project in terms of agriculture resources.

Air Quality

Similar to the proposed project, this alternative would result in the demolition of the existing structures on the project site and the potential release of hazardous airborne asbestos fibers. Also similar to the proposed project, this alternative would result in construction and operational activities that increase particulate matter and ozone precursor emissions. However, this alternative would require less construction and would result in fewer area and operational emissions due to a smaller number of new residents being introduced into the area. Although neither project design would result in a significant increase in carbon monoxide emissions, this alternative would further lessen this impact by resulting in fewer vehicle trips. This alternative would have less acreage zoned for neighborhood commercial development but would have the same potential for a new source of hazardous air pollutants from dry cleaning facilities. Cumulative air quality impacts would result from implementation of this alternative but at a smaller scale than the proposed project. Overall, this alternative is *superior* to the proposed project in terms of air quality.

Biological Resources

Neither this alternative nor the proposed project would have any significant impacts on biological resources with implementation of appropriate mitigation measures. Under this alternative, a smaller area would be converted to entirely urban uses; however, the project site does not contain any special-status species, riparian habitat, sensitive natural communities or federally recognized wetlands, so an impact to these resources would not occur under either scenario. The project site does contain a small grouping of trees that could potentially be used as nesting habitat for migratory birds although this is unlikely. Proper mitigation would reduce this impact to a level of insignificance. Neither this alternative nor the proposed project would

conflict with any local policies or ordinances protecting biological resources or with the provisions of an adopted Habitat Conservation Plan. Overall, this alternative is *similar* to the proposed project in terms of biological resources.

Cultural Resources

According to the Cultural Resource Assessment prepared for the proposed project, the project site does not contain any known cultural resources and the extensive cultivation of the area makes it unlikely that any unknown resources exist. Preconstruction and construction activities of both the proposed project and this alternative still have the potential to adversely affect such resources. However, this alternative would require less grading and other construction activities that have the potential to disturb unknown cultural resources; therefore, this alternative would have a lesser impact on cultural resources than the proposed project. This alternative is *superior* to the proposed project in terms of cultural resources.

Geology and Soils

According to the *Geotechnical Engineering Investigation and Geohazards Evaluation* report prepared for the proposed project, the project site is not located within an active fault trace or special studies earthquake fault zone and has a low potential for any seismic-related ground failure; therefore, this impact is similar and would require the same mitigation regardless of project density. This alternative would; however, require less grading and soil-disturbing activities that cause soil erosion and/or soil instability. Overall, this alternative is *superior* to the proposed project in terms of geology and soils.

Hazards and Hazardous Materials

This alternative would consist of the same basic uses (e.g., residential, parks, neighborhood commercial and public) and would, similar to the proposed project, not result in the routine transport, use or disposal of hazardous materials or wastes. The project site is not listed as a hazardous materials site under EPA's Superfund List nor as part of California's Cortese List, thereby eliminating any related impacts under both the proposed project and this alternative. The project site has been used for various agricultural uses and has some soil contamination from fertilizer and pesticide use. Similar to the proposed project, this alternative would require appropriate mitigation to reduce potential related impacts to future residences, visitors and employees on the project site. The site is not located in an area subject to wildland fires. Overall, this alternative is *similar* to the proposed project in terms of hazards and hazardous materials.

Hydrology and Water Quality

Under this alternative, construction activities would occur that could result in the violation of a water quality standard or waste discharge requirement; however, similar to the proposed project, appropriate mitigation including the preparation of a SWPPP and the implementation of BMPs leading to the issuance of a General Permit by the RWQCB would fully reduce this impact to a level of insignificance. Fewer residences would be constructed under this alternative and would

require less groundwater. Additionally, the decreased area to be developed would result in less impervious surfaces and less interference with groundwater recharge. Implementation of this alternative would change the existing drainage pattern on the project site and would require the construction of a storm drainage basin; however, less impervious surface results in less runoff and reduces this impact when compared to the proposed project. Neither this alternative nor the proposed project would place people or structures in a 100-year floodplain. Overall, this alternative is *superior* to the proposed project in terms of hydrology and water quality.

Land Use and Planning

Neither the proposed project nor this alternative would result in the division of an established community as the project site is adjacent to existing residential development and has been planned for development in the city's general plan. Both the proposed project and the alternative would require a General Plan Amendment to avoid a conflict with the city's general plan as well as a request for a prezone to ensure consistency with the city's zoning ordinance. This alternative would result in similar land use conflicts with surrounding agricultural lands. This alternative is *similar* to the proposed project in terms of land use and planning.

Mineral Resources

The project site does not contain any known important mineral resources and does not contain any mineral resource extraction operations. Therefore, neither the proposed project nor this alternative would have an affect on mineral resources. This alternative is *similar* to the proposed project in terms of mineral resources.

Noise

Fewer project site residents would be impacted by noise from State Route 99 and Avenue 13; however, these impacts would still be considered significant and would require mitigation similar to the proposed project, including sound walls along the northern and eastern boundaries of the site and certain construction limitations in Phase 5. Construction noise impacts on the surrounding area may be slightly reduced due to fewer units being constructed. Overall, this impact is *similar* to the proposed project.

Population and Housing

This alternative would result in a population gain of approximately 2,296 people as well as the construction of a maximum of 750 residential units. Substantial direct and indirect population growth would result from both the proposed project and this alternative through the construction of new housing and the extension of infrastructure to other undeveloped areas; however, this alternative would reduce these impacts by constructing significantly fewer housing units. Neither the proposed project nor this alternative would result in the displacement of substantial numbers of people or existing housing. Overall, this alternative is *superior* in terms of population and housing.

Public Services

Similar to the proposed project, this alternative would result in an increased demand for police and fire protection services as well as an increase in public school enrollments. This alternative would, however, result in a lesser impact on police protection services requiring nearly six fewer new police officers and associated equipment. The project site is located too far away from the existing fire station to maintain an adequate service level; therefore, regardless of the project size reduction, a new fire station and minimum staffing would still be required. The proposed project would result in approximately 841 new school enrollments while this alternative would result in 422, representing a 50 percent reduction and significantly lesser impacts to the local school system. Overall, this alternative is *superior* to the proposed project in terms of public services.

Recreation

This alternative would result in an increased demand for parks and recreational facilities; however, the reduced population under this alternative would lessen this impact. In order to comply with the city's parkland policy requiring a minimum of 3 acres of parkland per 1,000 residents, this alternative would require the creation of 5.6 acres of park. This is between 5 and 10 acres less than that required by the proposed project. This alternative is *superior* to the proposed project in terms of recreation.

Transportation/Traffic

This alternative would result in the addition of fewer residents to the area and would, therefore, result in fewer additional trips on the site and in the vicinity. Impacts to traffic and existing levels of service would be reduced compared to the proposed project. Impacts related to hazards, emergency access, and parking capacity would be similar to those of the proposed project. Overall, this impact would be *superior* to the proposed project in terms of transportation/traffic.

Utilities and Services Systems

Similar to the proposed project, this alternative would result in an increased demand for utilities and services systems including water, wastewater, solid waste, electricity and natural gas, and telecommunications. However, these demands would be less than those of the proposed project as fewer new residents would be housed on the project site. Construction of on-site water and wastewater infrastructure would still be required and would be fully funded by the developers/land owners. Additionally, developers/land owners would contribute to the cost of off-site capital improvements related to utilities through the payment of developer's fees. Solid waste generated under this alternative would be less than under the proposed project; however, the local solid waste disposal site has adequate capacity to the service the project site under either design scenario. This alternative is *similar* to the proposed project in terms of utilities and services systems.

4.6 Environmentally Superior Alternative

In accordance with the CEQA Guidelines Section 15126.6(d), this section compares the impacts of the four alternatives under consideration to those of the proposed project. Table 4-1 indicates whether each alternative would have a lesser, greater or unchanged impact compared to the proposed project for each of the issue areas studied in this DEIR. Per Section 15126.6(e)(2) of the CEQA Guidelines, if the no project alternative is the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives that were evaluated.

Table 4-1

Impact Comparison Summary between Proposed Project and Alternatives

Issue	No Project Alternative	Reduced Density Alternative	Reduced Size Alternative
Aesthetics	Lesser	Lesser	Lesser
Agriculture Resources	Lesser	Unchanged	Lesser
Air Quality	Lesser	Lesser	Lesser
Biological Resources	Lesser	Unchanged	Unchanged
Cultural Resources	Lesser	Lesser	Lesser
Geology and Soils	Lesser	Lesser	Lesser
Hazards and Hazardous Materials	Unchanged	Unchanged	Unchanged
Hydrology and Water Quality	Lesser	Lesser	Lesser
Land Use Planning	Lesser	Unchanged	Unchanged
Mineral Resources	Unchanged	Unchanged	Unchanged
Noise	Lesser	Unchanged	Unchanged
Population and Housing	Lesser	Lesser	Lesser
Public Services	Lesser	Lesser	Lesser
Recreation	Unchanged	Lesser	Lesser
Transportation/Traffic	Lesser	Lesser	Lesser
Utilities and Service Systems	Lesser	Unchanged	Unchanged
Number of Impacts Reduced	13	9	10
Number of Impacts Increased	0	0	0
Number of Impacts Unchanged	3	7	6

The No Project Alternative is the environmentally superior alternative because it would not result in the significant and unavoidable impacts on aesthetics, agriculture resources, air quality or population and housing. Additionally, it would eliminate the potentially significant impacts on all other environmental issue areas. Although the No Project Alternative is the environmentally superior project alternative, it does not meet any of the project objectives. In the event the No Project Alternative is identified as the environmentally superior alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives.

In this case, the Reduced Size Alternative is the environmentally superior alternative among the other alternatives. This alternative would reduce environmental impacts on aesthetics, agriculture

resources, air quality, cultural resources, geology and soils, hydrology and water quality, population and housing, public services and recreation. Overall, this alternative would have an environmental advantage over the proposed project. The Reduced Size Alternative would not, however, meet several of the project objectives as it would result in the construction of 750 fewer residential units and fewer than three acres of neighborhood commercial development. In addition, as noted previously in the discussion of the Reduced Size Alternative, this alternative would not result in an integrated, cohesive community; would not maximize the use of transit and would not shorten commutes.

CHAPTER FIVE

MANDATORY CEQA SECTIONS

CHAPTER FIVE MANDATORY CEQA SECTIONS

5.1 Effects Not Found to Be Significant

Section 15128 of the CEQA Guidelines requires that an EIR 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. An Initial Study was not prepared for this project; therefore, all issues were addressed in this Draft EIR. Based on the analysis contained in Chapter Three of this Draft EIR, the following impacts were found not to be significant.

AESTHETICS

- Impact #3.1-1: Have a substantial adverse effect on a scenic vista.
- Impact #3.1-2: Substantially damage scenic resources including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.
- Impact #3.1-4: Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area.

AGRICULTURE RESOURCES

- Impact #3.2-2: Conflict with a Williamson Act contract or agricultural zoning.
- Impact #3.2-3: Indirect conversion of surrounding Important Farmland to non-agricultural use.

AIR QUALITY

- Impact #3.3-5: Increased carbon monoxide levels from project traffic.
- Impact #3.3-6: Creation of a new source of hazardous air pollutants (HAPs).
- Impact #3.3-7: Exposure of sensitive receptors to sources of frequent objectionable odors.

BIOLOGICAL RESOURCES

- Impact #3.4-1: Substantial adverse impacts on candidate, special-status or sensitive species.
- Impact #3.4-2: Substantial adverse affect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations or by the CDFG or USFWS.

Impact #3.4-3: Substantial adverse affect on federally protected wetlands through direct removal, filling, hydrological interruption or other means.

Impact #3.4-6: Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional or state habitat conservation plan.

CULTURAL RESOURCES

None

GEOLOGY AND SOILS

None

HAZARDS AND HAZARDOUS MATERIALS

Impact #3.7-1: Routine transport, use or disposal of hazardous materials or wastes.

Impact #3.7-2: Listing as a hazardous material site.

Impact #3.7-4: Hazards from wildland fires.

HYDROLOGY AND WATER QUALITY

Impact #3.8-1: Violate any water quality standards or waste discharge requirements.

Impact #3.8-2: Depletion of groundwater supplies or interference with groundwater recharge.

Impact #3.8-3: Change the existing drainage pattern of the project area.

Impact #3.8-4: Place people or structures within a 100-year floodplain.

LAND USE AND PLANNING

Impact #3.9-1: Physically divide an established community.

Impact #3.9-2: Conflict with an applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Impact #3.9-3: Create land use conflicts with adjacent properties.

MINERAL RESOURCES

Impact #3.10-1: Adverse effect on the availability of a known mineral resource of value to the region and/or residents of the State.

Impact #3.10-2: Adverse effect on the availability of a mineral resource recovery site.

NOISE

None

POPULATION AND HOUSING

Impact 3.12-2: Indirectly induce substantial population growth in the Madera area.

Impact 3.12-3: Displace substantial numbers of people and/or existing housing, thereby necessitating the construction of replacement housing elsewhere.

PUBLIC SERVICES

Impact #3.13-1 Expanded need for staff, vehicles, and equipment to adequately provide police protection services to the project site.

Impact #3.13-2 Expanded need for staff, vehicles, and equipment to adequately provide fire protection services to the project site.

RECREATION

Impact #3.14-1: Increased use of parks and other recreational facilities as a result of increased population from the proposed project.

TRANSPORTATION/TRAFFIC

Impact #3.15-3: 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.

Impact #3.15-4: Substantially increase hazards due to a design feature or incompatible uses.

Impact #3.15-5: Result in inadequate emergency access.

Impact #3.15-6: Result in inadequate parking capacity.

UTILITIES AND SERVICES SYSTEMS

Impact #3.16-3: Increase in demand for solid waste services.

Impact #3.16-4: Impacts resulting from construction of off-site utilities.

5.2 Significant Environmental Effects Requiring Mitigation

Multiple environmental impacts have been identified which can be reduced to a level of less than significance upon incorporation of mitigation measures. These impacts are listed below. Refer to Chapter Three of the Draft EIR for a full analysis of impacts and mitigation measures.

AESTHETICS

None

AGRICULTURE RESOURCES

None

AIR QUALITY

- Impact #3.3-1: Adverse affects related to the release of airborne asbestos fibers during demolition of existing structures on the project site.
- Impact #3.3-2: Adverse affects related to the removal and disposal of existing vineyards.
- Impact #3.3-3: Increased emissions of particulate matter and ozone precursors during project construction phase.
- Impact #3.3-4: Increased emissions of particulate matter and ozone precursors during project operation phase.

BIOLOGICAL RESOURCES

- 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.
- Impact #3.4-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

CULTURAL RESOURCES

- Impact #3.5-1 Implementation of the proposed project may disturb or destroy buried cultural resources (archaeological, paleontological or human remains) within the project site.

GEOLOGY AND SOILS

- Impact #3.6-1 Expose people or structures to potential substantial adverse effects from fault rupture, seismic ground shaking, and seismic-related ground failure.

Impact #3.6-2 Result in substantial soil erosion or soil instability.

HAZARDS AND HAZARDOUS MATERIALS

Impact #3.7-3: Hazards from contaminated soil.

HYDROLOGY AND WATER QUALITY

None

LAND USE AND PLANNING

None

MINERAL RESOURCES

None

NOISE

Impact #3.11-1: Development within the project site will be exposed to exterior traffic noise levels which exceed the City of Madera General Plan Noise Element exterior noise level criteria.

Impact #3.11-2: Development within the project site may be exposed to interior State Route 99 traffic noise levels which exceed the Madera County General Plan Noise Element criterion of 45 dB Ldn.

Impact #3.11-3: Activities associated with construction will result in elevated noise levels within the immediate area.

POPULATION AND HOUSING

None

PUBLIC SERVICES

Impact #3.13-3 Potential impact on schools related to increased population and school enrollment from the proposed development.

RECREATION

None

TRANSPORTATION/TRAFFIC

- Impact #3.15-1 Increase traffic in relation to the existing traffic load and capacity of the street system and/or individually exceed a level of service standard established by the county congestion management agency for designated roads or highways.

UTILITIES AND SERVICES SYSTEMS

- Impact #3.16-1: Increase in demand for water supply and construction of additional water supply infrastructure.
- Impact #3.16-2: Increase in demand for wastewater service and construction of additional wastewater infrastructure.

5.3 Significant Environmental Effects That Cannot Be Avoided

Section 15126.2(b) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that cannot be reduced to a level of insignificance. Where there are impacts that cannot be alleviated with the implementation of feasible mitigation measure(s), their implications and the reasons why the project is being proposed notwithstanding their effect, should be described.

The environmental impacts that will result from the proposed project are discussed in detail in Chapter Three of this Draft EIR. The following is a brief review of the impacts that have been found to be significant and unavoidable.

AESTHETICS

- Impact #3.1-3: Substantially degrade the existing visual character or quality of the site and its surroundings.

AGRICULTURE RESOURCES

- Impact #3.2-1: Conversion of Important Farmland to non-agricultural use.

AIR QUALITY

- Impact #3.3-7: Result in cumulative air quality impacts.

BIOLOGICAL RESOURCES

None

CULTURAL RESOURCES

None

GEOLOGY AND SOILS

None

HAZARDS AND HAZARDOUS MATERIALS

None

HYDROLOGY AND WATER QUALITY

None

LAND USE AND PLANNING

None

MINERAL RESOURCES

None

NOISE

None

POPULATION AND HOUSING

Impact #3.12-1: Directly induce substantial population growth in the Madera area.

PUBLIC SERVICES

None

RECREATION

None

TRANSPORTATION/TRAFFIC

Impact #3.15-2 Potential to cumulatively exceed a level of service standard established by the county congestion management agency for designated roads or highways.

UTILITIES AND SERVICES SYSTEMS

None

5.4 Irreversible Impacts

Section 15126.2(c) of the CEQA Guidelines requires a discussion of significant and irreversible changes that would be caused by the proposed project if implemented. The use of non-renewable resources during a project is irreversible when a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary and secondary impacts must also be considered, as well as the possibility of environmental accidents and commitments incurred by future generations.

AESTHETICS

The project site is currently under agricultural production as is land to the south and east. Land to the north of the site is comprised of rural ranchette styles homes. These land uses together give the area a rural visual character. Project implementation will degrade the visual quality of the project site. This constitutes a significant and irreversible environmental change as the existing visual quality of the project site will be irreversibly changed by development.

AGRICULTURE RESOURCES

The proposed project will convert farmland (148 acres of land classified as Prime Farmland if Irrigated and 104 acres of land classified as Farmland of Statewide Importance) to urban uses, which will fully commit the land to a non-agricultural use. This constitutes a significant and irreversible environmental change as the farmland will be removed from agricultural use in perpetuity.

AIR QUALITY

Implementation of the proposed project will result in increased emissions of particulate matter, ozone precursors and carbon monoxide due to increased vehicles trips in and around the project site. This impact is considered irreversible as it will permanently expand the city limits and increase the number of residents and associated vehicles trips in the region. Additionally, the project will develop a new commercial site and elementary school attracting new visitors from around the project site, thereby increasing vehicles trips and related emissions.

BIOLOGICAL RESOURCES

None

CULTURAL RESOURCES

None

GEOLOGY AND SOILS

None

HAZARDS AND HAZARDOUS MATERIALS

None

HYDROLOGY AND WATER QUALITY

None

LAND USE AND PLANNING

None

MINERAL RESOURCES

None

NOISE

None

POPULATION AND HOUSING

Implementation of the proposed project will result in substantial direct population growth in the Madera area through the construction of up to 1,500 new single family residential units. Assuming maximum build-out with 30 percent medium density residential units, the new community is projected to house approximately 4,590 new residents. This impact is considered irreversible as the city limits will be permanently expanded and permanent residential units will be constructed.

PUBLIC SERVICES

None

RECREATION

None

TRANSPORTATION/TRAFFIC

Implementation of the proposed project will result in a substantial increase in vehicle trips on the city's roadway system including State Route 99. This impact is considered irreversible as the project will permanently add residents to the city's population, thereby permanently increasing vehicle trips. Additionally, the project will develop a new commercial site and elementary school, attracting new visitors from around the project site and further increasing vehicles trips.

UTILITIES AND SERVICES SYSTEMS

None

5.5 Cumulative Impacts

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Section 15064(h) defines a cumulative impact as "cumulatively considerable" if "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."

Pursuant to Section 15130(b)(1), the "list method" will be used to discuss cumulative impacts of the proposed project in which "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" is created. Table 5-1 below provides a list of development projects surrounding the project site consistent with the cumulative analysis contained in the traffic study prepared for this project. No other known projects are located near the project site either in the City or County of Madera that will create cumulative impacts in conjunction with the proposed project. These projects were used in each of the cumulative analyses summarized below. The location of these projects is illustrated in Figure 5-1.

Table 5-1
Surrounding Development Projects

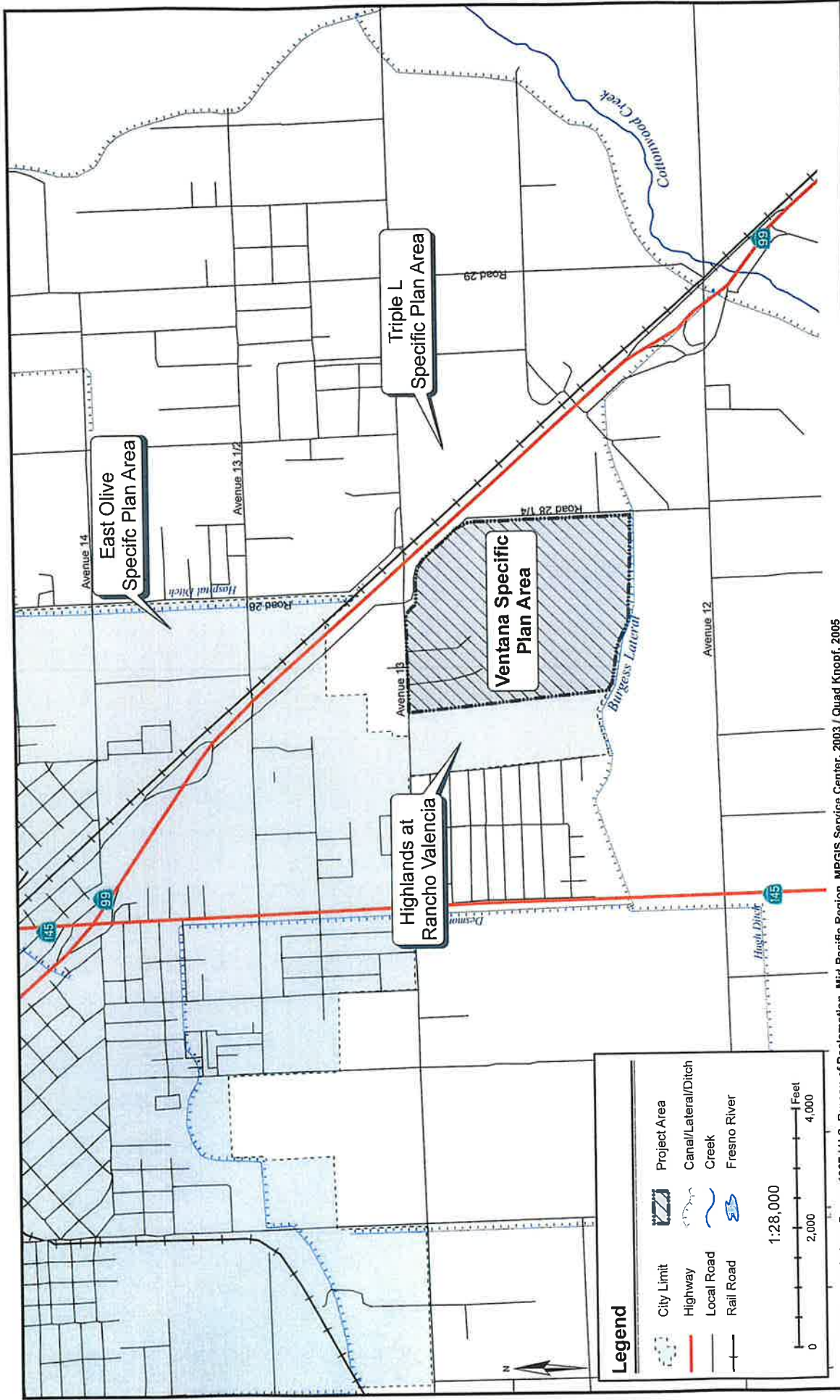
Project Name	Type of Development	Residential Units	Commercial Acreage
Highlands at Rancho Valencia	Residential	352	0
East Olive Specific Plan	Mixed Use	619	0
Triple L Specific Plan	Mixed Use	920	25

Source: City of Madera Planning Department 2005; *Traffic Study for the Ventana Specific Plan/Annexation* 2005

Development of the projects identified above in combination with the proposed project has the potential to result in cumulatively considerable impacts to aesthetics, agriculture resources, air quality and population and housing, as described more fully below.

AESTHETICS

Implementation of the proposed project will result in a significant degradation of the existing visual character and quality of the project site and its surroundings. In conjunction with other development projects, this impact will become greater as the primarily rural, agricultural character of the area becomes urbanized. The project seeks to reduce its contribution to this cumulatively considerable impact through compliance with City design review standards and planned unit development standards, all of which are intended to ensure well-designed harmonious and visually attractive development. Nonetheless, this impact on aesthetics is considered cumulatively considerable.



Source: Teale GIS Solutions Group, 1997 / U.S. Bureau of Reclamation, Mid-Pacific Region, MPGIS Service Center, 2003 / Quad Knopf, 2005

AGRICULTURE RESOURCES

Implementation of the proposed project will result in the conversion of a significant amount of Important Farmland to non-agricultural uses. In conjunction with other development projects outside the urban area, this impact will become greater as more agricultural land is converted for urban uses. No mitigation is available to mitigate this project's permanent conversion of agricultural land so as to lessen its contribution to this cumulatively considerable impact. This impact on agricultural resources is considered cumulatively considerable.

AIR QUALITY

Implementation of the proposed project will result in a significant increase in emissions of particulate matter and ozone precursors during the operational phase of the proposed project. The San Joaquin Valley Air Basin is nonattainment for both of these air pollutants and the proposed project will worsen this pre-existing violation. Additionally, in conjunction with other development projects in the area, this impact will become greater as ambient air quality worsens. While the project will include mitigation in the form of design features designed to encourage bicycle use and foot traffic (including to and from commercial and educational uses within the project) and, thereby reduce its contribution to this cumulatively considerable impact, the impact is nonetheless considered cumulatively considerable.

BIOLOGICAL RESOURCES

Implementation of the proposed project will not result in any significant adverse impacts to biological resources in the area. The project site is currently under agricultural production and does not contain any riparian habitat or wetlands and does not provide adequate habitat for any sensitive species. Trees on the project site may have the potential to provide nesting habitat to migratory birds; however, this impact can be fully mitigated by performing a raptor survey on the project site and implementing appropriate mitigation measures. Because the proposed project will not result in any significant impacts on biological resources it is not considered cumulatively considerable in terms of biological resources.

CULTURAL RESOURCES

Implementation of the proposed project has the potential to disrupt or destroy cultural resources on the project site; however, mitigation measures contained in this Draft EIR will reduce this potential impact to a level of insignificance. Furthermore, implementation of other proposed development projects will not increase this impact. Therefore, implementation of the proposed project will not result in a cumulatively considerable impact on cultural resources.

GEOLOGY AND SOILS

Implementation of the proposed project has the potential to expose people or structures to fault rupture, seismic ground shaking, and seismic-related ground failure. Additionally, implementation has the potential to result in substantial soil erosion and soil instability. However, implementation of mitigation measures provided in this Draft EIR will reduce these

potential impacts to a level of insignificance; therefore, implementation of the proposed project will not result in a cumulatively considerable impact on geology and soils.

HAZARDS AND HAZARDOUS MATERIALS

Implementation of the proposed project will not result in any significant impacts and will, therefore, not have a cumulatively considerable impact on hazards or hazardous materials.

HYDROLOGY AND WATER QUALITY

Implementation of the proposed project has the potential to increase runoff resulting in on-site and off-site flooding as well as water quality degradation from sediment. However, these impacts have been reduced to a level of insignificance with the preparation of a SWPPP and erosion control plan and the application of BMPs to prevent construction-related erosion and to protect natural waterways during operation. The Water Supply Assessment indicates that the Madera subbasin is in an overdraft condition; however, the project's incremental contribution is not significant. The project will be required to adhere to the Water Shortage Contingency Plan. In addition, the 1997 Water System Master Plan identified several options to acquire surface and reclaimed water to supplement groundwater supplies. When considered with all of the potential projects in the vicinity, and in accordance with CEQA Guidelines Section 15064(h)(3) and Section 15130, the effects of the project will not be cumulatively considerable. All other potential impacts were determined to be less than significant; therefore, the proposed project will not result in a cumulatively considerable impact on hydrology and water quality.

LAND USE AND PLANNING

Implementation of the proposed project will not result in any significant impacts and will, therefore, not have a cumulatively considerable impact on land use and planning.

MINERAL RESOURCES

Implementation of the proposed project will not result in any significant impacts and will, therefore, not have a cumulatively considerable impact on mineral resources.

NOISE

Implementation of the proposed project has the potential to result in exposure of residents to significant levels of interior and exterior noise from State Route 99 and Avenue 13; however, these impacts can be reduced to a level of insignificance through the construction of sound walls, construction constraints in some areas, and/or the use of certain construction techniques. Additionally, implementation of this project has the potential to expose residents surrounding the site to significant levels of noise from construction activities. This impact can also be mitigated to a level of insignificance through the use of mufflers and through restricting the hours of construction activities. Impacts on noise are not considered to be cumulatively considerable.

POPULATION AND HOUSING

Implementation of the proposed project will result in significant direct population growth in the area by resulting in the construction of up to 1,500 residential units. In conjunction with other development projects in the area, this impact will become greater as the population continues to increase. This impact on population and housing is considered cumulatively considerable.

PUBLIC SERVICES

Implementation of the proposed project will significantly increase regional demand for police and fire protection as well as educational and recreational services. However, mitigation measures provided in this Draft EIR will reduce these impacts to a level of insignificance through the payment of developer's fees, annexation into the City's community facilities district, and the construction of several acres of parkland. Impacts on public services are not cumulatively considerable.

RECREATION

Implementation of the proposed project will not result in any significant impacts and will, therefore, not have a cumulatively considerable impact on recreation.

TRANSPORTATION/TRAFFIC

Implementation of the proposed project will significantly increase vehicle trips on the project site and the surrounding area. In conjunction with other development projects in the area, this impact will become greater as the city's population and associated vehicle trips continues to increase. Although several capitol improvements are planned for the intersections and roadways that will be impacted by the proposed project and these improvements will improve traffic conditions to an acceptable level, there is not a guaranteed source of funding identified yet; therefore this impact is considered cumulatively considerable.

UTILITIES AND SERVICES SYSTEMS

Implementation of the proposed project will not result in any significant impacts and will, therefore, not have a cumulatively considerable impact on utilities and service systems.

5.6 Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires a discussion of growth-inducing impacts of a proposed project. Growth inducement occurs when a project will, either directly or indirectly, foster economic or population growth, construct additional housing, remove obstacles to population growth, increase burdens on existing community service facilities to the extent that new facilities will be needed, or encourage other activities that cause significant environmental effects. Note that it must not be assumed that growth is necessarily beneficial, detrimental, or of little significance to the environment.

DIRECT GROWTH INDUCEMENT

Direct population growth occurs when a project results in the construction of a substantial amount of new housing or otherwise directly causes a substantial increase in the city's population.

The proposed project will directly induce population growth by constructing up to 1,500 new residential units with approximately 30 percent medium density units and 70 percent low density units. According to the City's infrastructure master plans, medium density residential units will house approximately 2.5 individuals while low density residential units will house 3.3 individuals. These averages result in a total population increase of approximately 4,590 at build out of the proposed project. These averages result in a total population increase of approximately 4,590 at build out of the proposed project which is anticipated to occur within 5 to 10 years. This population increase represents a 7.5 percent increase to the city's 2010 population and a 5 percent increase to the city's 2020 population as projected in the general plan. This direct growth inducement cannot be mitigated; therefore, the proposed project will result in significant direct growth-inducing impacts.

In addition, the commercial and educational uses proposed in connection with the project will create jobs. Those jobs associated with the proposed commercial uses will not be expected to result in a significant influx of non-local population to the city, given that the majority of these jobs will be in the retail and services sectors and will not require specialized skills. It will, therefore, be reasonable to assume that these jobs will be filled by persons already residing in the area who are unemployed or will like to change their commute. While those jobs created by the proposed educational uses are slightly more specialized, they too can be filled by the new residents expected to be attracted to the area through development of the project site as well as the nearby planned and approved development identified in Section 5.5, above.

INDIRECT GROWTH INDUCEMENT

Indirect growth inducement occurs when a project will extend infrastructure to undeveloped areas, remove obstacles to population growth or otherwise encourage activities that cause significant environmental effects.

The proposed project may indirectly induce population growth and future development by extending infrastructure to that portion of the annexation area north of Avenue 13. In particular, the extension of utilities to the annexation area located north of Avenue 13 can create pressure for future intensification of land uses on these parcels, which are currently low density ranchettes. According to the City's water, sewer, and storm drainage master plans, both the infrastructure improvements serving areas north of Avenue 13 and those serving the project site have been planned in anticipation of potential future development of these lands surrounding the project site. While there are not currently any development proposals for the lands north of Avenue 13 and the City retains discretion with respect to any future applications, the provision of water and wastewater services may trigger future growth on these lands.

The proposed project may also indirectly induce population growth and future development through extension of the project site infrastructure, thus bringing services closer to undeveloped adjacent lands currently within the County jurisdiction. Construction of a new urban development may potentially place pressure on neighboring agricultural land owners to develop their land. However, the current city and county general plans designate their nearby undeveloped areas for agricultural use and there are no pending applications for development on the parcels located further away from the city center than the proposed project (except those identified in Section 5.5 above). It would, therefore, be speculative to try to predict where or at what time such pressures for additional development outside of the existing City limits may occur—or whether the City of the Madera Local Agency Formation Commission will respond to such pressures by allowing additional development. It is worth noting; however, that the City's water, sewer and storm drainage system master plans include the infrastructure improvements and extensions that will support the proposed project in apparent anticipation of future development in the project site and surrounding lands.

