# Calaveras County
# Draft General Plan

SCH# 2017012043

## Draft
## Environmental Impact Report

### Volume I of II
### Chapters 1 - 8 & Appendices A & B

Prepared for
Calaveras County

June 2018

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# Calaveras County Draft General Plan
# Draft Environmental Impact Report

SCH# 2017012043

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# 1 INTRODUCTION

## 1.1 Introduction

The Calaveras County Draft General Plan Environmental Impact Report (EIR) was prepared in accordance with the California Environmental Quality Act (CEQA), as amended. Calaveras County is the lead agency for the environmental review of the Calaveras County Draft General Plan (proposed project) evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of the project, (b) identify possible ways to minimize the significant adverse environmental effects, and (c) describe reasonable and feasible project alternatives that reduce environmental effects. The lead agency shall consider the information in the EIR along with other written information, maps, or data that may be presented to the lead agency.

## 1.2 Project Description

Calaveras County encompasses approximately 662,791 acres in the central Sierra Nevada region of California. The County is bordered by Amador County to the north, Alpine County to the east, Tuolumne County to the south, and San Joaquin and Stanislaus counties to the west.

The proposed project consists of an update of the County's General Plan. The Draft General Plan is intended to reflect the community's expressions of quality of life and community values; satisfy the mandates of State law; and serve as the basis for community decision-making regarding the designations of land uses and the allocation of resources. The Draft General Plan is organized into an Introduction chapter and various elements. A total of eight elements, which include Land Use, Circulation, Resource Production, Conservation and Open Space, Noise, Safety, Public Facilities and Services, and Community Planning, plus the adopted 2015 Housing Element are included in the Draft General Plan. All the Draft General Plan elements include goals and policies carefully drafted to guide successful implementation of the Draft General Plan. A detailed project description is provided in Chapter 3, Project Description, of this EIR.

As noted in Chapter 3, estimated buildout of the Draft General Plan could accommodate a population of 117,045 persons and a total of 48,567 residential units. The buildout estimate is known as "carrying capacity" and represents how much development could potentially occur within the County over the life of the Draft General Plan based on the Draft General Plan Land Use Map. It should be noted that the calculated carrying capacity is substantially greater than the actual population and housing growth projections for the County.

## 1.3 PURPOSE OF THE EIR

As provided in the CEQA Guidelines, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues.

CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines, Section 15378[a]). As a document intended to guide future development throughout unincorporated Calaveras County, the Draft General Plan constitutes a project with the potential to result in significant environmental effects.

The EIR is an informational document that apprises decision makers and the general public of the potential significant environmental effects of a proposed project. An EIR must describe a reasonable range of feasible alternatives to the project and identify possible means to minimize the significant effects. The lead agency, Calaveras County, is required to consider the information in the EIR, along with any other available information, in deciding whether to approve the Draft General Plan. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth-inducing impacts, and cumulative impacts.

## 1.4 TYPE OF DOCUMENT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a program-level EIR, as allowed by CEQA Section 15168. CEQA requires the preparation of a program-level EIR to discuss a series of actions, rather than an individual action, that can be characterized as one large project. A program-level analysis allows for exhaustive consideration of effects and alternatives beyond the format typically set for an individual action, consideration of cumulative impacts, and a broad effect on applicable policy during the early stages of the project, when the lead agency has more flexibility to deal with basic problems or cumulative impacts. As a program-level document, this EIR will identify broad impacts and provide mitigation measures that would need to be implemented with future applications under the Draft General Plan. It should be noted that because the proposed Draft General Plan anticipates development across a large geographical area over a long period of time (buildout 2035), the analysis presented throughout this EIR is inherently cumulative.

## 1.5 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Planning and Research (OPR), which will ensure that responsible State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Applicable agencies have 30

days to respond to the NOP indicating, at a minimum, reasonable alternatives and mitigation measures they wish to have explored in the EIR and whether the agency will be a responsible agency or a trustee agency for the project. The NOP for the proposed project was prepared and released for public review from January 18, 2017 to February 16, 2017 (see Appendix A to this EIR for the NOP), and a public scoping meeting was held on January 30, 2017. Comments received on the NOP are described below in this chapter and presented in their entirety in Appendix B to this EIR.

When a Draft EIR is completed, a notice of completion is filed with the OPR and a public notice is published to inform interested parties that the EIR is available for agency and/or public review. The public notice also provides information regarding the location of copies of the EIR and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a period of 45 days, during which time reviewers may make comments. The lead agency must evaluate and respond to comments in writing, describing the disposition of any significant environmental issues raised and explaining in detail the reasons for not accepting any specific comments concerning major environmental issues. If comments received result in the addition of significant new information to a Draft EIR, after public notice is given, the revised Draft EIR or affected chapters must be recirculated for another public review period with related comments and responses.

Once the lead agency is satisfied that the EIR has adequately addressed the pertinent issues in compliance with CEQA, a Final EIR will be prepared and made available for review by the public or commenting agencies. Before approving a project, the lead agency shall certify that the Final EIR has been completed in compliance with CEQA, has been presented to the decision-making body of the lead agency, has been reviewed and considered by that body, and that the Final EIR reflects the lead agency's independent judgment and analysis.

The Findings of Fact prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA.

Based on these findings, the lead agency may also prepare a Statement of Overriding Considerations (Statement) as part of the project approval process. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a statement explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

## 1.6 Scope of the EIR

State CEQA Guidelines Section 15126.2(a) states, in pertinent part:

> An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

As noted above, the NOP for the proposed project was prepared and released for public review on January 18, 2017. Pursuant to the aforementioned guidelines, the scope of this EIR addresses specific issues and concerns identified as potentially significant, as determined based on the review of comments received on the NOP and review of testimony received at the scoping hearing. This EIR evaluates the existing environmental setting in the vicinity of the project site at the time the NOP was released for each issue area, analyzes potential impacts on those resources due to the proposed project, evaluates project alternatives, and identifies mitigation measures that could avoid or reduce the magnitude of those impacts. Resources identified for study in this EIR include the following:

- Aesthetics;
- Agricultural, Forest, and Mineral Resources
- Air Quality and Greenhouse Gas Emissions;
- Biological Resources:
- Cultural Resources;
- Geology, Soils, and Seismicity;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise and Vibration;
- Population and Housing;
- Public Services and Utilities; and
- Transportation and Circulation.

The evaluation of potential impacts is presented on a resource-by-resource basis in Sections 4.1 through 4.13 of this EIR. Each technical section is divided into the following four segments: Introduction, Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures. Impacts that are determined to be significant in Chapter 4, for which feasible mitigation measures are not available to reduce the impacts to a less-than-significant level, are identified as significant and unavoidable. Chapter 5 of this EIR presents a discussion and comprehensive list of all significant and unavoidable impacts identified in Sections 4.1 through 4.13.

## 1.7 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

Calaveras County received 11 comment letters during the open comment period on the NOP for the proposed project, as well as verbal comments during the NOP scoping meeting held for public input on the project on January 30, 2017. A copy of each letter is provided in Appendix B to this EIR. The following letters were authored by representatives of State and local agencies and other interested parties:

- Baker, Carl – Department of Transportation
- Bartlett, Tina – California Department of Fish and Wildlife
- Broderick, Peter J. – Attorney at Law representing the Central Sierra Environmental Resource Center
- Cavanah, Patrick – Stanislaus County Environmental Review Committee

- Haigh, William – Bureau of Land Management
- Rehnstrom, David J. – East Bay Municipal Utility District
- Reidy, Daniel F. – Law Offices of Daniel F. Reidy
- Souza, Sharaya – Native American Heritage Commission
- Tadlock, Stephanie – Central Valley Regional Water Quality Control Board
- Tattersall, Eric – U.S. Fish and Wildlife Service
- Various contributors – The Calaveras Planning Coalition

The following list, categorized by issue, summarizes the comments related to the scope of the EIR provided in the NOP comment letters and verbal comments received at the NOP scoping meeting:

| | |
|---|---|
| **Project Description** (*c.f.* Chapter 3) | Concerns related to the following issues:<br>• Objectives<br>• Sufficient project description to allow for proper analysis throughout the EIR<br>• Justification for proposed Land Use Map given population growth projections |
| **Aesthetics** (*c.f.* Section 4.1) | Concerns related to the following issues:<br>• Impacts of new development on the rural character of the County |
| **Agricultural, Forest, and Mineral Resources** (*c.f.* Section 4.2) | Concerns related to the following issues:<br>• Potential conversion of agricultural lands<br>• Cumulative land use and agricultural impacts<br>• Evaluation of "buffer zones" needed between agricultural and urban uses<br>• Orderly growth of existing communities near agricultural land<br>• Suction dredge mining restrictions |
| **Air Quality and Greenhouse Gas Emissions** (*c.f.* Section 4.3) | Concerns related to the following issues:<br>• Cumulative impacts due to greenhouse gas (GHG) emissions<br>• Effects of mining and hauling activities<br>• Incorporation of California Air Resources Board measures to mitigate for greenhouse gasses<br>• Mitigation for GHG emissions from future development should be integrated with general plan programs to implement AB 32, SB 32, and SB 375<br>• Total vehicle miles travelled within the County considered as a contributor to GHG emissions |
| **Biological Resources** (*c.f.* Section 4.4) | Concerns related to the following issues:<br>• Impacts to riparian and terrestrial habitats, including habitats for sensitive species |

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| | • Impacts to jurisdictional waterways<br>• Restrictions to suction dredge mining<br>• Baseline conditions should reference existing conditions in the County, and not buildout of the previously adopted County General Plan<br>• California Natural Diversity Database (CNDDB) should be consulted<br>• Impacts to Chinese Camp brodiaea |
| **Cultural Resources** (*c.f.* Section 4.5) | Concerns related to the following issues:<br>• Impacts to tribal cultural resources |
| **Geology, Soils, and Seismicity** (*c.f.* Section 4.6) | Concerns related to the following issues:<br>• Impacts related to earthquake hazards |
| **Hazards and Hazardous Materials** (*c.f.* Section 4.7) | Concerns related to the following issues:<br>• Health hazards associated with existing mine tailings |
| **Hydrology and Water Quality** (*c.f.* Section 4.8) | Concerns related to the following issues:<br>• Coverage under the Construction General Permit for stormwater discharges<br>• Consistency with the Basin Plan for the Sacramento River Basin and the San Joaquin River Basin |
| **Land Use and Planning** (*c.f.* Section 4.9) | Concerns related to the following issues:<br>• Direct growth to developed areas as a result of construction of infrastructure, including roads |
| **Noise and Vibration** (*c.f.* Section 4.10) | Concerns related to the following issues:<br>• Increases in ambient noise associated with future development |
| **Population and Housing** (*c.f.* Section 4.11) | Concerns related to the following issues:<br>• Impacts to the jobs-to-housing ratio in the region<br>• Impacts related to job loss from the conversion of agricultural lands |
| **Public Services and Utilities** (*c.f.* Section 4.12) | Concerns related to the following issues:<br>• The need to analyze Calaveras County services and infrastructure<br>• Impacts related to schools<br>• Increased demand for police, jails, public administration, and other public services<br>• Incorporation of alternative energy sources for the project<br>• Impacts to the East Bay Municipal Utility District Mokelumne Aqueducts<br>• Water quality and availability within the County<br>• Impacts to groundwater supply |

| | |
|---|---|
| **Transportation and Circulation** (*c.f.* Section 4.13) | Concerns related to the following issues:<br>• Stress on County roads and State highways related to Butte Fire Road damage<br>• Potential construction of new access road for tanker trucks travelling to and from Pardee Reservoir<br>• Traffic impact fee programs as mitigation<br>• Proposed Murphys Center Turn Lane project on State Route 4 should be modeled to assess the Level of Service (LOS) occurring under buildout of the Draft General Plan<br>• Traffic impacts on County roadways<br>• Compliance with Senate Bill 375 regarding regional transportation and planning<br>• Mining hauling safety |
| **Cumulative Impacts and Other CEQA Sections** (*c.f.* Chapter 5) | Concerns related to the following issues:<br>• Reasonably foreseeable growth inducement |
| **Alternatives** (*c.f.* Chapter 6) | Concerns related to the following issues:<br>• "Rural Character – Moderate Growth Alternative" should be considered |

The preceding issues are addressed in this EIR, in the relevant sections identified in the first column.

## 1.8 ORGANIZATION OF THE EIR

The Calaveras County Draft General Plan EIR is organized into the following chapters:

**Chapter 1 – Introduction**
Provides an introduction and overview describing the intended use of the EIR and the review and certification process, as well as summaries of the chapters included in the EIR and summaries of the potential environmental resources impacted by the project.

**Chapter 2 – Executive Summary**
Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation. Acknowledges alternatives that would reduce or avoid significant impacts.

**Chapter 3 – Project Description**
Provides a detailed description of the Draft General Plan, including the location and setting of the County, the General Plan process, project objectives, buildout projections, organization of the Draft General Plan, and project approvals and subsequent actions.

**Chapter 4 – Environmental Setting, Impacts, and Mitigation**
Contains program-level analyses of environmental issue areas associated with the proposed project. Each technical section of Chapter 4 contains an introduction and description of the existing setting of the project site, identifies impacts, and recommends appropriate mitigation measures.

**Chapter 5 – Cumulative Impacts and Other CEQA Sections**
Provides discussions required by CEQA regarding impacts that would result from the proposed project, including analysis of cumulative impacts, potential growth-inducing impacts, energy impacts, significant and unavoidable impacts, and significant irreversible changes to the environment.

**Chapter 6 – Alternatives Analysis**
Describes the alternatives to the proposed project, the respective environmental effects of the alternatives, and a determination of the environmentally superior alternative.

**Chapter 7 – References**
Provides bibliographic information for all references and resources cited.

**Chapter 8 – EIR Authors and Persons Consulted**
Lists report authors that provided technical assistance in the preparation and review of the EIR.

**Appendices**
Includes the NOP, NOP comments received, and additional technical information.

# 2 EXECUTIVE SUMMARY

## 2.1 INTRODUCTION

The Executive Summary chapter of the EIR provides an overview of the Calaveras County Draft General Plan and summarizes the conclusions of the environmental analysis, provided in detail in Chapters 4.1 through 4.13. In addition, this chapter summarizes the alternatives to the proposed project that are described in Chapter 6, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1, at the end of this chapter, provides a summary of the environmental effects of the proposed project identified in Chapters 4.1 through 4.13. The table contains the environmental impacts, the significance of the impacts for the proposed project, the proposed mitigation measures, and the significance of the impacts after the mitigation measures are implemented.

## 2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

Calaveras County encompasses approximately 662,791 acres in the central Sierra Nevada region of California. The County is bordered by Amador County to the north, Alpine County to the east, Tuolumne County to the south, and San Joaquin and Stanislaus counties to the west.

The proposed project consists of an update of the County's General Plan. The Draft General Plan is intended to reflect the community's expressions of quality of life and community values; satisfy the mandates of State law; and serve as the basis for community decision-making regarding the designations of land uses and the allocation of resources. The Draft General Plan is organized into an Introduction chapter and various elements. A total of eight elements, which include Land Use, Circulation, Resource Production, Conservation and Open Space, Noise, Safety, Public Facilities and Services, and Community Planning, plus the adopted 2015 Housing Element are included in the Draft General Plan. All the Draft General Plan elements include goals and policies carefully drafted to guide successful implementation of the Draft General Plan. A detailed project description is provided in Chapter 3, Project Description, of this EIR.

As noted in Chapter 3, estimated buildout of the Draft General Plan could accommodate a population of 117,045 persons and a total of 48,567 residential units. The buildout estimate is known as "carrying capacity" and represents how much development could potentially occur within the County over the life of the Draft General Plan based on the Draft General Plan Land Use Map. It should be noted that the calculated carrying capacity is substantially greater than the actual population and housing growth projections for the County.

## 2.3 MITIGATION MONITORING AND REPORTING PROGRAM

Section 15097 of the California Environmental Quality Act (CEQA) requires all State and local agencies to establish monitoring or reporting programs for projects approved by a public agency

whenever approval involves the adoption of environmental findings related to environmental impact reports (see Guidelines Section 15091 for Findings). In order to ensure that the mitigation measures and project revisions identified in the EIR are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

Consistent with CEQA Section 15097, implementation of the proposed project would require adoption of a Mitigation Monitoring and Reporting Program (MMRP) by Calaveras County. The MMRP specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment.

## 2.4 Environmental Impacts and Required Mitigation Measures

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the existing physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Mitigation measures must be implemented as part of the proposed project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are noted in this EIR and are found in the following chapters of this EIR: Aesthetics; Agricultural, Forest, and Mineral Resources, Air Quality and Greenhouse Gas (GHG) Emissions; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Population and Housing; Transportation and Circulation; and Transportation and Circulation. The mitigation measures presented in the EIR will form the basis of the Mitigation Monitoring and Reporting Program. Any impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

A summary of the identified impacts in the technical sections of the EIR is presented in Table 2-1. In Table 2-1, the proposed project impacts are identified for each technical chapter (Chapter 4.1 through 4.13) of the EIR. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact, and the resulting level of significance after implementation of mitigation measures for each impact.

## 2.5 Summary of Project Alternatives

The following section presents a summary of the evaluation of the alternatives considered for the proposed project, which include the:

- No Project Alternative;
- Department of Finance (DOF) Projections Alternative; and
- Rural Character Protection Alternative.

**No Project Alternative**

CEQA requires the evaluation of the comparative impacts of the "No Project Alternative" (CEQA Guidelines Section 15126.6(e)). The No Project Alternative may be defined either as the "no action taken on the proposed project" or a "no build" on the project site. The No Project Alternative is defined as buildout of the County's planning area per the existing 1996 General Plan and the existing General Plan Land Use Map. The six existing adopted community plans (Valley Springs, San Andreas, Mokelumne Hill, Murphys-Douglas Flat, Avery-Hathaway Pines, and Arnold) would remain in effect. None of the mitigation measures included in this EIR would be implemented, as such measures consist of direct changes to the Draft General Plan.

**DOF Projections Alternative**

The DOF Projections Alternative would limit anticipated growth consistent with what is assumed under Department of Finance (DOF) projections for Calaveras County. According to DOF projections previously recommended by the County Board of Supervisors, by 2035, total population growth is anticipated to be 55,541 with 23,239 potential total units compared to the target of 48,567 total units anticipated in the proposed Draft General Plan. Under the DOF Projections Alternative, 4,353 dwelling units would be added to the County's housing stock and 4,889 employees would be added to the County's workforce. Overall development consistent with the proposed DOF Projections Alternative is slightly less than half of buildout under the proposed Draft General Plan.

The text of the Draft General Plan would remain unchanged. However, the Draft General Plan Land Use Map would be altered to reduce the total area available for development within the rural areas of the County. Specifically, the acreages of undeveloped land designated Residential Low Density (RLD), Rural Residential (RR), Rural Transition A or B (RTA and RTB), and Working Lands (WL) would be reduced such that full buildout of the reduced-intensity land use map would be consistent with the DOF projections noted above. The DOF Projections Alternative would still be capable of achieving the majority of the proposed project's objectives. Given that the goals, policies, and IMs included in the Draft General Plan would be retained, and new development would still occur throughout the County, all of the mitigation measures included in this EIR would still be required for the DOF Projections Alternative.

**Rural Character Protection Alternative**

Under the Rural Character Protection Alternative, anticipated buildout remains the same compared to the proposed Draft General Plan; however, development would be intensified around the existing community centers and thus, increasing residential densities near community areas and town centers. In order to do so, the Rural Character Protection Alternative would reduce the amount of land use designated Rural Transition A (RTA) and Rural Transition B (RTB). Per the proposed Draft General Plan Land Use Map, such designations are generally concentrated along rural thoroughfares in the western portion of the County, outside of established community areas. Within urbanized areas of the County, a greater amount of land would be designated Residential High Density and Residential Medium Density. By shifting development towards urban areas and limiting development within rural areas, the existing character of such rural areas would be

preserved. It should be noted that increases in development intensity near urban communities would require adequate water supply and wastewater infrastructure to support higher density development. Consequently, the Rural Character Protection Alternative would focus growth within communities where such infrastructure exists.

Only the Draft General Plan Land Use Map would be altered; the allowable densities for each individual land use designation and all other components of the Draft General Plan would remain unchanged. The Rural Character Protection Alternative would generally meet all of the project objectives.

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **4.1 Aesthetics** | | | |
| **4.1-1 Substantial adverse effect on a scenic vista, or substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.** | LS | *None required.* | N/A |
| **4.1-2 Substantial degradation of the existing visual character or quality of the project site and/or the site's surroundings.** | S | *4.1-2(a)* *Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*<br><br>*IM PF-4D* *Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public. <u>The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new emergency communications facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new emergency communications facilities.</u>* | SU |

NI = *No Impact*; N/A = *Not Applicable*; LS = *Less-than-Significant*; PS = *Potentially Significant*; S = *Significant*; SU = *Significant and Unavoidable*

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *4.1-2(b)* *Implementation Measure LU-5A of the Draft General Plan shall be revised as follows:*<br><br>*IM LU-5A* *Adopt a Telecommunications Facilities Ordinance – Adopt a telecommunications facilities ordinance consistent with the requirements of the Telecommunications Act of 1996 and including provisions for undergrounding, co-locating, and stealth or other creative design methods to minimize the visual impact of these facilities. The ordinance should facilitate the expansion of broadband internet service throughout the county. Furthermore, the ordinance shall require that all new emergency communications facilities be masked or otherwise disguised, at the County's discretion, in order to ensure that the facilities blend with the surrounding natural environment.* | |
| **4.1-3 Creation of new sources of substantial light or glare that would adversely affect day or nighttime views in the area.** | LS | *None required.* | N/A |
| **4.2 Agricultural, Forest, and Mineral Resources** | | | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **4.2-1 Impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands) to non-agricultural use, and related to changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use.** | S | *None feasible.* | SU |
| **4.2-2 Impacts related to conflicting with existing zoning for agricultural use or with Williamson Act contracts.** | LS | *None required.* | N/A |
| **4.2-3 Impacts related to conflicting with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)), and resulting in the** | LS | *None required.* | N/A |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **loss of forest land to non-forest use.** | | | |
| **4.2-4 Impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or 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.** | S | *4.2-4* *Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*<br><br>*IM RP-4A County Code – Amend the County Code to:*<br><br>• *Address the use and development of geothermal resources*<br>• *Update the ME combining zone district to be consistent with the State's mineral classification scheme.*<br>• *Clarify that a conditional use permit is required for all surface and subsurface mining activity unless specifically exempted pursuant to Section 17.56.040 (or equivalent), and that conditions will be imposed as necessary to protect mineral resources.*<br>• *Include notification procedures for designating mineral reserve areas.*<br>• *Continue to use the ME Combining Zone to designate existing permitted and grandfathered mining operations, to identify lands with commercial mineral potential and to allow owners of land containing commercially valuable mineral resources to apply for mineral extraction permits.*<br>• *Address changes to state law and regulations from the State Mining and Geology Board.* | LS |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | • *Incorporate California Mineral Land Classifications in Table RP-1.* | |
| **4.3 Air Quality and Greenhouse Gas Emissions** | | | |
| **4.3-1 A violation of any air quality standard or substantial contribution to an existing or projected air quality violation during operations, and a conflict with or obstruction of implementation of applicable air quality plans through the emission of a cumulatively considerable amount of criteria pollutants.** | S | *4.3-1(a)* *The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 4.9 The County shall continue to support emissions reductions programs such as the Carl Moyer Program, and find methods of incentivizing the replacement or retrofit of small emissions sources throughout the County, such as the replacement of existing wood stoves with EPA Phase II certified appliances, and the installation of new replacement engines or technologies to reduce emission from off-road and on-road engines within the County.*<br><br>*4.3-1(b)* *The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 4.10 Should proposed developments within the County be anticipated to result in potential impacts related to the emission* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *of criteria air pollutants, the County shall consider imposing mitigation measures provided in the CCAPCD's Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects.*<br><br>*4.3-1(c) IM COS-2C of the Draft General Plan shall be revised as follows:*<br><br>*IM COS-2C Air Quality Regulations re Prescribed Burning. Support modification of air quality regulations to accommodate the increased use of prescribed burning and other disposal methods on public and private lands, where such activity would not pose a threat to nearby sensitive receptors or regional air quality.* | |
| **4.3-2 Exposure of sensitive receptors to substantial pollutant concentrations.** | S | *4.3-2(a) Policy COS 4.2 of the Draft General Plan shall be revised as follows:*<br><br>*Policy COS 4.2 New development shall separate and/or buffer sensitive receptors from harmful air emission sources. Where feasible, buffer distances shall be maintained in compliance with the CARB's Air Quality and Land Use Handbook or as directed by the CCAPCD. Where buffer distances* | LS |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *cannot be maintained per the CARB's guidance, and a proposed project may result in the exposure of sensitive receptors to substantial pollutant concentrations, the County shall require the preparation of a Health Risk Assessment for the proposed project. Such Health Risk Assessments shall be conducted in compliance with guidance from the CCAPCD as well as the State Office of Environmental Health Hazard Assessment. The Health Risk Assessment shall include, where necessary, recommendations to reduce potential health risks to sensitive receptors through including, but not limited to, the following:*<br>• *Buffer requirements;*<br>• *The installation of air filtration devices;*<br>• *Restrictions on the hours of operations of sources of TACs; and/or*<br>• *The implementation best available control technologies.*<br><br>*The County shall require that the recommendations from the Health Risk* | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *Assessment are implemented, as applicable, to ensure that sensitive receptors are not subject to substantial health risk effects related to harmful air emission sources. (IM COS-5A)*<br><br>*4.3-2(b) The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 4.11 All construction, grading, quarrying, and surface mining operations within the County shall be required to consider asbestos emissions per CCAPCD Tule 906 – Asbestos Airborne Toxic Control Measure, and the California Air Resources Board's Final Regulation Order 2002-07-29 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations.* | |
| **4.3-3 The creation of objectionable odors affecting a substantial number of people.** | S | *4.3-3 The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 4.12 New development shall separate and/or buffer sensitive receptors from sources of odiferous compounds. Should new developments be anticipated to result in the emission of odiferous compounds in proximity to existing or proposed* | LS |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *sensitive receptors, the new source of odors shall be required to implement the best available control technologies to reduce the potential exposure of future receptors to odors. Additionally, if a proposed project includes placement of new sensitive receptors in proximity to existing sources of odors, the proposed project shall be required to formally notify future sensitive receptors of the likelihood of exposure to substantial odors.* | |
| **4.3-4 Generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment and/or a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (i.e., emissions reductions required by AB 32 and SB 32).** | S | *4.3-4(a)* *Policy COS 4.4 of the Draft General Plan shall be revised as follows:*<br><br>*Policy COS 4.4 Develop and adopt a comprehensive strategy to assist in achieving emission reduction goals of AB 32 and SB 32. (IM COS-5B, COS-5C and COS-5D)*<br><br>*4.3-4(b)* *IM COS-5B of the Draft General Plan shall be revised as follows:*<br><br>*IM COS-5B GHG Baseline for Calaveras County. Undertake a greenhouse gas (GHG) emissions inventory to establish baseline levels of GHGs generated from all major emission sources in the County* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *consistent with the requirements of Assembly Bill 32 (California Global Warming Solutions Act of 2006) and SB 32.*<br><br>*4.3-4(c) IM COS-5C of the Draft General Plan shall be revised as follows:*<br><br>*IM COS-5C GHG Reduction Plan. Develop a GHG reduction plan outlining the strategies, goals, and actions for contributing to the overall reduction in greenhouse gas (GHG) emissions consistent with AB 32 and SB 32.*<br><br>*4.3-4(d) The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 4.14 The County shall investigate the potential use of woody biomass generated through forest management, such as thinning and defensible space clearing, for the generation of renewable energy.*<br><br>*4.3-4(e) The following new implementation measure shall be added to the Draft General Plan:* | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *IM COS-5F* *Modify the County's development standards and zoning ordinance to provide incentives for providing infrastructure that supports alternative fueled vehicles, such as electric vehicle charging stations, natural gas fueling capabilities, and biodiesel.* | |
| **4.4 Biological Resources** | | | |
| **4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.** | S | *4.4-1(a)* *The following new implementation measures shall be added to the Draft General Plan:*<br><br>*IM COS-4H* *The County shall require development that is subject to a discretionary entitlement and subject to environmental review under CEQA to evaluate potential impacts to biological resources and to minimize, avoid and/or mitigate significant impacts to the following special-status species or as otherwise required by State or Federal law:* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | 1. *Threatened and endangered plant and animal species listed by the Federal Endangered Species Act.*<br>2. *Rare, threatened and endangered plant and animal species listed by the California Endangered Species Act.*<br>3. *Other special-status species including, but not limited to:*<br>*A) Federal candidate species for listing under the FESA;*<br>*B) State candidate species for listing under the CESA;*<br>*C) California Fully Protected Species (protected pursuant to Fish and Game Code);*<br>*D) California Species of Special Concern (protected pursuant to CEQA Guideline §15382);*<br>*E) Plant species listed by the California Native Plant Society as Ranks 1A, 1B, 2A and 2B (protected pursuant to CEQA Guideline §15382);*<br>*F) Nesting birds (protected pursuant to California Fish and Game Codes §§3503, 3503.5, 3511, and 3513 which prohibit* | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *the "take, possession, or destruction of birds, their nests or eggs.");*<br>*G) Birds of prey. All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5);*<br>*H) Birds protected pursuant to the federal Migratory Bird Treaty Act;*<br>*I) Bald eagles and golden eagles as protected pursuant to the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) and California Fish and Game Code (Section 3503.5).*<br><br>*4.4-1(b) The following new implementation measure shall be added to the Draft General Plan:*<br><br>*IM COS-4I At the County's discretion, for development that is subject to a discretionary entitlement and subject to environmental review under the CEQA, the County shall require project applicants to enlist the services of a qualified biologist to evaluate a* | |

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| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *proposed project's impact on special-status species as defined above and determine what avoidance measures or mitigation measures are warranted to offset or mitigate these impacts to the extent feasible.*<br><br>*4.4-1(c) Policy COS-3.2 of the Draft General Plan shall be revised as follows:*<br><br>*Policy COS 3.2 ~~Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies.~~ To the extent practicable avoid impacts to habitats that are known to support state or federally listed species. Where impacts cannot be avoided, compensate for these impacts in accordance with resource agency (CDFW and/or USFWS) protocols/policies for the listed species.*<br><br>*For project sites that support suitable breeding or dispersal habitats for listed species, in the absence of focused surveys proving absence, mitigation is* | |

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| | | *warranted. For applicants that choose not to mitigate or compensate for impacts to such habitat based on the assumption that the habitat is suitable breeding or dispersal habitats for listed species, the County shall require project specific site surveys conducted per resource agency guidance for the FESA/CESA species in question by a permitted biologist. If such surveys are conducted with applicable resource agency concurrence and prove absence, then mitigation may not be required by the County.*<br><br>*When appropriate, mitigation for impacts to CESA/FESA listed species and/or their habitats may be accomplished via CDFW and/or USFWS approval for the applicant to purchase species compensation credits from an agency approved conservation bank. For mitigation that includes avoidance on project sites or that provides offsite mitigation land preservation, a qualified biologist shall be required to develop a long-term maintenance and management plan for* | |

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| | | *any onsite species avoidance area, and/or for either on or offsite mitigation preserves established to compensate for a project's effects on CESA/FESA listed species.*<br><br>*For any proposed projects that trigger the requirements for an Incidental Take Permit, the County shall require proof that Incidental Take Permits have been acquired by the CDFW and/or USFWS as appropriate prior to issuing discretionary permits that allow commencement with a proposed project.* | |
| **4.4-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.** | S | *4.4-2(a)* *The following new implementation measure shall be added to the Draft General Plan:*<br><br>*IM COS-4J At the County's discretion, development that is subject to a discretionary entitlement and subject to CEQA review shall be required to evaluate potential impacts to sensitive and significant communities using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*<br>• *Enlist the services of a qualified biologist or botanist to survey* | SU |

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| | | *the property in question for sensitive and significant plant communities including riparian and Ione chaparral;*<br>• *If any sensitive or significant plant community is identified on the proposed property, the qualified biologist or botanist shall map the dripline (canopy) and/or extent of the rare plant community using global positioning system (GPS) technology;*<br>• *The dripline/canopy and/or sensitive plant communities that are to be preserved shall be shown on all site development plans, grading plans, and/or engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable. Riparian drip line impacts require additional scrutiny and may require additional permitting from the CDFW pursuant to Section* | |

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|---|---|---|---|
| | | *1602 of the Fish and Game Code.*<br>• *Mitigation for project impacts on the sensitive habitat can include onsite planting mitigation compensation, or offsite mitigation through preservation via recordation of a conservation easement that facilitates the perpetual protection of similar habitat types as those that are impacted, consistent with COS-3.6, as necessary to reduce impacts to a less-than-significant level.*<br><br>*4.4-2(b) The following new implementation measure shall be added to the Draft General Plan:*<br><br>*IM COS-4K Support efforts to eradicate invasive species and encourage practices that reduce their spread (IM COS-4G). This can be completed by:*<br>• *Require new developments to submit landscape plans that are comprised of mostly native California plant species and avoid landscaping with invasive* | |

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| | | *plant species. Such plans would be subject to the review and approval of the County Planning Department.*<br>• *On properties proposed for development or redevelopment that have been identified by a qualified botanist to support those invasive plant species that are identified on the California Invasive Plant Council inventory as having a ranking of "high" invasiveness (or in the case of the plant, stinkwort, which has a "moderate" ranking), removal efforts should be undertaken. The best means to remove the invasive species (for example, hand-removal or the use of herbicides) would be determined on a property by property basis by the contracted botanist/qualified biologist/restoration ecologist.*<br>• *Use of herbicides must be undertaken by a licensed herbicide applicator.* | |

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|---|---|---|---|
| **4.4-3 Have a substantial adverse effect on oak woodlands.** | S | *4.4-3(a)* *The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 3.8 The County shall require development that is subject to a discretionary entitlement and subject to CEQA review to evaluate potential impacts to oak woodlands using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*<br>• *Enlist the services of a qualified biologist, botanist, Registered Professional Forester, or arborist to survey the property in question for oak woodlands;*<br>• *On properties with a development footprint smaller than 10 acres the oak trees shall be counted and their diameter at breast height (DBH) determined; the number that will be impacted shall be determined. On properties greater than 10 acres the acreage of oak woodland shall be calculated and the acreage of impact shall be quantified.* | SU |

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| | | *Additionally, the qualified biologist or arborist shall map the dripline (canopy) of the oak woodland using global positioning system (GPS) technology.*<br>• *The dripline/canopy of the oak woodlands that are to be preserved shall be shown on all site development plans, grading plans, and/or engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable.*<br>• *On properties less than 10 acres, oak trees to be removed shall be replaced at a mitigation ratio determined at the discretion of the County Planning Department. This ratio will be based on the species of oak removed. For example, for oak species that are common in the county, such as interior live oak (Quercus wislizenii), mitigation ratios* | |

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| | | *may be lower than for less common oak species such as blue oaks (Quercus douglasii), valley oak (Quercus lobata) or black oaks (Quercus kelloggii). Ratios shall vary from 1:1 to as high as 3:1 at the discretion of the County Planning Department staff, and mitigation tree sizes shall vary between 5-gallon pots to 15-gallon box trees, depending on the size of the trees removed/impacted.*<br>• *On properties greater than 10 acres, a minimum of 30 percent of existing oak woodland canopy shall be preserved. Tree replacement mitigation shall be as prescribed above for project site's smaller than 10 acres in size or as recommended in the following bullet point at the discretion of Calaveras County.*<br>• *On parcels greater than 10 acres where on-site protection of 30 percent of existing oak woodland canopy and* | |

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| | | *replacement are infeasible, mitigation for project impacts to oak woodlands can include: a monetary contribution to the State's Oak Woodlands Conservation Fund for the purpose of purchasing oak woodland conservation easements, onsite planting mitigation compensation, or a combination or onsite and offsite planting, or mitigation through oak woodland preservation via recordation of a conservation easement that facilitates the perpetual protection of oak woodland.* | |
| **4.4-4 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) and/or on waters of the State defined pursuant to Section 401 of the Clean Water Act, or the Porter-Cologne Water Quality Control Act through direct removal,** | S | *4.4-4(a) The following new implementation measure shall be added to the Draft General Plan:*<br><br>*IM COS 4K For any discretionary permit that will be required for a property that has been identified on any resource map as supporting waters (creeks, rivers, streams, tributaries) and/or wetlands (for example, ponds, marshes, vernal pools), or that constitutes an open space or natural lands conversion, the County* | SU |

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| **filling, hydrological interruption, indirect affects, or other means of impact.** | | *will require the land owner/project applicant to contract with a qualified wetlands scientist or biologist to evaluate if the project could result in the fill or hydrologic disruption of waters of the U.S./State (which includes wetlands) onsite or offsite. If a preliminary evaluation determines that a proposed project could adversely affect waters of the U.S./State, then a qualified wetlands scientist or biologist should delineate the extent of regulated waters in accordance with the federal and state policies.*<br><br>*In compliance with Section 404 of the Clean Water Act, jurisdictional waters of the U.S. shall be identified and mapped per the applicable regulations established by the Corps.*<br><br>*If project development plans include placement of a culvert, pipe, stormwater outfall, or earthen fill or rip-rap into any waters of the U.S./State, the County shall require the property owner/project applicant to apply to the Corps and the RWQCB for the appropriate permits* | |

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| | | *prior to completing any action in the designated regulated waters. Proof of issuance of such permits shall be provided to the County prior to the commencement of such activities requiring permits from the Corps/RWQCB.*<br><br>*Similarly, if project plans call for impacting a stream channel (anything with a defined bed, bank or channel), or within the driplines of associated riparian canopy, the County shall require the project applicant to contact the CDFW to determine if the project requires a California Fish and Game Code Section 1602 permit (i.e., a "Streambed Alteration Agreement").*<br><br>*Should the County desire to obtain a Routine Maintenance Agreement with the CDFW, Corps, or RWQCB for maintenance of tributary flow capacities, and other modifications to stream channels necessary to prevent localized or regional flooding, the County shall apply for such an* | |

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| | | *agreement from the appropriate state or federal agency listed above.*<br><br>*Any mitigation measures required by these resource agencies shall become conditions of project approval enforceable by Calaveras County.* | |
| **4.4-5 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** | S | *4.4-5(a)* *The following new policy shall be added to the Draft General Plan's Conservation and Open Space Element:*<br><br>*Policy COS 3.9 Encourage development to be compatible with wildlife movement.*<br><br>*4.4-5(b)* *The following new implementation measure shall be added to the Draft General Plan's Conservation and Open Space Element:*<br><br>*IM COS-4L The County shall work with applicants to encourage preservation or enhancement of upland habitat for wildlife species to the maximum extent feasible on parcels slated for development containing suitable habitat (e.g. areas used for foraging, breeding, dispersal, etc.). Habitat preservation and enhancement shall be encouraged throughout the County in a way that promotes regional connectivity of open* | LS |

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|---|---|---|---|
| | | *space habitats. The County shall work with applicants to encourage development to be compatible with wildlife movement. Mitigation measures may include installing wildlife friendly fencing or lighting to minimize interference with wildlife movement. Creek corridors should be preserved in undeveloped open spaces or under conservation easements as creek corridors provide linear wildlife corridors through the County. Similarly, if open spaces are to be preserved within developed areas, they should have connectivity to/with other dedicated or undevelopable open space lands to the extent possible.* | |
| **4.4-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.** | LS | *None required.* | N/A |
| **4.5 Cultural and Tribal Cultural Resources** | | | |
| **4.5-1 Cause a substantial adverse change in the significance of a historical resource.** | S | *4.5-1(a) Policy COS 7.1 in the Draft General Plan shall be revised as follows:* | SU |

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| | | *Policy COS 7.1* *New development shall be designed to avoid significant cultural and paleontological resources to the maximum extent feasible. (IM COS-8A, COS-8B, COS-8C, COS-8D, COS-8F, ~~and~~ COS-8G, and COS-8H)*<br><br>*4.5-1(b)* *The following new implementation measure shall be added to the Conservation and Open Space Element of the Draft General Plan.*<br><br>*IM COS-8H* *Preservation of Historic Resources – Require use of the Secretary of the Interior's Standards for Treatment of Historic Properties (1992) as a guide for evaluating development proposals involving cultural resources, such as restoration, alteration of, and additions to existing historic structures.* | |
| **4.5-2 Cause a substantial adverse change in the significance of an archaeological resource, or destroy a unique paleontological resource, including human remains, or a unique geologic feature within the County.** | S | *4.5-2* *Implementation Measure IM COS-8A of the Draft General Plan shall be revised as follows:*<br><br>*IM COS-8A* *Identify Native American Resource Sensitivity Areas – Update the County's Archaeological Sensitivity Map in cooperation with local Native American archaeology and history representatives ~~to assist planners in determining when~~* | SU |

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| | | ~~*cultural resource surveys shall be required in conjunction with the environmental review process*~~. *The County shall consult the updated Archaeological Sensitivity Map, in addition to other existing cultural resources information (e.g. pre- 1950 USGS topographic quadrangle maps, official townsite maps, Sanborn Insurance Maps, GIS database) in conjunction with the environmental review process for all discretionary approvals to identify sensitive areas and resources. If such cultural resources information indicates that sensitive areas and/or resources are likely to occur within the subject area, site-specific cultural resources shall be required, at the applicant's expense.* | |
| **4.5-3 Result in an adverse effect to tribal cultural resources.** | S | *None feasible.* | SU |

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|---|---|---|---|
| **4.6 Geology, Soils, and Seismicity** | | | |
| **4.6-1 Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and/or landslides.** | LS | *None required.* | N/A |
| **4.6-2 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in lateral spreading, subsidence, liquefaction or collapse.** | LS | *None required.* | N/A |
| **4.6-3 Be located on expansive soil, as defined in Table 118-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.** | S | *4.6-3 Policy S 4.4 in the Draft General Plan shall be revised as follows:*<br><br>*Policy S 4.4 Require site-specific geological studies, where warranted, to verify the presence or absence and extent of geological hazards, <u>including expansive soils,</u> on properties proposed for new development and to identify measures to reduce those hazards to an acceptable level in conjunction with the review of* | LS |

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| | | *discretionary entitlements and as part of review of ministerial permits in accordance with California Building Code. (IM S-4E)* | |
| **4.6-4 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.** | LS | *None required.* | N/A |
| **4.7 Hazards and Hazardous Materials** | | | |
| **4.7-1 Development associated with the Draft General Plan would create potential hazards related to the public or the environment through the routine transport, use, or disposal of hazardous materials.** | LS | *None required.* | N/A |
| **4.7-2 Development associated with the Draft General Plan could 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.** | LS | *None required.* | N/A |

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| **4.7-3 Development associated with the Draft General Plan could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.** | LS | *None required.* | N/A |
| **4.7-4 Development associated with the Draft General Plan could occur on sites included on a list of hazardous materials sites pursuant to Government Code Section 65962.5.** | LS | *None required.* | N/A |
| **4.7-5 Development associated with the Draft General Plan would be located within an airport land use plan or within two-miles of a private airstrip, and may create potential safety hazards for people residing or working in the project area.** | LS | *None required.* | N/A |
| **4.7-6 Development associated with the Draft General Plan would not interfere with an adopted emergency response plan or emergency evacuation plan.** | LS | *None required.* | N/A |
| **4.7-7 Development associated with the Draft General Plan would** | S | *4.7-5 Policy S 3.2 shall be revised as follows:* | SU |

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| **expose people or structures to a significant risk or loss, injury or death involving wildland fires.** | | *Policy S 3.2* ~~*Ensure that*~~ *The County shall review applications for new development, including essential public facilities, to ensure that new development complies with adopted fire codes and standards for fire protection. Application review for new developments which would be located in moderate, high, and very high fire hazard severity zones shall include a consistency check to ensure that the proposed project conforms with the standards of Title 24, Wildland Urban Interface Building Codes, and Title 14 of the California Code of Regulations 1270, as well as assessing potential hazards related to slope, prevailing wind patterns, and the potential for post-fire hazards. (IM S-3A)* | |
| **4.8 Hydrology and Water Quality** | | | |
| **4.8-1 Buildout of the Draft General Plan would violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality.** | LS | *None required.* | N/A |
| **4.8-2 Substantial interference with groundwater recharge such that** | S | *4.8-2 Implementation Measure PF-2J of the Draft General Plan shall be revised as follows:* | LS |

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| | **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). Based on the analysis below, with implementation of mitigation, the impact is *less-than-significant.*** | | *IM PF-2J* | *Protect Groundwater Recharge Areas. – Adopt standards for the protection of groundwater recharge areas including, but not limited to, limiting the extent of impervious surfaces in project design. <u>The standards shall be sufficient to ensure that new development does not substantially interfere with groundwater recharge in the County</u>. Integrate existing information available from water providers to identify natural groundwater recharge areas associated with the Northeastern San Joaquin Groundwater Basin within the County* | |
| **4.8-3** | **Substantial alteration of 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, siltation, or flooding on- or off-site, or creation or contribution of runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.** | S | *4.8-3* | *Policy S 2.3 of the Draft General Plan shall be revised as follows:*<br><br>*Policy S 2.3* *Ensure that post-development, off-site peak flow drainage from the area being developed does not exceed the capacity of downstream drainage facilities or systems. (IM S-2B, and S-2E) <u>For new development, peak off-site storm water discharge from the project site shall not be permitted to exceed pre-construction conditions unless the applicant can demonstrate that downstream storm water conveyance systems would have</u>* | LS |

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| | | *sufficient capacity to handle the increased flow rate without exceeding established design standards.* | |
| **4.8-4 Placement of housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, place within a 100-year floodplain structures which would impede or redirect flood flows, or exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.** | LS | *None required.* | N/A |
| **4.8-5 Risks associated with inundation by seiche, tsunami, or mudflow. Based on the analysis below, the impact is *less-than-significant.*** | LS | *None required.* | N/A |
| **4.9 Land Use and Planning** | | | |
| **4.9-1 The proposed project would physically divide an established community.** | LS | *None required.* | N/A |

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| **4.9-2 Conflict, or create an inconsistency, with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.** | LS | *None required.* | N/A |
| **4.10 Noise and Vibration** | | | |
| **4.10-1 Exposure of persons to or generation of transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies.** | S | *None feasible.* | SU |
| **4.10-2 Exposure of persons to or generation of non-transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies.** | S | *4.10-2 Implementation Measure N-1E shall be revised as follows:*<br><br>*IM N-1E Acoustic Analysis – When an acoustic analysis is required for a development project the analysis shall be prepared by a qualified professional and include the following:*<br>• *Ambient noise level measurements of existing conditions;* | SU |

NI = *No Impact*; N/A = *Not Applicable*; LS = *Less-than-Significant*; PS = *Potentially Significant*; S = *Significant*; SU = *Significant and Unavoidable*

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | • *Anticipated noise levels generated by the project;*<br>• *Recommend measures to ensure ~~achieve compliance with~~ noise levels do not exceed the noise standards set forth in Tables Noise 1 and 2;*<br>• *Estimate of noise levels after the mitigation measures have been implemented; and*<br>• *Noise monitoring program.* | |
| **4.10-3 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.** | S | *4.10-3* *The following new policy shall be included in the Noise Element of the Draft General Plan:*<br><br>*Policy N 1.14 The County shall limit the use of heavy-duty vibration-generating construction equipment, such as vibratory rollers, within close proximity of existing buildings, particularly buildings of weak structural integrity and/or historical significance to ensure that groundborne vibration shall not exceed 0.2 in/sec PPV at the nearest sensitive receptor. For construction projects where vibration-intensive activities are anticipated, a designated person shall be responsible for registering and investigating claims of excessive* | LS |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *vibration. The contact information of such person shall be clearly posted on the construction site.* | |
| **4.10-4 A substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan.** | S | *None feasible.* | SU |
| **4.10-5 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project.** | S | *None feasible.* | SU |
| **4.10-6 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, public use airport, or private airstrip, expose people residing or working in the project area to excessive noise levels.** | LS | *None required.* | N/A |
| **4.11 Population and Housing** | | | |
| **4.11-1 Development associated with the Draft General Plan would cause direct or indirect inducement of substantial population growth.** | S | *None feasible.* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **4.11-2 Development associated with the Draft General Plan would displace substantial numbers of existing housing or people.** | LS | *None required.* | N/A |
| **4.12 Public Services and Utilities** | | | |
| **4.12-1 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, and/or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection facilities.** | S | *4.12-1* *Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*<br><br>*IM PF-4D* *Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public. <u>The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new emergency communications facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new emergency communications facilities.</u>* | SU |
| **4.12-2 Development associated with the General Plan would result in substantial adverse physical impacts associated with the provision of new or physically** | S | *4.12-2(a)* *Implement Mitigation Measure 4.12-1.*<br><br>*4.12-2(b)* *Policy S1.7 of the Draft General Plan shall be revised as follows:* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **altered fire protection facilities, and/or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection facilities.** | | *Policy S 1.7* *Locate new essential public facilities, utilities, and services away from identified hazard areas. The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for new fire protection facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for development of new fire protection facilities, and, where feasible, existing facilities shall be upgraded to increase the efficacy of fire protection service without the need for the construction of new facilities.* | |
| **4.12-3 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, and/or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable performance objectives for school facilities.** | LS | *None required.* | N/A |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **4.12-4 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered other public facilities, and/or the need for new or physically altered other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities** | S | *4.12-4(a) Implementation Measure PF-1D of the Draft General Plan shall be revised as follows:*<br><br>*IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources. <u>The County shall consider the environmental benefits of facilitating joint use and facility co-location when evaluating the expansion of public service facilities.</u>*<br><br>*4.12-4(b) The following new policy shall be added to the Draft General Plan:*<br><br>*<u>Policy PF 1.8 The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new public facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new public facilities.</u>* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **4.12-5 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.** | S | *4.12-5* *The following new policy shall be added to the Draft General Plan:*<br><br>*Policy PF 2.11 The County shall consider the environmental sensitivity, as well as the efficacy of the sites chosen, for construction of new or expanded water conveyance infrastructure. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new water conveyance infrastructure.* | SU |
| **4.12-6 Would implementation of the Draft General Plan 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, and that project wastewater would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or the capacity of existing conveyance infrastructure.** | S | *4.12-6* *The following new policies shall be added to the Draft General Plan:*<br><br>*Policy PF 2.11 The County shall consider the environmental sensitivity of sites for new water and wastewater infrastructure, and shall consider potential environmental impacts associated with new and/or expanded water and wastewater infrastructure.*<br><br>*Policy PF 2.12 The County shall pursue alternative means for funding water and wastewater infrastructure improvements and maintenance, including State and federal grants, for water and* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *wastewater infrastructure projects within Calaveras County.* | |
| **4.12-7 Would development associated with the Draft General Plan be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, State, and local statutes and regulations related to solid waste.** | LS | *None required.* | N/A |
| **4.12-8 Impacts related to gas and electrical facilities.** | LS | *None required.* | N/A |
| **4.12-9 Impacts related to telecommunications and information technology infrastructure.** | S | *4.12-9 Implement Mitigation Measure 4.12-1.* | SU |
| **4.12-10 Result in substantial adverse physical impacts associated with the provision of new or physically altered recreation facilities, and/or the need for new or physically altered recreation facilities, the construction of which could cause significant environmental impacts in order to maintain performance** | S | *4.12-10(a) The following new policy shall be added to the Draft General Plan:*<br><br>*Policy COS 6.6 The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for new recreation facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new recreation facilities.* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| **objectives for recreation facilities.** | | *4.12-10(b) Policy COS 6.5 of the Draft General Plan shall be revised as follows:*<br><br>*Policy COS 6.5 Design recreational facilities to minimize ongoing maintenance costs and reduce potential environmental impacts. (IM COS-7H)* | |
| **4.13 Transportation and Circulation** | | | |
| **4.13-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of County-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035) growth scenario.** | LS | *None required.* | N/A |
| **4.13-2 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of Caltrans-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035).** | S | *4.13-2 Policy C 2.2 in the Draft General Plan shall be revised as follows:*<br><br>*Policy C 2.2 Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on* | SU |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *County-maintained roadway outside of Community Areas. The County shall allow for the following exceptions on County-maintained roadways and on Caltrans-maintained roadways, ~~except as specified below,~~ assuming that roadway safety is addressed consistent with Policy CIR 2.1.*<br><br>• *SR 26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.*<br>• *SR 4 from Vallecito Road to Kurt Drive – LOS D is acceptable to the County.*<br>• *SR 4 from Lakemont Drive to Henry Drive – LOS D is acceptable to the County.*<br>• *SR 4 from Henry Drive to Sierra Parkway – LOS D is acceptable to the County.*<br>• *SR 12 from SR 26 to SR 49 – LOS D is acceptable to the County.*<br>• *SR 49 from Pool Station Road to Gold Oak Road – LOS D is acceptable to the County.* | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | • *SR 49 from Gold Oak Road to Mountain Ranch Road – LOS D is acceptable to the County.*<br>• *SR 49 from Dog Town Road to SR 4 (W) – LOS D is acceptable to the County.*<br>• *SR 49 from SR 4 (W) to Murphy's Grade Road – LOS D is acceptable to the County.*<br>• *SR 49 from Stanislaus Avenue to Mark Twain Road – LOS D is acceptable to the County.*<br>• *SR 49 from Mark Twain Road to Bret Harte Road – LOS D is acceptable to the County.*<br>• *SR 49 from Bret Harte Road to SR 4 (S) Vallecito Road – LOS D is acceptable to the County.*<br>• *SR 49 from SR 4 (S) Vallecito Road to Tuolumne County Line – LOS D is acceptable to the County.*<br><br>*Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of* | |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|
| | | *public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:*<br>• *Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;*<br>• *Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or*<br>• *Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).* | |
| **4.13-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.** | LS | *None required.* | N/A |
| **4.13-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous** | LS | *None required.* | N/A |

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**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| | Impact | Level of Significance Prior to Mitigation | Mitigation Measures | Level of Significance After Mitigation |
|---|---|---|---|---|
| | **intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access.** | | | |
| **4.13-5** | **Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.** | LS | *None required.* | N/A |

NI = *No Impact*; N/A = *Not Applicable*; LS = *Less-than-Significant*; PS = *Potentially Significant*; S = *Significant*; SU = *Significant and Unavoidable*

# 3 PROJECT DESCRIPTION

## 3.1 INTRODUCTION

The Project Description chapter of this EIR describes the location, setting, objectives, and components of the Calaveras General Plan Update EIR (proposed project). In addition, this chapter includes a discussion of the intended use of this EIR (i.e., the required permits and approvals for the project).

## 3.2 PROJECT LOCATION AND SETTING

Calaveras County encompasses approximately 662,791 acres in the central Sierra Nevada region of California (see Figure 3-1 and Figure 3-2). The County is bordered by Amador County to the north, Alpine County to the east, Tuolumne County to the south, and San Joaquin and Stanislaus counties to the west.

### Physical Features

The County is approximately 53 miles long from west to east and 20 miles wide from north to south. Calaveras County consists of three general topographic areas along the western Sierra Nevada: 1) the western portion of the County is located on the eastern edge of the Central San Joaquin Valley; 2) the central portion of the County is located within rolling foothills beginning at an elevation of approximately 300 feet; and 3) the eastern portion of the County consists of moderate to steep slopes as one travels eastward into the Sierra Nevada, reaching a peak height of 8,170 feet near the Alpine County boundary

Watersheds within the County include the Mokelumne River watershed at the County's northern border, the Stanislaus River and Lower San Joaquin River watersheds at the County's southern/southwestern border, and the Calaveras River watershed in the north-central portion of the County. The Mokelumne, Stanislaus and Calaveras rivers flow through the County collecting water from rain and melting snow to fill the County's numerous reservoirs.

### Nonjurisdictional Areas and Their Relationship to the General Plan

Nonjurisdictional lands represent areas that are controlled by agencies other than the County, and which, therefore are not subject to the provisions in the County General Plan. These areas typically have their own distinct planning processes and land use guidelines.

Approximately 154,803 acres of land within the County are under Public or Quasi-Public ownership and, as such, are controlled by agencies other than the County. Therefore, such nonjurisdictional lands are not subject to the provisions in the County General Plan.

**Figure 3-1**
**Regional Location**

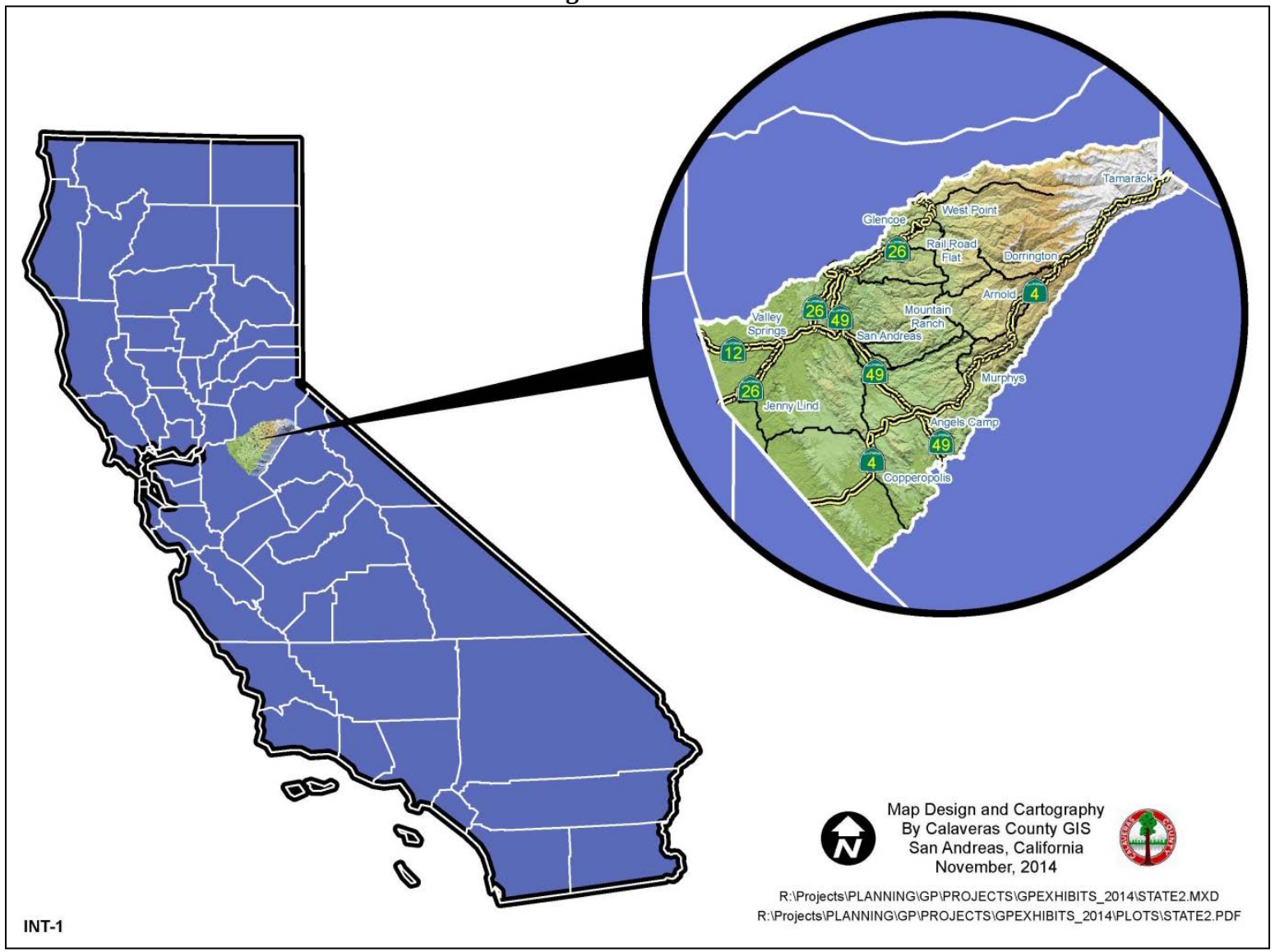
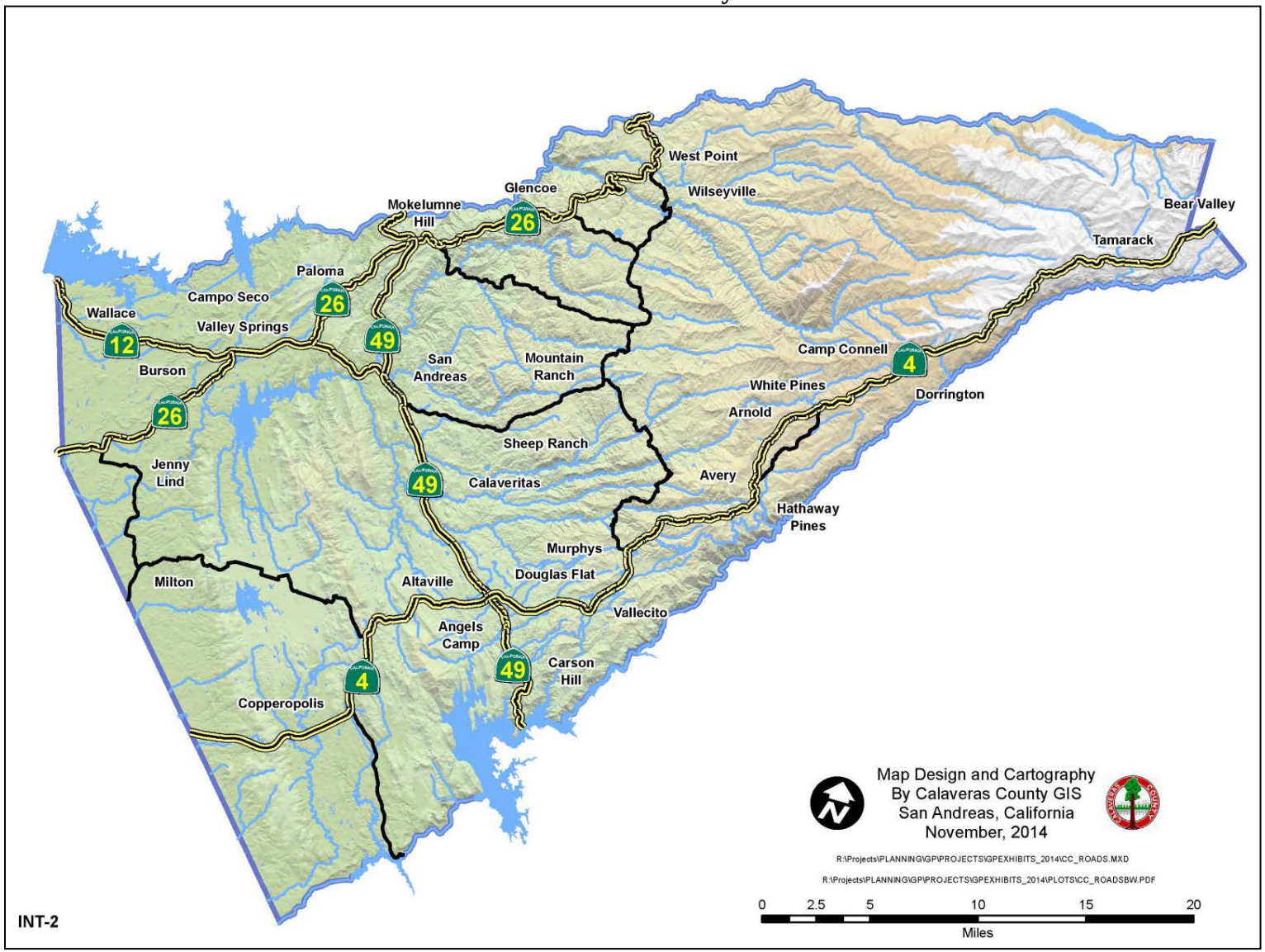


**Figure 3-2**
**Calaveras County**



Such lands are under the jurisdiction of the U.S. Forest Service, the U.S. Bureau of Land Management, the U.S. Bureau of Reclamation/Army Corps of Engineers, the East Bay Municipal Utility District, the City of Stockton, the City of Angels Camp, and various other federal, State, County, and local agencies.

**Background and History of the General Plan Process**

Long-range land use planning in Calaveras County was solidified with the adoption of the original Calaveras County General Plan in 1967. The Board of Supervisors adopted amended versions in 1973, 1974, 1982, 1985 and 1986. The current version of the General Plan reflected text amendments approved by the Board of Supervisors through December 9, 1996.

**Current General Plan Process**

The process of updating the General Plan began in January 2007 and included an extensive public outreach process to solicit feedback on major concepts, alternatives, and proposals. Over the update process hundreds of residents, property and business owners, and stakeholders representing various segments of the County participated by providing their ideas, passions, and energy to plan Calaveras County's future. The outreach included several rounds of community workshops, numerous Planning Commission and Board of Supervisors study sessions, countless meetings in individual communities to develop the community plans, written and oral comments from the public, and participation in Planning Commission and Board of Supervisors hearings. Such input has directly shaped the Draft General Plan. In October of 2016 the Board of Supervisors accepted the Draft General Plan as the project for the purpose of preparing this EIR.

## 3.3 PROJECT OBJECTIVES

The overarching objective of a General Plan is to guide a jurisdiction's growth over a long-term planning horizon, in a manner consistent with the community's vision for the long-term physical form and development of the jurisdiction. The Draft General Plan is intended to reflect the community's expressions of quality of life and community values; satisfy the mandates of state law; and serve as the basis for community decision-making regarding the designations of land uses and the allocation of resources.

The Calaveras County Draft General Plan is designed to protect the rights of property owners, maintaining those rights granted by the U.S. and State of California Constitutions. The Plan acknowledges the fundamental importance of property rights. The intent of the Plan is to balance such rights with goals and policies that are required by the State and desired by the residents of the County.

In guiding growth and development, the Draft General Plan recognizes that Calaveras County is made up of small communities, each with its own unique character, surrounded by agricultural lands, working forests, wildlands, and large expanses of publicly managed forest and recreation lands. In guiding the County's future, the Draft General Plan seeks to promote economic prosperity, protect property rights, and enhance Calaveras County's unique blend of its productive resources and innovative economic pursuits for all to live in, work among, and enjoy.

The specific objectives of the Draft General Plan are as follows:

1. Protect property rights;
2. Provide flexibility in meeting the needs of the County;
3. Promote maintenance and development of productive resources;
4. Promote an improved, business friendly economic climate;
5. Enhance the County's tax base to provide needed services and fiscal stability;
6. Allow for diverse economic growth;
7. Support agriculture, forestry, mineral industries, recreation, and tourism where such endeavors are practical;
8. Preserve the natural beauty of the region where such preservation efforts are appropriate;
9. Preserve the character of historic communities within the County;
10. New development will provide infrastructure necessitated by development and maintain existing levels of service;
11. Maintain transportation connectivity and encourage other modes of transportation;
12. Coordinate the provision of essential services;
13. Protect citizens from hazards; and
14. Maintenance of open space, habitat, and resource lands will be accomplished by the continued ability of those who own, operate, or manage them.

## 3.4 PROJECT COMPONENTS

The Draft General Plan is the blueprint for the community's future. The State Department of Finance (DOF) projects that Calaveras County's population, including the City of Angels Camp, will grow from the current population of 45,578 to approximately 55,541 persons by year 2035 (approximately 9,963 additional people) requiring the addition of approximately 4,353 residential units based on past and predicted future trends. Buildout projections for the County are needed in order to ensure that the County is prepared to accommodate the needs associated with growth in the County as the growth occurs in response to market demands. The Draft General Plan addresses such needs through visions, principles, goals and policies, and various diagrams. Specific project components include buildout projections for the County through 2035, a Land Use Map to accommodate the projected growth, and a total of eight "elements."

### Buildout Projections

An estimate of how many units and population could be accommodated by the most recent version of the General Plan Land Use Map was developed by the County using the County's GIS database system. This estimate is known as "carrying capacity" and represents how much development could occur within the County over the life of the Draft General Plan using a set of described parameters. The "carrying capacity" does not represent actual buildout nor does the estimate express with any certainty what will in fact occur. Rather, "carrying capacity" is simply a way to understand the development potential of the land use map.

A buildout formula was assigned for each General Plan land use designation that accommodates residential units. Next, buildout was calculated for the maximum density of each land use category. The assumed percent buildout for each land use was based on a report provided to the Board of

Supervisors. A percent of buildout was identified providing a reasonable expectation of the amount of the land area dedicated to the residential land use based on infrastructure and topographical constraints, market demand, mix of units, and other variables. For instance, for the mixed use designations of Community Center and Historical Center, a 20 percent residential buildout due to the ability to develop the land for commercial purposes, historical trends for density in these core areas, and the availability of public water and sewage disposal that would limit a site from attaining the maximum density. This would be considered an average for each specific land use designation across the county. Table 3-1 indicates the carrying capacity for all residential land use areas in the County, excluding lands within the City of Angels Camp city limits.

Table 3-2 shows a comparison between existing and potential population under three different scenarios – the current 1996 General Plan, buildout of the proposed Draft General Plan acknowledged by the County Board of Supervisors (BOS), and the DOF projections for Year 2035. Based on 2010 census data, currently 45,578 persons reside in Calaveras County, including the City of Angels Camp. For Year 2035, the Draft General Plan horizon year, the DOF projections demonstrate a modest population increase – 9,963 persons – for a total of 55,541 persons. This equates to an annual increment of 399 persons per year. The table illustrates that adequate carrying capacity exists under the proposed Draft General Plan to accommodate the DOF population projections for Year 2035. As shown in the table, buildout of the Draft General Plan would accommodate approximately 111,527 persons, approximately double the DOF projections for Year 2035. By comparison, the existing General Plan would accommodate approximately 322,900 persons, more five times the DOF projections.

Table 3-3 shows a comparison between existing and potential number of units under the same three scenarios in Table 3-2. According to the 2010 Census Data, 18,886 units exist in Calaveras County, including the City of Angels Camp. Based on DOF population projections, approximately 23,200 units would be in the County in Year 2035. This equates to an annual increment of about 174 units per year.

Table 3-3 illustrates that adequate carrying capacity exists under buildout of the proposed General Plan to accommodate DOF projections for housing growth for Year 2035. The Draft General Plan would accommodate approximately 48,567 units, more than double DOF projections for Year 2035. By comparison, the existing General Plan would accommodate approximately 134,900 units, more than five times the DOF projections.

The tables demonstrate that while the proposed General Plan Land Use Map reduces the amount of potential development allowed by the existing General Plan, the proposed map still provides significant capacity above DOF projections for Year 2035. This allows substantial development flexibility in terms of density, intensity, and location of future development. Therefore, for the purposes of this EIR, buildout of the Draft General Plan includes the addition of 19,979 residential units and a population increase of 71,567 within the County. Future population growth will necessitate the growth of commercial development and employment opportunity within the County, and, as such, the General Plan Land Use Map includes land use designations designed to allow for appropriate growth and development of non-residential sectors.

**Table 3-1**
**Residential Buildout Estimates by Land Use**

| General Plan Land Use Designation | Existing Total County Acreage | Max. Residential Density (du/ac) | Max. Population Density (persons/acre) | Percent Buildout | Estimated Total Units | Estimated Total Population (at 2.41 persons/household) |
|---|---|---|---|---|---|---|
| Community Center (CC) | 747.4 | 20.00 | 47.80 | 20 | 2,990 | 7,205 |
| Historical Center (HC) | 269.6 | 12.00 | 28.68 | 20 | 647 | 1,559 |
| Residential High Density (RHD) | 120.0 | 20.00 | 47.80 | 50 | 1,200 | 2,892 |
| Residential Low Density (RLD) | 7,921.2 | 6.00 | 14.34 | 50 | 23,764 | 57,270 |
| Residential Medium Density (RMD) | 698.5 | 12.00 | 28.68 | 50 | 4,191 | 10,101 |
| Resources Production (RP) | 368,455.2 | 0.03 | 0.06 | 10 | 921 | 2,220 |
| Rural Residential (RR) | 13,599.0 | 1.00 | 2.39 | 50 | 6,800 | 16,387 |
| Rural Transition A (RTA) | 11,674.4 | 0.10 | 0.24 | 50 | 584 | 1,407 |
| Rural Transition B (RTB) | 29,937.7 | 0.20 | 0.48 | 50 | 2,994 | 7,215 |
| Working Lands (WL) | 49,145.3 | 0.05 | 0.12 | 30 | 737 | 1,777 |
| Future Specific Plan (FSP)[1] | N/A | N/A | N/A | 50 | 1,065 | 2,566 |
| Oak Canyon Specific Plan[2] | N/A | N/A | N/A | 100 | 2,675 | 6,447 |
| | | | | | | |
| TOTALS | 482,568.3 | | | | 48,567 | 117,045 |

[1] Per the Land Use Element of the General Plan, FSP areas are subject to the following standards for maximum density and intensity of development: 2,130 total residential units, including a maximum of 100 spaces in an RV park. A buildout of 50 percent was assumed based on other similar residential land uses.

[2] Based on the maximum number of single-family residential units and permanent occupancy units allowed under the County's Development Agreement for the Oak Canyon Ranch Specific Plan.

*Source: Calaveras County General Plan Land Use Element, November 2015. Buildout percentage assumptions are from a report provided to the Board of Supervisors in June of 2015.*

**Table 3-2**
**Comparison of Existing and Potential Population**

| Source | Additional Population | Total Population |
|---|---|---|
| Existing Population[1] | n/a | 45,578 |
| DOF Projections[2] | 9,963 | 55,541 |
| Proposed General Plan[3] | 71,567 | 117,045 |
| Existing General Plan[4] | 277,316 | 322,894 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov). The City of Angels Camp represents 9% of countywide population.
2. For Year 2035. Per projections from the California Department of Finance, Demographic Research Unit, May 2012.
3. Based on an analysis by the Planning Department to the Board of Supervisors in June 2015 of a reasonable buildout scenario that allows for a conservative analysis of impacts.
4. Based on 2.39 persons per household per 2010 Census Data, California Department of Finance and 1996 General Plan projected new units (116,032).

**Table 3-3**
**Comparison of Existing and Potential Units**

| Source | Additional Units | Total Units |
|---|---|---|
| Existing Units[1] | n/a | 18,886 |
| DOF Projections[2] | 4,353 | 23,239 |
| Proposed General Plan | 19,979 | 48,567 |
| Existing General Plan[3] | 116,032 | 134,918 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov).
2. For Year 2035. Per projections from the California Department of Finance, Demographic Research Unit, May 2012.
3. Based on 1996 Calaveras County General Plan.

It should be noted that for most of the technical chapters included in this EIR, determination of impacts is based on buildout of the Draft General Plan in order to provide a conservative analysis. However, in addition to the analysis of buildout, the Noise and Transportation and Circulation chapters of this EIR provide for an analysis of impacts associated with a Market-Level Year 2035 growth scenario. As defined in Chapter 4.13, Transportation and Circulation, of this EIR, the Market-Level Year 2035 growth scenario assumes the addition of 6,374 new dwelling units to the County's housing stock and addition of 1,560 new employees to the County's workforce, which is more intensive than the BOS acknowledged housing growth projections discussed above. The Market-Level Year 2035 growth scenario relies on land use allocation created with UPlan, a simple rule-based growth model developed by UC Davis, based on the BOS acknowledged Draft General Plan buildout scenario.

### Organization of the General Plan

The Draft General Plan is organized into an Introduction chapter and various elements. The Elements serve to address the ways in which the County intends to accommodate buildout projections associated with the Plan. The Introduction chapter provides background on the General

Plan process and includes the vision statements, as well as the key guiding principles, for the Draft General Plan.

The State of California Office of Planning and Research indicates that seven elements are required in a General Plan, as follows: Land Use; Circulation; Housing; Conservation; Open Space; Noise; and Safety. The General Plan includes a total of eight elements plus the adopted 2015 Housing Element. All the Draft General Plan elements include goals and policies carefully drafted to guide successful implementation of the Draft General Plan and the County's overall vision for buildout through the time horizon of 2035. The following sections summarize the eight elements, including the General Plan Land Use Map associated with the Land Use Element.

Land Use Element

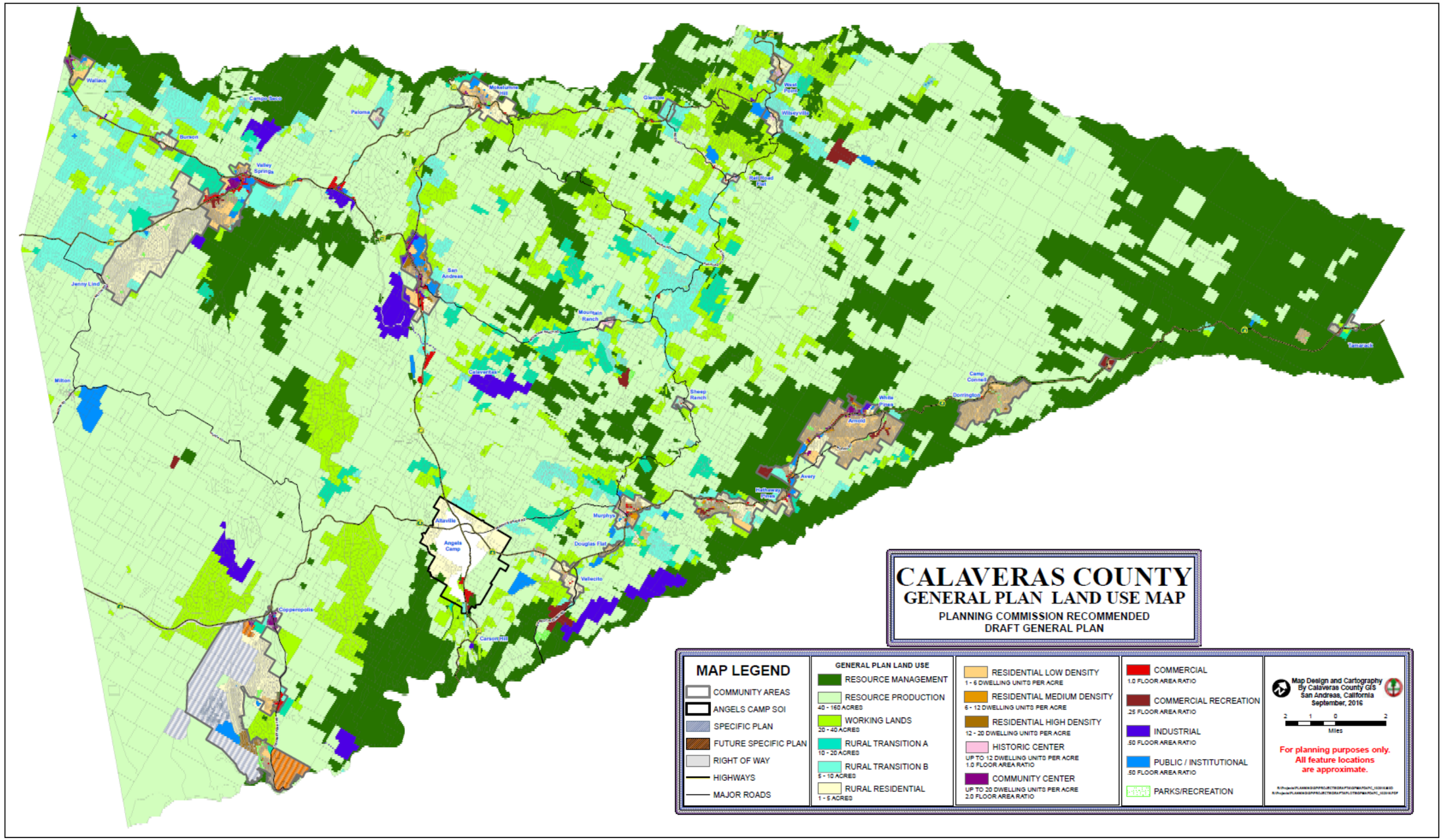
The Land Use Element addresses the requirements of §65302(a) of the Government Code. The Element is intended to serve as a guide for future development in the County and determine many key issues evaluated in other elements of the Draft General Plan. The Land Use Element includes future growth projections for the County based upon the General Plan Land Use Map, which is included in the Element (see Figure 3-3). In addition, the Land Use Element includes a description of each Draft General Plan land use designation. Currently, a total of 16 land use designations are proposed.

The Land Use Element guides the general pattern of development in the County by identifying the general nature, location, density, and intensity of existing and future land uses. Similar land uses are grouped into categories called "general plan land use designations". The distribution of these land use designations countywide is identified on the Calaveras County General Plan Land Use Map.

Land uses are widely distributed throughout the County. Higher density residential, commercial, and industrial uses follow the historical development pattern in and around the existing communities, where infrastructure and services are available. Areas around such communities have been designated to provide for expansion of commercial, industrial, and residential uses to take advantage of that infrastructure, and to reduce the costs of providing services to a more widely scattered population.

The Calaveras County General Plan Land Use Map includes land use designations for all existing communities in the County with the exception of the one incorporated city – the City of Angels Camp.

**Figure 3-3**
**Draft General Plan Land Use Map**



Circulation Element

The Circulation Element addresses the requirements of §65302(b) of the Government Code, except for "other local public utilities or facilities," which are addressed in the Public Facilities and Services Element. The Element provides the framework for decisions regarding the countywide transportation system and includes identification of appropriate levels of service for street operations and congestion; standards for mobility in all modes and for complete streets; ultimate rights-of-way for primary circulation routes; location and feasibility of transit, bicycle, and pedestrian facilities; and appropriate street character and patterns. The Element includes diagrams identifying the primary existing and proposed roadways within the County and their classifications.

Resource Production Element

The Resource Production Element provides policies and implementation measures to protect and enhance the value of agriculture, timber, and mineral resources within the County, and together with the Conservation and Open Space Element, addresses the requirements of §65302(d) of the Government Code.

Conservation and Open Space Element

The Conservation and Open Space Element addresses the requirements of §65302(d) and §65560 of the Government Code, including the conservation, development, and use of natural resources and the preservation and utilization of lands and waters devoted to or managed for open space uses.

Other pertinent resources that are addressed in the Conservation and Open Space Element include forests, woodlands, rangelands, water resources, biological resources, air quality and greenhouse gasses, scenic resources, recreational resources, and cultural and paleontological resources. The current setting of such resources within the County is described as well as approaches to their preservation.

Noise Element

The Noise Element addresses noise as required by Government Code §65302(f). The Element provides a framework for addressing potential noise conflicts between existing and proposed new land uses and serves as a guide for compliance with California's noise insulation standards. The primary objective of the Noise Element is to identify noise sources and minimize exposure of residents, visitors, and businesses to excess noise. Noise contours and thresholds established in the Element will assist the County in determining the appropriate location for noise-sensitive uses.

Safety Element

The Safety Element addresses the requirements of Government Code §65302(g). The Element includes goals and policies relating to natural conditions and human activities that can potentially threaten public health and safety. The Safety Element is intended to reduce the risks associated

with hazards identified in the County and to help the County prepare for and avoid emergency situations.

Public Facilities and Services Element

The Public Facilities and Services Element, together with the Circulation Element, addresses the requirements of §65302(b) of the Government Code. The Public Facilities and Services Element is intended to assist decision makers in ensuring that adequate public facilities and services are provided to the current and future residents as well as visitors of Calaveras County. The Public Facilities and Services Element addresses those facilities and services that may be affected by the County's land use decisions, including, but not limited to, water supply, wastewater, solid waste facilities, energy, law enforcement, and emergency services.

Community Plan Element

The 1996 General Plan included the adoption of six Community Plans (Valley Springs, San Andreas, Mokelumne Hill, Murphys-Douglas Flat, Avery-Hathaway Pines, and Arnold), along with two Special Plans (Rancho Calaveras and Ebbetts Pass.) With the adoption of the Draft General Plan, existing community plans would be rescinded. The Community Plan Element provides policy for the following new Community Plan Areas: Glencoe, Mokelumne Hill, Mountain Ranch, Paloma, Railroad Flat, Rancho Calaveras, San Andreas, Sheep Ranch, West Point, and Wilseyville.

## 3.5 PROJECT APPROVALS AND SUBSEQUENT ACTIONS

A set of actions must be taken by the County to complete the General Plan process, including the following: certification of the EIR; adoption of Findings of Fact and, for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations; adoption of the General Plan; and adoption of a Mitigation Monitoring and Reporting Program (MMRP). Each of these is described in more detail below.

### Certification of the EIR

Before taking action on the Draft General Plan, the Board of Supervisors must certify that the EIR was completed in compliance with CEQA, that the Board reviewed and considered the information in the EIR before action was taken on the General Plan Update, and that the EIR reflects the County's independent judgment and analysis.

### Adoption of Findings of Fact and a Statement of Overriding Considerations

Before certification of the EIR, the County is required to make specific findings of fact pursuant to Public Resources Code §21081 regarding the significant environmental impacts of the project and the feasibility of measures to mitigate those impacts. In addition, before approval of a project which is determined to have a significant and unavoidable impact, the County must consider and adopt a Statement of Overriding Considerations pursuant to CEQA Guidelines Sections 15043 and

15093. In the Statement of Overriding Considerations, the County must explain and justify its conclusion to approve the project regardless of the significant and unavoidable impact.

**Adoption of the General Plan Update**

Following certification of the EIR, the Board of Supervisors may adopt by resolution the Draft General Plan. The Adopted General Plan will include any changes necessitated by mitigation measures in the EIR. Immediately following adoption, a Notice of Determination will be filed with the County Clerk.

**Adoption of a Mitigation Monitoring and Reporting Program**

The County is also required to adopt a mitigation monitoring or reporting program, which will consist of the incorporation of adopted mitigation measures into the General Plan, the monitoring and implementation actions that are included in the General Plan, and the annual report on General Plan status required by the Government Code (see Government Code §65400(b)(1)).

# 4.0 INTRODUCTION TO THE ANALYSIS

## 4.0.1 INTRODUCTION

The Introduction to the Analysis chapter of the EIR analyzes the potential impacts of the proposed project on a range of environmental issues. Chapters 4.1 through 4.13 describe the focus of the analysis, references and other data sources for the analysis, the environmental setting as related to the specific issue, and project-specific impacts and mitigation measures. It should be noted that because the proposed Draft General Plan anticipates development across a large geographical area over a long period of time (buildout 2035), the analysis presented throughout this EIR is inherently cumulative. The format of Chapters 4.1 through 4.13 is described below.

## 4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code §21068). The CEQA Guidelines require that the determination of significance be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within in each technical chapter, and are consistent with significance criteria set forth in the CEQA Guidelines or as based on the professional judgment of the EIR preparers.

## 4.0.3 ENVIRONMENTAL ISSUES ADDRESSED IN THIS EIR

The EIR provides the analysis necessary to address the technical environmental impacts of the proposed project. The following environmental issues are addressed in this EIR:

- Aesthetics;
- Agricultural, Forest, and Mineral Resources
- Air Quality and Greenhouse Gasses;
- Biological Resources:
- Cultural Resources;
- Geology, Soils, and Seismicity;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise and Vibration;
- Population and Housing;
- Public Services and Utilities; and
- Transportation and Circulation.

## 4.0.4 SECTION FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **existing environmental setting** pertaining to that particular environmental issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion. The discussion contains the **standards of significance**, followed by the **method of analysis**. The **impacts and mitigation measures** discussion includes impact statements prefaced by a number in bold-faced type. An explanation of each impact and an analysis of the impact's significance follow each impact statement (see below), followed by all mitigation measures pertinent to each individual impact. The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below.

### 4.x-1 Statement of Impact

Discussion of impact for the proposed project in paragraph format.

Statement of ***level of significance*** of impact without implementation of mitigation is included at the end of each impact discussion. The following levels of significance without implementation of mitigation will be utilized in the EIR: less than significant and significant. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-significant level with implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)
Statement of *level of significance* of impact with implementation of mitigation is included immediately preceding the mitigation measures.

*4.x-1(a)* *Required mitigation measure(s) presented in italics and listed in consecutive order.*

*4.x-1(b)* *etc., etc.*

# 4.1 AESTHETICS

## 4.1.1 INTRODUCTION

The Aesthetics chapter of the EIR describes existing visual and aesthetic resources for the Calaveras County Draft General Plan (proposed project) area and the region, and evaluates the potential aesthetic impacts of the proposed project. The California Environmental Quality Act (CEQA) describes the concept of aesthetic resources in terms of scenic vistas, scenic resources (such as trees, rock outcroppings, and historic buildings within a State Scenic Highway), the existing visual character or quality of the project area, and light and glare impacts. The following impact analysis is based on information drawn from the Ebbetts Pass National Scenic Byway *Corridor Management Plan*,[1] the California Department of Transportation (Caltrans),[2] and the National Park Service (NPS).[3]

## 4.1.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing condition of visual resources within Calaveras County.

### Scenic Highways

The 58-mile stretch of State Route (SR) 4 and 89 known as the Ebbetts Pass National Scenic Byway is located in the counties of Calaveras and Alpine, including 24 miles of road within Calaveras County from east of Arnold to the Alpine County line, between Arnold and Markleeville (Figure 4.1-1). In addition, the County contains SR 49, an eligible State Scenic Highway per the California Scenic Highway Mapping System. Both Ebbetts Pass National Scenic Byway and SR 49 are discussed in greater detail below.

Ebbetts Pass National Scenic Byway

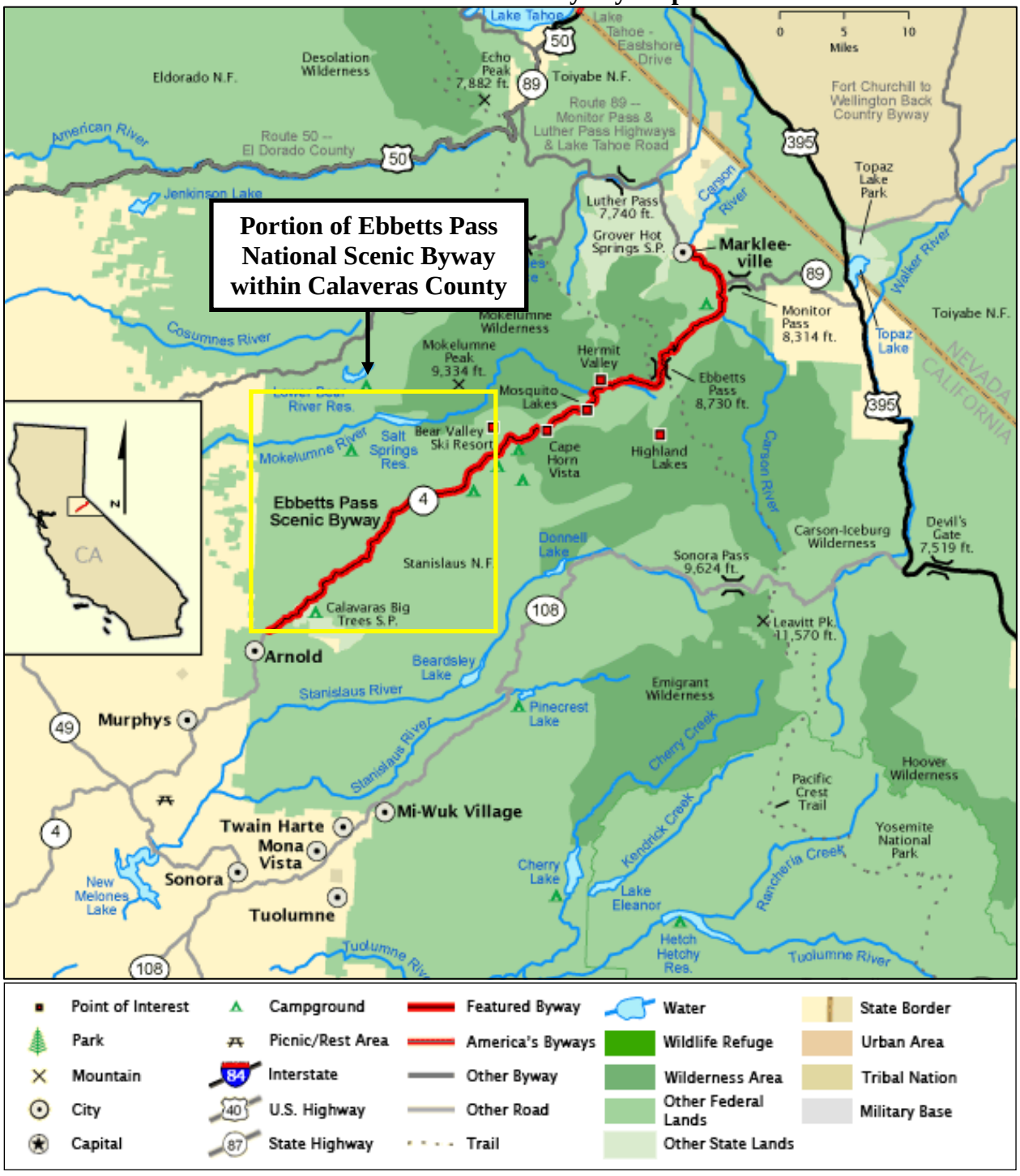
Per the Corridor Management Plan, the Ebbetts Pass National Scenic Byway is considered one of the most scenic drives of all routes over the Sierra Nevada Mountains. National forests and wilderness areas surround the majority of the route.

1 Ebbetts Pass Scenic Byway Association. *2013 Corridor Management Plan, Ebbetts Pass National Scenic Byway.* November 2013.

2 California Department of Transportation. *California Scenic Highway Mapping System, Calaveras County*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/. Accessed January 5, 2017.

3 National Park Service. *Guidelines for the Treatment of Cultural Landscapes.* Updated 2007.

**Figure 4.1-1**
**Ebbetts Pass Scenic Byway Map**




*Source: Federal Highway Administration, Ebbetts Pass Scenic Byway, available at:* https://www.fhwa.dot.gov/byways/byways/2305/maps, *accessed March 2017.*

The Byway is bounded by Calaveras Big Trees State Park and Grover Hot Springs State Park, and passes through the Stanislaus and Humboldt-Tioyabe National Forests. Expansive views of granite outcrops, basalt columns, ancient volcanic peaks, deep river canyons, glacially carved valleys, stands of conifers including giant sequoias, open meadows, clear mountain lakes, and flowing streams and rivers are afforded along the route. In addition, the area, which was home to Native Americans and pioneer emigrants alike, provides a rich historic background. The Byway provides a variety of points of interest, such as the Pacific Crest Trail, Mosquito Lake, Spicer Reservoir, as well as various campgrounds and vistas.

The physical setting of the Byway ranges in elevation from approximately 3,000 to 8,500 feet. The Byway is surrounded by dense mixed conifer forests on the western side of the pass (see Figure 4.1-2), while the eastern side of the pass is noticeably drier, offering open vistas and alpine lakes (see Figure 4.1-3). Figure 4.1-4 presents additional examples of the views offered along the western portion of the Byway located within Calaveras County.

Ebbetts Pass was designated as a California State Scenic Highway in 1971 and was granted a national designation by the U.S. Department of Transportation on September 22, 2005. The scenic designation is meant to preserve the unique scenic, natural, historical, cultural, archaeological, and recreational resources along the scenic byway.

**Figure 4.1-2**
**Western Ebbetts Pass Views**



**Figure 4.1-3**
**Eastern Ebbetts Pass Views**





**Figure 4.1-4**
**Additional Ebbetts Pass Views**





State Route 49

While SR 49 is not officially designated as a State Scenic Highway, the highway is listed as an eligible State Scenic Highway. The road traverses the County north-south and passes through the communities of Carson Hill, Angel's Camp, San Andreas, and Mokelumne Hill. In addition, SR 49 provides access to the Calaveras County Airport. Unlike Ebbetts Pass National Scenic Byway, SR 49 is not included in a special plan.

**Rural Character**

In 1998, the American Planning Association conferred its most prestigious honor, the Daniel Burnham Award, on a Sierra Business Council report published the previous year entitled *Planning for Prosperity: Building Successful Communities in the Sierra Nevada*.[4] The report cited "safeguarding the rural character of the Sierra Nevada by maintaining a clear edge between town and country" as first among a list of ten principles for sound development in the Sierras. A question arising from this principle, however, concerns the precise nature of the "rural character" being safeguarded. The concept of a cultural landscape, as used by the NPS, can serve to more clearly demark the specific qualities of what is meant by rural landscape or character.

Developing a precise description and definition of a given cultural landscape requires research, inventory, site analysis, and planning work by appropriate landscape architecture, historic preservation, and other design professionals that is beyond the scope of this EIR. Nevertheless, at least three rural cultural landscapes within Calaveras County could be defined in broad terms: ranching landscapes, mining landscapes, and forest landscapes. The aforementioned landscapes are what the NPS describes as "historic vernacular landscapes." Unlike consciously-designed cultural landscapes, such vernacular landscapes reflect the physical, biological, and cultural character of the everyday lives of individuals, families, or communities in rural areas.

Ranching Landscapes

Ranching and agriculture play a vital role in the modern Calaveras County economy and also contribute in a major way to the County's landscape of grassy open areas broken by oak trees, barns, corrals, fences, gates, and rock walls. This signature landscape is closely associated with the Sierra foothills that visitors and residents often see from Calaveras County's highways.

Figure 4.1-5 shows a typical open landscape that characterizes major portions of the County. The photo depicts the Tower Barn in the remote Salt Spring Valley area and illustrates key components of the County's visual character: the expansive, open quality of the landscape, a historic barn, and the presence of cattle on the land.

[4] Sierra Business Council. *Planning for Prosperity: Building Successful Communities in the Sierra Nevada.* 1997.

**Figure 4.1-5**
**Tower Barn in Salt Spring Valley**

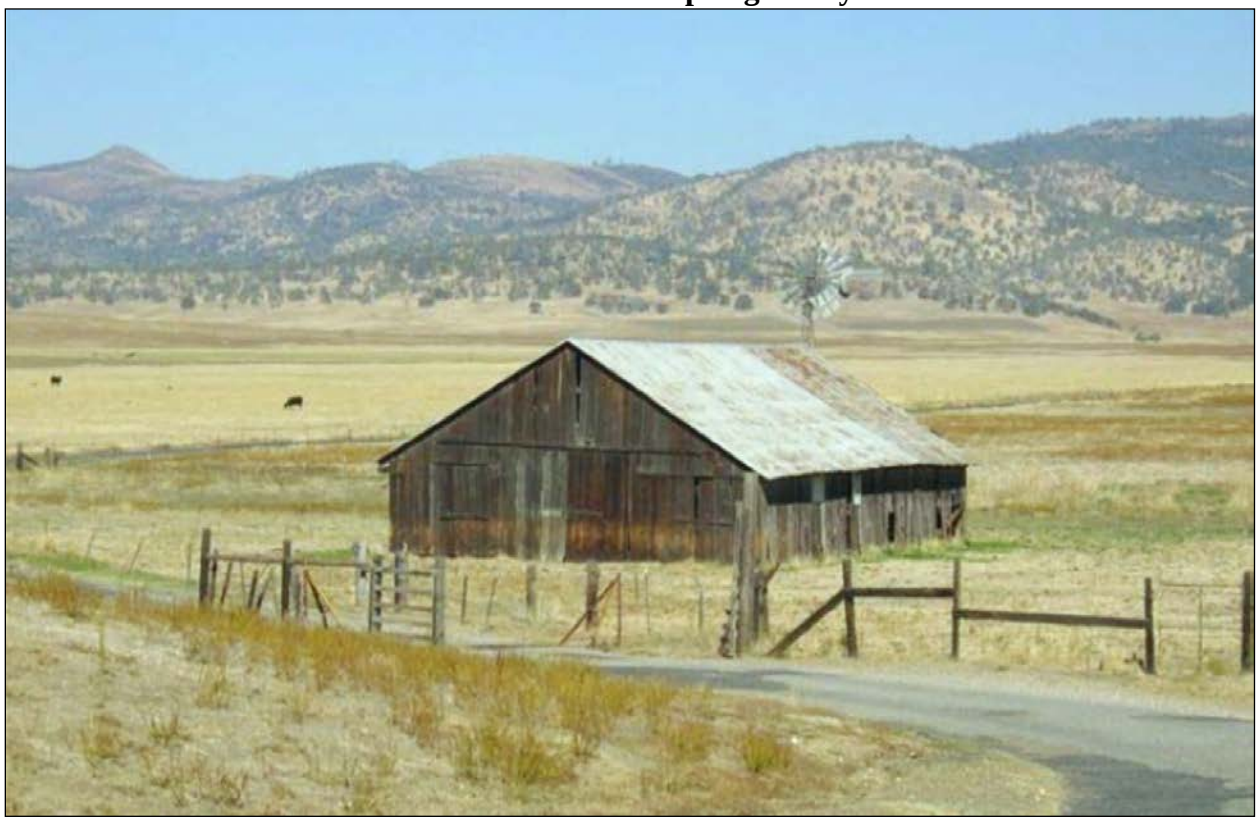


Figure 4.1-6 below also shows a barn as part of working ranching landscape (the Whittle Ranch). However, Figure 4.1-6 was taken in the springtime in the foothills, as opposed to a valley location as shown in Figure 4.1-5. As such, several iconic landscape features (the barn, the large heritage oak, the fencing, the rolling hills, the small flowers in a low-lying portion of the meadow) are shown in the image.

Rock walls, as shown in Figure 4.1-7, form a part of the ranching landscape in many parts of Calaveras County. The rock walls are very distinct landscape features, evocative of Mediterranean landscapes, but with a rural California quality that is very much their own.

Mining Landscapes

During the California Gold Rush, Calaveras County was a hot spot for gold mining, as massive amounts of gold were produced in the region, which was nicknamed the Mother Lode. Nearly every river, creek, stream, mountain, and hill was stripped clean by miners in search of gold. Most Calaveras County towns date from the Gold Rush era, and evidence of mining activity is abundant throughout the rural landscape. At least 26 minerals have been produced commercially within the County, including gold. Mining activities and methods for removal of local minerals such as dredging, blasting, tunnels, shafts, and stamp mills have dramatically transformed the landscape within the County.

**Figure 4.1-6**
**Barn on Whittle Ranch Property**



**Figure 4.1-7**
**Rock Walls near SR 4, West of Copperopolis**



Figure 4.1-8 shows a mining era ditch, one of many originally built for water conveyance purposes. Many of such ditches have colorful names, including Kadish Ditch, Poverty Bar Ditch, Jupiter Ditch, Utica Ditch, Fricot Ditch, and Rock Creek Ditch. Historic ditches often provide good walking trails and habitat values. Other evidence of the Gold Rush and mining era is less visible to the untrained eye. In Figure 4.1-9, grass and trees cover a hillock of rock debris left over from placer mining activity not far from New Melones Reservoir. Such sites are found throughout Calaveras County. Extensive hard rock mining leaves a different imprint on the landscape from placer mining. Figure 4.1-10 shows the pit of the former Gold Cliff hard rock mine located near the City of Angels Camp.

**Figure 4.1-8**
**Mining Era Ditch**



Forest Landscapes

Calaveras County is located in the foothills of the Sierra Nevada, between Sacramento and Yosemite on SR 49. Given the County's proximity to the Sierras, forest landscapes are abundant. National forest lands comprise approximately 12 percent of land within the County. In addition, the U.S. Bureau of Land Management manages approximately five percent of land within the County. These lands include a large portion of the Stanislaus National Forest, Calaveras Big Trees State Park, and the Mokelumne Coast to Crest Trail, which provide recreational opportunities such as hiking as well as serve as refuge for wildlife species in the area.

**Figure 4.1-9**
**Hillock of Placer Mining Debris**



**Figure 4.1-10**
**Gold Cliff Mine Pit**



The Stanislaus National Forest is one of California's oldest national forests, established in 1897. Substantial acreage of the Stanislaus National Forest is located within the eastern portion of the County, including a small portion of the Mokelumne Wilderness area. The Calaveras Ranger District encompasses the SR 4 corridor within the County. Features of the forest landscapes of the Stanislaus National Forest include rugged slopes volcanic ridges and peaks, river canyons, conifer forest, streams, deep granitic canyons, lakes, and meadows. Figure 4.1-11 and Figure 4.1-12 illustrate examples of forest landscapes within the Calaveras Ranger District of the Stanislaus National Forest.

Calaveras Big Trees State Park is bisected by the North Fork Stanislaus River and straddles the Calaveras-Tuolumne County line, with 40 percent of the 6,000 acres (or 2,400 acres) within Calaveras County. Calaveras Big Trees became a State Park in 1931. The key features of the forest landscapes of Calaveras Big Trees State Park are the two groves of giant sequoias, known for their impressive height and girth, and frequented by visitors since the mid-1800's (see Figure 4.1-12).

The Mokelumne Coast to Crest Trail is one of 27 official California State Parks trail corridors that form a statewide trail system linking mountain, valley and coastal communities to recreational, cultural and natural resources throughout the state. The trail roughly follows the Mokelumne River from the river's headwaters at the Sierra Crest down to the river's mouth near Martinez on the Carquinez Strait. Five segments make up the trail, which are spread over six counties. The Upper and Middle Mokelumne segments of the trail start from Ebbetts Pass in Alpine County and run through the western portion of the Stanislaus National Forest in Calaveras County, ending at the SR 49 Bridge in Amador County. As the Upper and Middle Mokelumne segments of the Mokelumne Coast to Crest Trail are located in national forest land, similar forest landscape features and views as the Stanislaus National Forest are offered.

**Community Character**

The County contains a number of diverse communities. Such communities are rich in scenic and historical value, and each community possess distinct characteristics. Table 4.1-1 shows some of the objective distinctions between the larger communities in Calaveras County. Such distinctions include population size, elevation level, and the relationship of a given community to SR 4 and SR 49. The objective distinctions have a strong influence on the character of a given community. For example, communities at lower elevations (to the west) are closer to major urban centers and tend to have larger long-distance commuter populations. Conversely, communities at higher elevations (to the east) tend to have fewer commuters and often more strongly depend on tourism, rural home businesses and cottage industries. Communities immediately adjacent to SR 4, a major tourist corridor, are more likely to provide sites for significant second home development and tourism-related businesses. The most rural portion of the County, generally speaking, is north of SR 4 and east of SR 49. However, other rural areas such as Salt Spring Valley exist in low-elevation locations west of SR 49.

**Figure 4.1-11**
**Stanislaus National Forest Views**





**Figure 4.1-12**
**Calaveras Big Trees State Park View**



**Table 4.1-1**
**Census-Designated Community Areas Within Calaveras County**

| Community | 2010 Census Population | Relative to SR 49 | Relative to SR 4 |
|---|---|---|---|
| **Below 1,000 feet** | | | |
| Copperopolis | 3,671 | West of SR 49 | South of SR 4 |
| Rancho Calaveras | 5,325 | West of SR 49 | North of SR 4 |
| Valley Springs | 3,553 | West of SR 49 | North of SR 4 |
| Wallace | 403 | West SR 49 | North of SR 4 |
| **1,000 feet to 2,000 feet** | | | |
| Angels Camp | 3,836 | On SR 49 | On SR 4 |
| Mokelumne Hill | 646 | On SR 49 | North of SR 4 |
| San Andreas | 2,783 | On SR 49 | North of SR 4 |
| Vallecito | 442 | East of SR 49 | On SR 4 |
| **2,000 feet to 3,000 feet** | | | |
| Mountain Ranch | 1,628 | East of SR 49 | North of SR 4 |
| Murphys | 2,213 | East of SR 49 | On SR 4 |
| Rail Road Flat | 475 | East of SR 49 | North of SR 4 |
| West Point | 674 | East of SR 49 | North of SR 4 |
| **3,000 feet to 4,000 feet** | | | |
| Arnold | 3,843 | East of SR 49 | On SR 4 |
| Avery | 646 | East of SR 49 | On SR 4 |
| **Above 4,000 feet** | | | |
| Dorrington | 609 | East of SR 49 | On SR 4 |

*Source: United States Census Bureau, American FactFinder, Community Facts, available at: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml, accessed March 2017*

In addition to the communities listed in Table 4.1-1, other communities exist within Calaveras County that the U.S. Census Bureau has not designated as official census places. Among the undesignated places are rural hamlets (e.g., Cave City or Campo Seco), housing developments adjacent to other towns (e.g., Douglas Flat or Hathaway Pines), and dispersed rural communities (e.g., Paloma and Sheep Ranch). Individual neighborhoods within larger Calaveras County towns such as Arnold, Copperopolis, the incorporated city of Angels Camp, and others may in some cases self-identify as distinct communities.

## 4.1.3 REGULATORY CONTEXT

Specific federal regulations do not directly pertain to the visual quality of an area. However, the following State and local regulations provide a framework for evaluation of aesthetic resources within the County.

### State Regulations

The following State program is applicable to the proposed project.

California Scenic Highway Program

The goal of the California Scenic Highway Program is to preserve and enhance the natural beauty of California.[5] The State Scenic Highway System includes a list of highways that are either eligible for designation as Scenic Highways or have been so designated. Both eligible highways and officially designated State Scenic Highways are identified in Section 263 et seq. of the California Streets and Highways Code. Roadways designated as State Scenic Highways are protected under CEQA.

### Local Regulations

The following local goals and policies are applicable to the proposed project.

2013 Ebbetts Pass National Scenic Byway Corridor Management Plan

An Ebbetts Pass National Scenic Byway Corridor Management Plan (CMP) was originally adopted in 2004 and was updated in 2013. The CMP provides the vision, goals, and management recommendations for protecting and enhancing the Ebbetts Pass National Scenic Byway. The CMP is designed to provide guidance to federal, state, and local agencies, private landowners, and interested businesses in showcasing the scenery, historical significance, and extensive recreation opportunities present along the route.

The Ebbetts Pass Scenic Byway Association, is the local management organization for the Ebbetts Pass National Scenic Byway. The group was formed in 2006 to implement preservation and enhancement programs to protect the scenic and recreational resource. The updated CMP acts as the guiding document for the Association.

[5] California Department of Transportation. *Scenic Highway Guidelines* [pg. 2]. October 2008.

1988 Ebbetts Pass Highway Special Plan

In 1984, the County adopted the Ebbetts Pass Scenic Highway Special Plan; the Plan was last updated in 1988. The 1988 Special Plan is intended to guide the management of private lands in the vicinity of SR 4. While the 1988 Special Plan recognizes the unique natural and scenic attributes of the area, few specific provisions are made in the Plan for the preservation of such attributes. The land use diagram for the Ebbetts Pass Highway Special Plan designates much of the land along the SR 4 corridor for resource production. However, within such land, land uses such as community centers, resort centers, and other commercial, recreational, and residential uses are allowed, especially near the existing communities of Dorrington and Cottage Springs.

Calaveras County Code of Ordinances

The Calaveras County Code of Ordinances reflects legislation adopted by the County. The Code provides a means of implementing the policies of the Calaveras County General Plan and sets forth development standards for the County. Such development standards often involve limits on the allowable size of structures, required setbacks, and design guidelines.

Title 17 – Zoning – of the Calaveras County Code of Ordinances includes numerous standards relating to aesthetic resources. Section 17.70.090 includes requirements that lighting provided in conjunction with parking areas is installed, directed, and shielded to limit direct rays of light to the boundaries of such facilities. Section 17.72 – Signs and Billboards – includes provisions for lighting and glare related to signs within the County. In addition, various sections within Title 17 require specific shielding of exterior lighting within certain zones, including, but not limited to, Two-Family and Multiple-Family Residential Zones, Rural Home Industry Zones, Local and General Commercial Zones, and Specific Plan Zones.

## 4.1.4 Impacts and Mitigation Measures

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to aesthetic resources.

**Standards of Significance**

Consistent with Appendix G of the CEQA Guidelines, the Draft General Plan would result in a significant impact to aesthetic resources if development would do any of the following:

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

**Method of Analysis**

The section below gives full consideration to the implementation of the Draft General Plan and acknowledges the physical changes to the existing setting. Impacts to the existing environment of the project area are to be determined by the contrast between the site's visual setting before and after buildout of the Draft General Plan. In addition, the following analysis utilizes a methodology based upon a Federal Highway Administration (FHWA) publication, *Visual Impact Assessment for Highway Projects*, as well as a USFS publication, *Landscape Aesthetics*.[6,7] Together, both sources provide the key analytical framework and guide the visual impact assessment process for the Draft General Plan. The visual quality of aesthetic resources within the County are assessed based on the following criteria:

- Vividness — the visual interest and memorability provided by landscape components;
- Intactness — the visual integrity of the natural and human-built landscape and freedom of the landscape from encroaching elements; and
- Unity — the visual coherence and order of the landscape.

The following discussions include an assessment of the anticipated changes in visual quality, evaluating such changes with respect to anticipated viewer response. The standards of significance listed above are used to delineate the significance of any anticipated visual or aesthetic alterations that would occur as a result of buildout of the Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts related to visual resources is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.1-1 Substantial adverse effect on a scenic vista, or substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. Based on the analysis below, the impact is *less-than-significant.***

Buildout of the Draft General Plan would result in population growth within County as well as development of previously undeveloped areas. Such growth and development has the potential to affect scenic vistas, natural resources, and resources within State Scenic Highways.

The sole scenic vista identified by the County consists of the Ebbetts Pass National Scenic Byway. As noted previously, the Byway is covered by the 2013 CMP, which provides guidance for maintaining and managing the Byway. It should be noted, however, that the 2013 CMP does not provide regulations or restrictions. Similarly, while the 1988 Special

[6] Federal Highway Administration. *Visual Impact Assessment for Highway Projects.* 1988.
[7] United States Department of Agriculture, Forest Service. *Landscape Aesthetics, A Handbook for Scenery Management.* December 1995.

Plan provides guidance in the form of goals and policies related to land use within the Byway area, the Plan does not make particular provisions for preservation of the scenic environment of the area.

The section of SR 4 identified as the Ebbetts Pass National Scenic Byway is also listed as an officially designated State Scenic Highway per the California Scenic Highway System. In addition, the remaining stretch of SR 4 between Arnold and the City of Angels Camp, as well as the entirety of SR 49 within the County, is listed as an eligible State Scenic Highway. Therefore, impacts to resources, such as trees, geologic features, rock outcroppings, or historic buildings, within the officially designated section of SR 4 would be considered significant. While the undesignated portion of SR 4 and the entirety of SR 49 within the County are not protected at the same levels as the officially designated portion of SR 4, both roadways have the potential to be designated as official State Scenic Highways in the future. For the purposes of this EIR, impacts to scenic resources within such roadways would be considered significant.

The Draft General Plan includes policies and associated programs that are intended to protect the County's aesthetic resources from the impacts of future development. The Land Use (LU) Element of the Draft General Plan includes the following goals and policies related to protection of scenic vistas and natural resources:

Goal LU-4 Community Character and Design – High quality, well-designed development that is compatible with surrounding uses and is integrated with the community and the physical environment in which it is located.

Policy LU 4.1 New development shall be designed to be compatible with the natural, scenic, and historic resources of Calaveras County. (IM LU-4A, LU-4C, and LU-4F)

Policy LU-5.3 Recognize the county's unique recreational, scenic, cultural, historic and agricultural resources as strong economic generators and encourage their retention and expansion. (IM LU-5D)

In addition, the Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals, policies, and implementation measures (IMs) related to scenic vistas and natural resources.

Goal COS-5 Scenic Resources – Abundant scenic resources that preserve rural character, quality of life, and tourism-based economic development, while protecting property rights.

Policy COS 5.1 Encourage the conservation of natural and historic landscapes and important landmarks as scenic resources important to the County's rural character, scenic beauty and the tourism component of the economy. (IMs COS-6A and COS-6B)

Policy COS 5.2 Maintain scenic resources along designated scenic highways in the County. (IMs COS- 6A and COS-6B)

Policy COS 5.3 Proposed new development shall consider the scenic qualities of the natural resources in the design of the project. (IMs COS-6A and COS-6B)

IM COS-6A Flexible Development Standards – Review and amend, as applicable, the County Code to incorporate flexible development standards that encourage the retention of scenic resources, landmarks, and the natural landscape.

IM COS-6B Hillside and Hilltop Construction Guidelines – Formulate guidelines for hillside and hilltop development facilitating landscape compatible project design. Guidelines should address minimizing grading and the topographical alteration it necessitates, fire-safe construction techniques, vegetation retention, retaining wall enhancement, alternative road construction techniques to reduce cuts and fills, and illustrate techniques for blending new construction with the surrounding hillsides and hilltops.

IM COS-7F Corridor Plans – Participate in comprehensive and regional highway, roadway, creek, river and other corridor planning efforts in cooperation with neighboring jurisdictions to identify opportunities for creating new and integrating existing recreational facilities and achieving other General Plan goals and policies (e.g., facilitating economic development, conserving scenic vistas, preserving water quality).

The above goals, policies, and IMs would create a regulatory environment under which the vividness, intactness, and unity of scenic vistas and/or State Scenic Highways is retained, allowing for continued enjoyment and appreciation of aesthetic resources by residents of and visitors to the County. Policy COS 5.2 and IMs COS 6-A and 6-B specifically protect, and encourage the retention of, designated State Scenic Highways within the County. Policy LU 4.1 would help to reduce impacts to the eligible State Scenic Highways within the County. In addition, a majority of the land adjacent to the Ebbetts Pass National Scenic Byway is designated as Resource Management in the Draft General Plan Land Use Map. Such a designation would prevent extensive urbanization and development from occurring alongside the Byway, thereby preserving the intactness and unity of the areas adjoining the roadway. Therefore, with implementation of the General Plan's goals and policies related to aesthetics, the project would result in a ***less-than-significant*** impact to scenic vistas and natural resources, including resources located within a State Scenic Highway.

Mitigation Measure(s)
*None required.*

**4.1-2 Substantial degradation of the existing visual character or quality of the project site and/or the site's surroundings. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

As discussed previously, the rural character of Calaveras County may be defined in terms of Ranching, Mining, and Forest Landscapes. Ranching Landscapes are a predominant component of the views experienced by motorists traveling the highways within Calaveras County, particularly in the large open spaces found in the western portion of the County, while Forest Landscapes are more prevalent throughout the eastern portions of the County, where elevations are higher. Mining Landscapes are generally associated with creeks, streams, and other waterways in the western half of the County.

The LU Element of the Draft General Plan includes three Natural Resource Lands land use designations: Resource Management, Resource Production, and Working Lands. Typical uses for Resource Production Lands would include low intensity agriculture, forestry, open space conservation, and natural resource management, while Resource Production areas would typically involve lands capable of, and primarily used for, agricultural operations, timber production, and mineral resource production. Working Lands include land uses that are similar to Resource Production but are specifically intended for smaller parcels of land. Working Lands are intended to allow for continuation of small scale resource production and other rural-home-based business operations that are compatible with rural residential development.

In addition, the Draft General Plan Land Use Map includes a Mineral Resource overlay land use designation. The designation identifies properties that have been classified by the State Mining and Geology Board as "Mineral Resource Zones" MRZ- 2a or MRZ-2b under the State Classification System, lands classified as Mineral Resource Areas of Regional or Statewide Significance by the State Mining and Geology Board, and lands classified as MPA- 2A, and MPA-2B by Calaveras County that are suitable for mineral extraction per existing geotechnical studies.

Areas within the County determined to include substantial agricultural, mineral, and/or forest resources are designated by the Draft General Plan Land Use Map as Resource Management, Resource Production, or Working Lands. Such land use designations would allow for continued use of such resources and would limit development to land uses which would be considered compatible with resource production and management. Nevertheless, buildout of the Draft General Plan would inevitably result in changes to the existing rural character of the County as new development introduces modern architectural styles, new buildings, and population growth to currently undeveloped areas. Furthermore, the intensification of land use anticipated to occur in urban areas may be considered an adverse effect to some viewers due to the presence of additional structures and the corresponding reduction in vacant land surrounding the existing urban uses within the County. For example, as noted in Chapter 4.12, Public Services and Utilities, of this EIR, construction of new repeating towers would be required in order to expand the geographic radio coverage of the County's data communications systems. The repeating towers, which would be similar in appearance to cell towers, would be likely located at high points

throughout the eastern portion of the County in order to maximize range of coverage. As such, the towers could have an adverse effect on the intactness of the natural landscape in such areas, including, but not limited to, the Ebbetts Pass National Scenic Byway and the forest landscapes discussed above.

However, as detailed below, policies in the Draft General Plan would encourage new development to be compatible with the scale and character of existing development and would help to retain the vividness, intactness, and unity of the existing rural landscapes within the County.

The LU Element of the Draft General Plan includes the following goals and policies related to protecting the visual character and quality throughout the County.

Policy LU 1.2 Support growth in and around existing communities while protecting and enhancing community and neighborhood character.

Policy LU 1.3 Encourage development of infill parcels and redevelopment of underused properties. (IM LU-2B and LU-2C)

Goal LU-2 A land use pattern that allows those who own, operate, or manage the productive resources in the county, to maintain open space, wildlife habitat, agricultural lands, mineral resources and forests.

Policy LU 2.2 Maintain availability of the Williamson Act contracts and other protections for agricultural, mineral and timber productivity as set forth in the Resource Production Element. (IM LU- 2A)

Policy LU 4.4 Encourage clustering of residential development where appropriate, based on availability of infrastructure and community character, to increase open space and housing affordability, and reduce infrastructure costs. (IM LU-2A and LU-2E)

Policy LU 4.6 Ensure that the design of community-oriented public facilities is compatible with community character. (IM LU-4A and LU-4G)

Policy LU 4.7 New non-residential development shall be designed to integrate with and enhance the community and surrounding uses by utilizing compatible architecture and site design. (IM LU-4A, LU-4C, LU-4F and LU-4H)

The COS Element of the Draft General Plan includes the following goals, policies, and IMs related to visual character and quality.

Goal COS-5 Scenic Resources – Abundant scenic resources that preserve rural character, quality of life, and tourism-based economic development, while protecting property rights.

Policy COS 5.1 Encourage the conservation of natural and historic landscapes and important landmarks as scenic resources important to the County's rural character, scenic beauty and the tourism component of the economy. (IMs COS-6A and COS-6B)

Policy COS 6.1 Work with community organizations and special districts to develop park and active recreation facilities, striving to provide a minimum of 3 acres of local park land for every 1,000 County residents. (IM COS-7A, COS-7B, COS-7C and COS-7G)

IM COS-6A Flexible Development Standards – Review and amend, as applicable, the County Code to incorporate flexible development standards that encourage the retention of scenic resources, landmarks, and the natural landscape.

IM COS-6B Hillside and Hilltop Construction Guidelines – Formulate guidelines for hillside and hilltop development facilitating landscape compatible project design. Guidelines should address minimizing grading and the topographical alteration it necessitates, fire-safe construction techniques, vegetation retention, retaining wall enhancement, alternative road construction techniques to reduce cuts and fills, and illustrate techniques for blending new construction with the surrounding hillsides and hilltops.

The goals, policies, and IMs included in the Draft General Plan would minimize changes to the County's predominantly rural aesthetic character. As depicted in the proposed General Plan Land Use Map, as well as Policy LU 1.2 and 1.3 above, the Draft General Plan would promote growth within existing communities and would encourage infill development. Infill would reduce the pressure for development that encroaches upon ranching and forest landscapes, thus minimizing the potential for the loss of open lands throughout the County. Rural areas of the County would continue to serve as buffers between urbanized communities.

IM COS-6A and -6B provide development standards and construction guidelines for the County with which future projects would be required to comply. The development standards address site development, building design, standardized setbacks, accents, landscape, and lighting. The development standards are intended to allow for flexible development within existing communities and to accommodate the diverse needs of businesses and residents.

The Draft General Plan is intended to guide development in the County such that the needs of all residents and businesses within the County are met without placing an undue burden on the aesthetic resources of the County. For example, the Land Use Element of the Draft General Plan includes Rural Transition land use designations (RTA and RTB), which identify areas of existing rural neighborhoods. The designations are intended to retain the historic character of rural residential subdivisions that have developed in the County over

time and allow for flexible land uses within such areas. RTA and RTB designated land may include non-residential uses such as berry farms, vineyards, vegetable farms, orchards, and other similar small agriculture or forestry operations. The Draft General Plan Land Use Map designates a substantial portion of land as RTA and RTB along Railroad Flat Road, Mountain Ranch Road, and in the vicinity of the Valley Springs community. Elsewhere throughout the County, the Draft General Plan Land Use Map designates much of the land surrounding the County's major thoroughfares as Resource Production and Resource Management. Neither of the two land use designations allow for high intensity urban development, instead encouraging existing agricultural, mineral, and forestry operations. By focusing new, higher-intensity development in existing communities and limiting the intrusion of incompatible development throughout the rural areas of the County, the Draft General Plan would maintain the vividness and intactness of the County's rural communities.

The aforementioned goals, policies, and IMs reflect the effort that has been expended to achieve an appropriate balance of development and rural character. However, buildout of the Draft General Plan would result in development, which, without project-specific analysis, could substantially alter the existing visual character of areas throughout Calaveras County. Therefore, while the Draft General Plan would minimize the negative effects of future development on the existing rural landscapes within the County, such effects cannot be conclusively characterized without additional, project-specific analysis. As such, the proposed project would have a ***significant*** impact related to degradation of the existing visual character or quality of the County.

Mitigation Measure(s)

Implementation of the following mitigation measures would minimize adverse effects to the existing visual character and quality of the County associated with construction of new communication infrastructure. However, beyond the goals, policies, and IMs in the Draft General Plan, other feasible measures are not available to reduce impacts related to degradation of the existing visual character or quality of the County associated with buildout of the Draft General Plan. Therefore, the impact is considered *significant and unavoidable*.

*4.1-2(a)* *Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*

*IM PF-4D* *Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public. The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new emergency communications facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new emergency communications facilities.*

*4.1-2(b) Implementation Measure LU-5A of the Draft General Plan shall be revised as follows:*

*IM LU-5A Adopt a Telecommunications Facilities Ordinance – Adopt a telecommunications facilities ordinance consistent with the requirements of the Telecommunications Act of 1996 and including provisions for undergrounding, co-locating, and stealth or other creative design methods to minimize the visual impact of these facilities. The ordinance should facilitate the expansion of broadband internet service throughout the county. Furthermore, the ordinance shall require that all new telecommunications facilities, including emergency communications facilities, be masked or otherwise disguised, at the County's discretion, in order to ensure that the facilities blend with the surrounding natural environment.*

**4.1-3 Creation of new sources of substantial light or glare that would adversely affect day or nighttime views in the area. Based on the analysis below, the impact is *less than significant*.**

Development of previously undeveloped land often has the potential to create new sources of light and glare. Increases in the amount of nighttime light within the County could partially obscure views of stars and other features of the night sky. As a County composed primarily of rural and undeveloped areas, residents of Calaveras County enjoy a nighttime lighting environment which is minimally affected by light pollution and which maintains a sense of intactness and unity with the natural environment. Development occurring under buildout of the Draft General Plan would have the potential to introduce building and street lighting in currently undeveloped areas of the County, which could alter existing unlit conditions in such areas.

The LU Element of the Draft General Plan includes the following goals, policies, and IMs related to minimization of light and glare within the County:

Goal LU-4 High quality, well-designed development that is compatible with surrounding uses and is integrated with the community and the physical environment in which it is located.

Policy LU 4.3 Ensure new development is designed in a manner that is compatible with surrounding land uses through design and buffering, addressing potential impacts from noise, lighting, and traffic. (IM LU-2A, LU-4A, LU-4C, LU-4F, LU-4G and LU-4H)

Policy LU 4.10 Retain the rural nature of the county's communities and dark skies by controlling light pollution (glare, light trespass, and night sky glow). (IM LU-4B)

IM LU-4B Adopt a dark sky ordinance that addresses excessive light spillage and glare on adjacent properties and protection of the rural night sky.

All new projects within the County would be required to comply with the Title 17 of the Calaveras Code of Ordinances, which includes specific regulations requiring shielding of exterior lighting, limiting of light spillage in parking lot areas, and minimization of light and glare associated with signs within the County. The goals, policies, and IMs listed above would bolster existing regulations stipulated in the County Code and would help to minimize the amount of light and glare created by buildout of the Draft General Plan.

Buildout of the Draft General Plan would create new sources of light and glare within the County. However, with compliance with the County's existing regulations governing light and glare, as well as guidelines provided in the Draft General Plan, light and glare associated with new development under the Draft General Plan would be minimized, and would not be expected to have a substantial effect on the nighttime lighting environment of the County. Therefore, impacts due to new sources of light and glare associated with implementation of the Draft General Plan would be ***less-than-significant.***

Mitigation Measure(s)
*None required.*

# 4.2 AGRICULTURAL, FOREST, AND MINERAL RESOURCES

## 4.2.1 INTRODUCTION

The Agricultural, Forest, and Mineral Resources chapter of the EIR includes a description of the existing agricultural, forest, and mineral resources within Calaveras County. The chapter examines how buildout of the Calaveras County Draft General Plan would affect agricultural farmland, Williamson Act contracts and existing zoning for agricultural use, existing forest land or land zoned Timberland Production, and availability of locally and regionally valuable mineral resources. The following information sources were utilized for this evaluation: the *Calaveras County Draft General Plan*, *Mines and Mineral Resources of Calaveras County, California*,[1] the California Geological Survey, the California Department of Conservation Division of Mine Reclamation (DMR) (formerly the Office of Mine Reclamation), and the Calaveras County Department of Agriculture.

## 4.2.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing condition of agricultural resources, important farmland, Williamson Act contracts, timber resources, forest resources, and mineral resources within Calaveras County.

### Agricultural Resources

A wide variety of agricultural products are grown and produced in Calaveras County, which allows the County to add to the rich agricultural tradition of California. Many fruit and nut crops, including wine grapes, field crops, vegetable crops, apiary products, nursery crops, livestock and poultry, and timber are part of the Calaveras agricultural industry. Cattle and calves are the County's leading farm commodity. In addition to cattle and calves, wine grapes and poultry are major contributors to agricultural production.

Pursuant to Section 2279 of the California Food and Agricultural Code, Calaveras County Department of Agriculture publishes a yearly report describing the agricultural economy of the previous year. The report identifies recent changes in agricultural production and lists the top agricultural producing sectors as ranked by agricultural production value. According to the most recent report, the leading farm commodities for Calaveras County are valued as shown in Table 4.2-1.[2]

[1] California Division of Mines and Geology. *Mines and Mineral Resources of Calaveras County, California*. 1962.
[2] Calaveras County Department of Agriculture. *Calaveras County 2015 Crop Report.* 2016.

| Table 4.2-1<br>Leading Farm Commodities | |
|---|---|
| **Commodity** | **2015 Value** |
| Cattle and Calves | $9,324,000 |
| Wine Grapes | $2,710,000 |
| Poultry | $5,250,000 |
| Walnuts | $2,214,000 |
| Sheep and Lambs | $186,000 |
| Apiary | $200,000 |
| Nursery Products | $160,000 |
| Miscellaneous Livestock | $120,000 |
| *Source: Calaveras County Department of Agriculture, 2015.* | |

With the exception of a slight increase in 2014, the amount of farmland in the County has remained relatively consistent between 2012 and 2015, as shown below in Table 4.2-2. In 2015, farmland comprised approximately 32 percent of the total land in Calaveras County.

| Table 4.2-2<br>Agricultural Production Trends from 2008-2015 | | | |
|---|---|---|---|
| **Year** | **All Farmland (acres)** | **Land in Agricultural Preserves (acres)** | **Land in Timber Preserves (acres)** |
| 2012 | 201,026 | 143,000 | 77,500 |
| 2013 | 201,026 | 143,000 | 77,500 |
| 2014 | 212,140 | 143,000 | 77,500 |
| 2015 | 212,140 | 143,000 | 77,500 |
| *Source: Calaveras County Department of Agriculture, 2012-2015.* | | | |

Table 4.2-3 shows the leading farm commodities for the years 2012 through 2015. Table 4.2-4 shows the leading field crop commodities for the years 2012 through 2015.

| Table 4.2-3<br>Agricultural Production Value Trends 2012-2015 (Farm Commodities) | | | | |
|---|---|---|---|---|
| **Agricultural Commodity** | **2012** | **2013** | **2014** | **2015** |
| Cattle and Calves | $10,300,000 | $9,340,000 | $13,684,000 | $9,324,000 |
| Poultry* | $2,965,000 | $2,230,000 | $2,073,000 | $5,250,000 |
| Grapes (Wine) | $2,814,000 | $3,415,000 | $2,710,000 | $2,710,000 |
| Walnuts | $1,872,000 | $2,278,000 | $2,214,000 | $2,214,000 |
| Timber | $6,755,000 | $6,895,000 | $340,000 | $1,719,000 |
| Sheep and Lambs | $203,000 | $170,000 | $230,400 | $186,000 |
| Vegetable Crops | $273,000 | $200,000 | $220,000 | $220,000 |
| Apiary | $91,000 | $150,000 | $200,000 | $200,000 |
| Nursery Products | $346,000 | $221,000 | $160,000 | $160,000 |
| Miscellaneous Livestock** | $40,000 | $61,000 | $104,000 | $120,000 |
| * Includes chickens, turkeys, game birds, squab, rabbits, etc.<br>** Includes goats, emus, llamas, ostriches, etc.<br><br>*Source: Calaveras County Department of Agriculture, 2012-2015.* | | | | |

**Table 4.2-4**
**Agricultural Production Value Trends 2012-2015 (Field Crops)**

| Field Crop | 2008 | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| Grain Hay | $112,000 | $93,000 | $99,000 | $68,000 |
| Pasture | $260,000 | $260,000 | $260,000 | $260,000 |
| Rangeland | $3,201,000 | $3,201,000 | $3,960,000 | $3,362,000 |
| Miscellaneous* | $35,000 | $43,000 | $47,000 | $50,000 |

* Includes legume hay, native hay, etc.

*Source: Calaveras County Department of Agriculture, 2012-2015.*

## Important Farmland

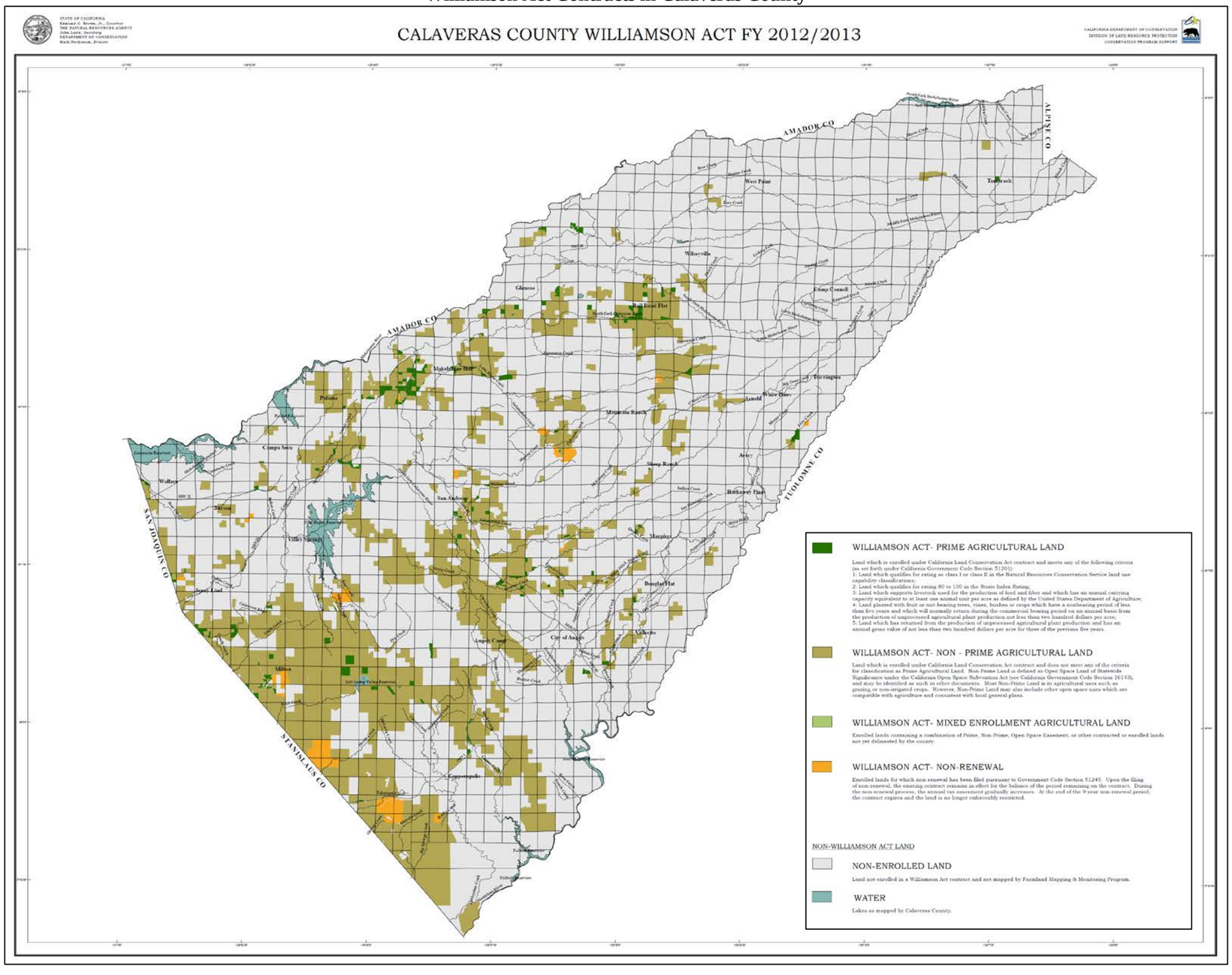
The California Department of Conservation (DOC), under the Division of Land Resource Protection, has developed the Farmland Mapping and Monitoring Program (FMMP) that monitors the conversion of the State's farmland to and from agricultural use. County-level data is collected and a series of maps are prepared that identify eight classifications and uses based on a minimum mapping unit size of 10 acres. The program also produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the Important Farmland Series Maps every two years.

The FMMP is an informational service only and does not constitute State regulation of local land use decisions. Agricultural land is rated according to several variables including soil quality and irrigation status with Prime Farmland being considered the most optimal for farming practices. Other FMMP designations include Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, Other Land and Water. Calaveras County does not currently have important farmland mapping data available and data has not been included in the FMMP. Therefore, the full extent of prime or unique farmlands is unknown. However, given the rich characteristics of soils and agricultural resources in the County, it is highly plausible that some lands within the County meet the various criteria for important farmlands.

## Williamson Act Contracts

A Williamson Act contract represents agreements to restrict land to agricultural or open space uses in return for lower than normal property tax assessments, as lands under such contracts are assessed based on agricultural value rather than full market value. Figure 4.2-1 provides the locations of parcels within the County that were under active Williamson Act Contracts or Williamson Act Contracts in non-renewal status as of 2013. Contracts in non-renewal status will be terminated following the end of the non-renewal period (typically nine years from filing of a Notice of Nonrenewal). The figure also differentiates between land that is defined as prime and non-prime agricultural land. As can be seen in the figure, lands under Williamson Acts tend to be concentrated in the western portion of the County.

**Figure 4.2-1**
**Williamson Act Contracts in Calaveras County**



**Timber Resources**

As of 2015, the County contained approximately 77,500 acres of land zoned as Timberland Production (TP).[3] Per Section 17.14.010 of the County Code of Ordinances, lands in the TP zone are commonly known as timber preserves. A discussion of the rules and regulations applying to TP zones is provided in the Regulatory Context section of this chapter.

Timberland in Calaveras County is under both public and private ownership, and is concentrated in the eastern portion of the County generally at elevations above approximately 2,500 feet. Sierra Pacific Industries (SPI) has the largest private ownership of timberlands in the County with approximately 72,541 acres. The U.S. Forest Service manages 75,072 acres in Calaveras County in the Stanislaus National Forest and allows timber harvesting on a portion of such lands. Timber harvesting on private land is governed by the California Forest Practice Rules as they apply to the Southern Forest District, the region encompassing Calaveras County.

The timber industry has played an important role in the agricultural field, and the economy in general, in Calaveras County. As shown in Table 4.2-5 below, timber production values have fluctuated widely in the County.

**Table 4.2-5**
**Timber Production Trends from 2012-2015**

| Year | Amount (Million Board Feet) | Value (Dollars) |
|---|---|---|
| 2012 | 39,257 | 6,755,000 |
| 2013 | 36,257 | 6,895,000 |
| 2014 | 1,948 | 340,000 |
| 2015 | 9,717 | 1,719,000 |

*Source: Calaveras County Department of Agriculture, 2012-2015.*

As shown above, the value and amount of timber production decreased substantially in 2014 as a result of the Rim Fire in Tuolumne County, which caused lumber companies to prioritize the harvest of salvage lumber over the normal timber harvest.

**Forest Resources**

Forests in Calaveras County represent a natural and economic resource. Forest lands provide natural habitats, as well as opportunities for recreation. Examples of forest resources within the County are briefly discussed below.

Forest Types and Habitats

Calaveras County has a diverse range of forest types and vegetation. Cover types in the County include blue oak foothill pine, blue oak woodlands, montane hardwood, montane hardwood-conifer, and Sierran mixed conifer, Ponderosa pine, Jeffrey pine, and Douglas fir. Sierran mixed

[3] Calaveras County Department of Agriculture. *Calaveras County 2015 Crop Report.* 2016.

conifer is dominated by Jeffrey pine and white fir, with incense cedar, ponderosa pine, sugar pine, and red fir found as associated conifer species. The eastern higher elevations of the County primarily consist of Sierran mixed conifer and large swathes of Ponderosa pine, red fir, and lodgepole pine. Red fir and lodgepole pine are not traditionally used for timber production.

Stanislaus National Forest

The Stanislaus National Forest was created in 1897 and covers approximately 900,000 acres throughout Alpine, Calaveras, Mariposa, and Tuolumne counties. Of the 900,000 total acres in the Forest, 77,901 acres are located within Calaveras County. Elevations throughout the Stanislaus National Forest range from 840 feet to 11,570 feet. The forest supports a wide variety of wildlife and plant species due to its range in climate, elevation, and geology. The Stanislaus National Forest contains approximately 325,000 acres of commercial forest land. The National Forest is also home to the Emigrant Wilderness, Mokelumne Wilderness, and the Carson-Iceberg Wilderness (USDA 2005b; USDA 2007).

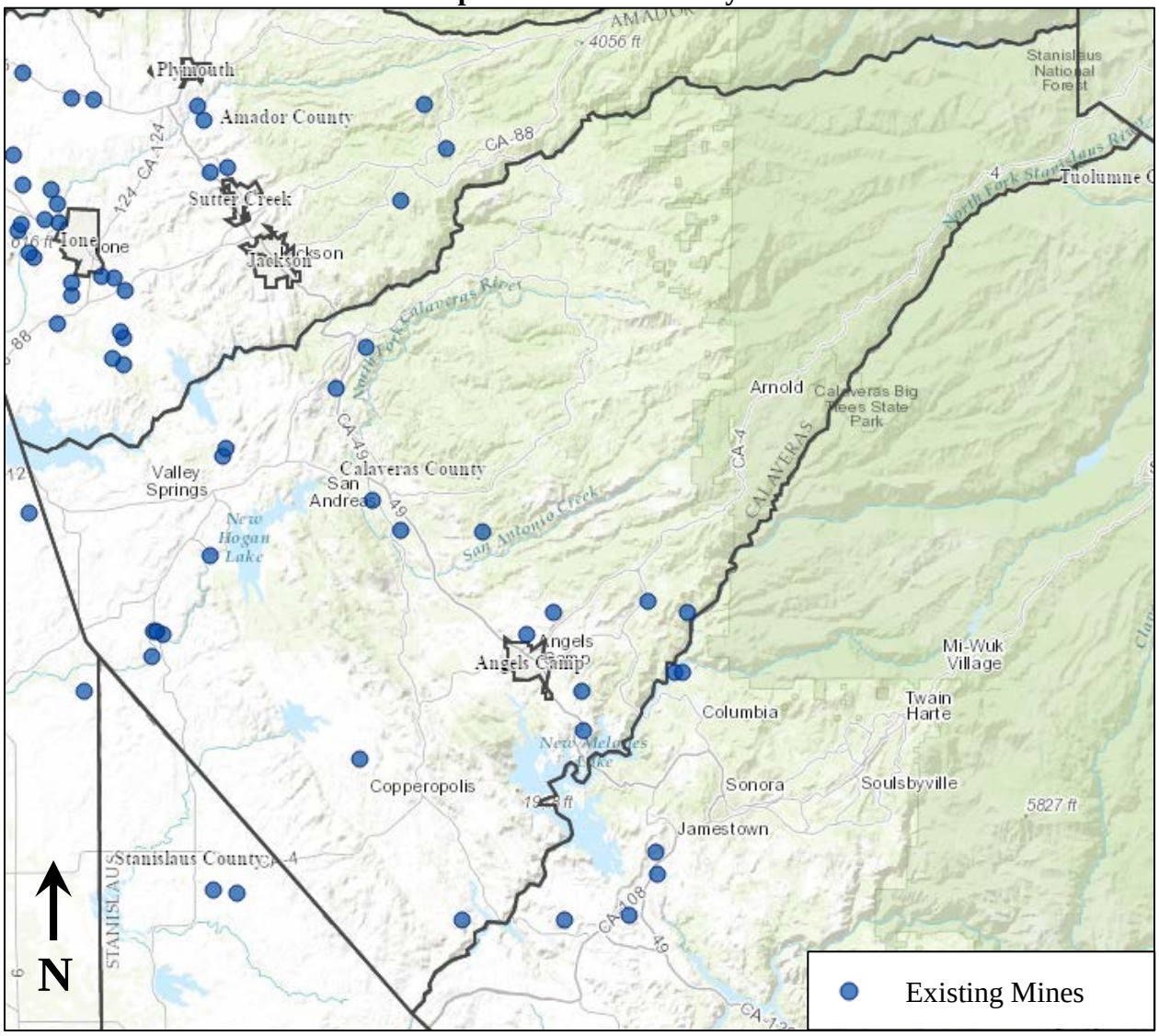
**Mineral Resources**

The rocks in Calaveras County are divided into two major groups, which include the older Bedrock series and the younger Superjacent series. The Bedrock series includes metamorphic rocks that have been intruded by large granitic masses and by smaller bodies of basic and ultrabasic rocks. Associated with the intrusion of granitic rocks was widespread deposition of gold-quartz veins in the Mother Lode, East Belt, and West Belt, as well as copper and zinc in the Foothill copper belt. Chromite deposits were formed during the intrusion of ultrabasic rocks. The Superjacent series consists of auriferous gravel, clay, sand, and volcanic rocks.

At least 26 minerals have been produced commercially within the County. Gold, copper, limestone, and limestone products account for the greatest contribution towards the County's total mineral production. Other mineral commodities that have been produced in quantity include zinc, silver, lead, chromite, clay, stone, sand, and gravel. In addition, numerous mineral commodities have not been mined commercially, but are known to be present within the County.

The Department of Mineral Resources (DMR) is required to provide mine information to the public and has developed an online mapping system, designed with geographic information system (GIS) features, that presents the mine name, location, commodity, and status. Figure 4.2-2 shows the existing mine locations in Calaveras County according to the latest mapping data, which was updated by DMR in January 2012. In addition, the DMR, not less often than quarterly, publishes a list of mines regulated under the Surface Mining and Reclamation Act (SMARA) that meet the provisions set forth under California's Public Resources Code, Section 2717(b). The list is generally referred to as the AB 3098 list. Sections 10295.5 and 20676 of the Public Contract Code prohibit mining operations that are not on the AB 3098 list from selling sand, gravel, aggregates, or other mined materials to state or local agencies. For a mining operation to be put on the AB 3098 list, the operation must meet all of the following conditions:

**Figure 4.2-2**
**Map of Calaveras County Mines**




*Source: Division of Mine Reclamation, 2017.*

- The operation has an approved reclamation plan;
- The operation has an approved financial assurance;
- The operation has filed an annual report;
- The operation has paid a reporting fee; and
- The operation has had an annual inspection by the lead agency which reflects the operation is in full compliance with the law.

The most recent AB 3098 list was published April 2017. Table 4.2-6 presents a list of mines identified using the DMR's online mapping system, as well as the mines' identification number (Mine ID), name and operator, main commodity, status, and whether or not the mine is on the most recent AB 3098 list.

Below are descriptions of some of the most prominent mineral resources within Calaveras County.

Gold

Gold is the most well-known mineral commodity of Calaveras County, and was the main attraction to the early settlers in the area. Only minor amounts of gold are currently produced within the County.

Lode gold mines are grouped in three areas – the Mother Lode, East Gold Belt, and West Gold Belt. The primary source of lode gold has been from the Mother Lode belt, but appreciable quantities have been mined at West Point, Sheep Ranch, and Murphys in the East Belt and at Hodson in the West Belt. The principal sources of lode gold have been the Angels, Boston, Carson Creek, Carson Hill, Collier, Gold Cliff, Gwin, Lightner, Madison, Mountain King, Royal, Sheep Ranch, Utica, and Washington mines. By-product gold has been recovered in quantity from the Foothill copper-zinc belt.

Large amounts of placer gold, which primarily occurs in river deposits, have been mined in the County as well. The primary sources of placer gold have been surface placers mined during the early gold rush days, and drift and hydraulic mines on tertiary channels in the Murphys, Douglas Flat, Vallecito, Angels Camp, Mokelumne Hill, and San Andreas areas. Most major drainages within the County would have a high potential for placer gold deposits, particularly the Mokelumne River drainage in the northwestern part of the County and the drainages east of Angels Camp. In addition, several placer gold deposits are thought to exist in the eastern portion of the County; however, the significance of such deposits is not clear.

Limestone

The quarrying of limestone and the manufacture of cement by the Calaveras Cement Company is the most lucrative segment of the mineral industry in Calaveras County. Not only has the industry accounted for the largest portion of the mineral output of the County for many years, but the extensive limestone and dolomite deposits form some of the largest undeveloped reserves in the State.

**Table 4.2-6**
**Calaveras County Mine Information**

| Mine ID | Description | Operator | Status | On Current AB 3098 List |
|---|---|---|---|---|
| 91-05-0001 | Snyder Clay Pit | Snyder Clay Pit | Active | No |
| 91-05-0002 | Royal Mountain King Facility | - | Active | No |
| 91-05-0003 | Redhill Mine - Reclaimed | - | Inactive | No |
| 91-05-0004 | K.R. Mine - Reclaimed | - | Inactive | No |
| 91-05-0005 | John Hertzig Sand & Gravel | John W. Hertzig | Active | Yes |
| 91-05-0006 | Robie Ranch Gravel | 7/11 Materials, Inc. | Active | Yes |
| 91-05-0007 | Teichert-Reed - Reclaimed | - | Inactive | No |
| 91-05-0008 | Valley Springs Clay Pit | Valley Springs Clay Pit, LLC | Active | Yes |
| 91-05-0009 | Gnm #6 Shale Quarry | Lehigh Southwest Cement Company | Active | No |
| 91-05-0010 | Quarry #7 | Lehigh Southwest Cement Company | Active | No |
| 91-05-0011 | All Rock - Exempt | - | Inactive | No |
| 91-05-0012 | Cataract Limestone Quarry | Lehigh Southwest Cement Company | Active | Yes |
| 91-05-0013 | Wolin & Sons Aggregate | Charles Larson Construction | Active | Yes |
| 91-05-0014 | Hogan Quarry | Ford Construction Company, Inc. | Active | Yes |
| 91-05-0016 | Mccarty Pit | Ford Construction Company, Inc. | Active | Yes |
| 91-05-0017 | Alto Mine - Reclaimed | - | Inactive | No |
| 91-05-0018 | Carson Hill Rock Products | Carson Hill Rock Products | Active | No |
| 91-05-0019 | E.I.G. Mine | - | Active | No |
| 91-05-0020 | Jenny Lind Aggregate Quarry | - | Active | Yes |
| 91-05-0021 | Jenny Lind Tailing Pile Removal | - | Active | Yes |

*Sources:*

- *Division of Mine Reclamation. Mines Online. Available at:* https://www.arcgis.com/home/item.html?id=4643ea8d0adb4cbfbb44155eb23de76b. *Accessed May 2017.*
- *Division of Mine Reclamation. AB 3098 List. Available at: http://www.conservation.ca.gov/dmr/SMARA%20Mines/ab_3098_list/Documents/April_2017-3098.xls.pdf. Accessed May 2017.*

The extensive undeveloped limestone and dolomite deposits are particularly located in the Columbia, Murphys, Cave City, and Jesus Maria areas. Many of the deposits are currently relatively inaccessible; however, depending on the demand for limestone, dolomite, and lime products in California, Calaveras County deposits may increase in importance as potential sources of raw material.

Although limestone is the principal constituent of cement, large quantities are used in the manufacture of lime and beet sugar, as metallurgical flux, and in the agricultural and chemical industries. Numerous deposits of marble are also found within the County, three of which have yielded small amounts of stone for decorative facings and terrazzo.

A number of limestone caves exist in Calaveras County, which range in size from small openings only a few feet in extent to large caverns hundreds of feet in length and depth with numerous passageways, rooms, and formations. Some caves are not well known, but others such as the Mercer Caverns are visited by many persons each year.

Copper-Zinc

Calaveras County has been the principal source of copper and zinc in the Sierran Foothill copper belt. Large amounts of copper were mined in the Foothill belt at Campo Seco and Copperopolis during the 1860s and again during two world wars. Smaller amounts have been recovered as a by-product of gold mining in the Mother Lode and East Belt deposits. Minor amounts of copper are still recovered from mine waters today.

Clay, Sand, Stone, and Gravel

The primary mineral resources being extracted today within the County include clay, sand, and gravel due to the demand for construction materials. The primary sand and gravel deposits lie in the northwestern corner of Calaveras County, generally west of Valley Springs. Clay from the Ione formation has been mined in the vicinity of Valley Springs for many years. The Eocene Ione formation, the major source of raw material for the ceramic industry in northern California, crops out in a belt of discontinuous patches along the western Sierra foothills. In Calaveras County, the Ione formation covers an area of approximately four square miles and has been divided into an upper and a lower member. The upper member, consisting of clay and clayey sand, is the main source of commercial clay.

In addition, vast quantities of silica (largely in the form of quartz sand, but to a lesser extent in quartzose gravel) are present in Calaveras County. Large amounts of silica sand have been produced for use in the manufacture of glass containers. The silica sand primarily comes from quartz mined at Camanche from the upper member of the Eocene Ione formation, which consists of clayey sand, and at Carson Hill. Quartoze gravel that was deposited in early Tertiary channel deposits is abundant in the County, particularly in Chili Gulch where extensive accumulations of hydraulic mine tailings with a high percentage of quartz pebbles, cobbles, and boulders are present. The most suitable deposits as a source of silica are at Carson Hill and Chaparral Hill, where massive veins of white “bull quartz” tens of feet think and several thousand feet in length exist,

and at an undeveloped massive quartz vein approximately 100 feet long and 30 to 40 feet wide along the extreme southwest border of the County on the Echandi Ranch.

Lightweight aggregate has been obtained from deposits of pumicite and rhyolite tuff, and andesitic sand has been used in road construction. Sand and gravel for use as concrete and bituminous aggregate and road base has been obtained from river gravels and hydraulic tailings. Rhyolite tuff and greenstone have been crushed to produce roofing granules. Blasting sand was obtained from smelter slag as a byproduct of glass-wool manufacture, and dredge tailings were used as a source of tube-mill pebbles.

Asbestos

Asbestos has been produced in small quantities in Calaveras County, primarily from sources in three general areas including the following: the Voorhees or American deposit located seven miles southeast of Copperopolis; the Turner and Lloyd prospect located over three miles north of Copperopolis and Angels Camp, east of SR 49; and several small prospects northwest of San Andreas, near Valley Springs. The former asbestos mining activities located southeast of Copperopolis are currently used to store asbestos-containing waste and waste tires. Serpentine, the host rock of chrysotile asbestos, is abundant in the western portion of Calaveras County.

Chromite

The majority of chromite production within Calaveras County occurred during World War I. Estimated chromite reserves in the County today are small, as many of the mines are reported to be exhausted. Any future chromite production would depend upon new discoveries. The most prospective area in Calaveras County for potential chromite reserves is believed to be in the French Creek area, five miles southeast of Copperopolis.

Lead

Appreciable quantities of lead have been produced in Calaveras County. The majority of lead produced in the County has been as a by-product of copper-zinc mining in the Foothill belt. The Penn and Quail Hill mines have been the primary producers. Smaller amounts have been recovered as a by-product of gold mining. In some East Belt gold ores, lead is present in quantity and is associated with free gold, pyrite, and chalcopyrite.

## 4.2.3 REGULATORY CONTEXT

The following discussion contains a summary review of regulatory controls pertaining to agricultural, forest, and mineral resources, including federal, State, and local regulations and ordinances.

**Federal Regulations**

The following are the federal environmental laws and policies relevant to agricultural, forest, and mineral resources.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with State, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years.

For the purpose of the FPPA, farmland includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

**State Regulations**

The following are the State environmental laws and policies relevant to agricultural resources.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the Williamson Act, enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of 10 years. In return, landowners receive property tax assessments that are lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments received an annual subvention of foregone property tax revenues from the State via the Open Space Subvention Act of 1971; however, the State ended such payments in 2009. Contracts are automatically renewed every year, extending out to 10 years.

The DOC reports that the Land Conservation Act Program has remained stable and effective as a mechanism for protecting agricultural and open space land from premature conversion of land to urban uses. The DOC indicates that the program might have remained small if not for the addition of Article 28 (now part of Article 13) to the State Constitution. Article 13 declares the interest of the state in preserving open space land and provides a constitutional basis for valuing property according to its actual use. The amendment originated with groups interested in the preservation of open space land. Agricultural interests added their support after recognizing the importance of a constitutional backing for preferential tax assessments. Article 13 allows preferential assessments for recreational, scenic, and natural resource areas as well as areas devoted to the production of food and fiber.

Farmland Security Zones

In August 1998 the Williamson Act's farmland security zone (FSZ) provisions were enacted with the passage of Senate Bill 1182 (California Government Code Section 51296-51297.4). This sub-program, dubbed the "Super Williamson Act," enables agricultural landowners to enter into

contracts with a specific county for 20-year increments with an additional 35 percent tax benefit over and above the standard Williamson Act contract.

Senate Bill 1835 (Johnston, Chapter 690, Statutes of 1998) and the Cortese-Knox Local Government Reorganization Act

Senate Bill 1835 requires the appropriate Local Agency Formation Commission (LAFCO) to determine whether a particular city is required to succeed (adhere) to the rights, duties and powers of the county under the contract or whether the city may exercise an option to not succeed to the rights, duties and powers of the county. The determination would be required pursuant to any proposal by a city that would result in the annexation of Williamson Act contracted land.

Senate Bill 2227 (Monteith, Chapter 590, Statutes of 1998)

Senate Bill 2227 added new requirements to the Cortese-Knox Local Governmental Reorganization Act regarding any proposed annexation of Williamson contract land. If the proposal would result in the annexation of land that is subject to the Williamson Act, then the petition shall state whether the City shall succeed (adhere) to the contract or whether the City intends to exercise its option to not succeed to the contract.

Forest Taxation Reform Act of 1976

The Z'Berg-Warren-Keene-Collier Forest Taxation Reform Act of 1976 allows local governments to designate qualifying private timberland as a Timberland Production Zone (TPZ). The primary purpose of this Act is to reduce property tax assessments on land used for timber production with the ultimate goal of preserving these lands for timber production. Use of land zoned TPZ is restricted to timber growing and compatible uses, including outdoor recreation or grazing. The TPZ designation lasts ten years. Unless the land is taken out of the TPZ, the restriction on use will be renewed each year after the initial ten years and the landowners continuing to benefit from reduced property taxes. The California Department of Forestry and Fire Protection (CalFire) implements the Forest Taxation Reform Act and passes down that responsibility to the local county agricultural commissioner. Approval of conversion of timberland from TPZ to another designation is carried out by CalFire (Shih 2002).

Timber Productivity Act of 1982

The California Timberland Productivity Act (TPA) of 1982 (formerly Z'berg-Warren-Keene-Collier Forest Taxation Act of 1976) (Government Code Sections 51100 et seq.) was enacted to help preserve forest resources. Similar to the Williamson Act, the TPA gives landowners tax incentives to keep their land in timber production by creating Timberland Production (TP) zones. Parcels zoned TP are required to be zoned so as to restrict their use to growing and harvesting timber and to compatible uses. As implemented by Chapter 17.14 of the County Code of Ordinances, parcels included in a TP zone are zoned as such for a rolling period of ten years from the effective date of the ordinance. Per Government Code Section 51133, rezoning from a TP zone requires approval by the State Board of Forestry and Fire Protection.

California Forest Practice Act (CFPA)

The California Forest Practice Act was enacted in 1973 to ensure that logging is done in a sustainable manner that will preserve and protect our fish, wildlife, forests, and streams. The CFPA is applicable to all commercial harvesting activities conducted by landowners of small parcels and large timber companies alike. A Timber Harvesting Plan (THP) is required for all commercial timber harvesting within California. The CFPA outlines all of the requirements and contents of a THP. The THP serves as the environmental review document submitted by landowners that outlines what timber will be harvested, the methods used for harvesting, and the measures taken to prevent impacts to the environment (CDF 2007a).

CalFire is responsible for enforcing the laws that regulate logging on privately-owned lands in California. CalFire and the State Board of Forestry and Fire Protection are responsible for approving THPs. THPs are prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans. Once a THP is approved, CalFire inspectors periodically inspect the logging operation to ensure compliance with the approved THP and all laws and regulations. When a THP operation has been completed, the timber owner is responsible for submitting a completion report to CalFire. CalFire then inspects the area to certify that all rules were followed. The landowner is also responsible for restocking (or replanting) the area according to the Forest Practice Rules requirements. Two THPs in Calaveras County were submitted to CalFire for public review and approval in November of 2017. The two THPs range in size from approximately 26 acres to 325 acres, respectively.[4]

Surface Mining and Reclamation Act

The primary State law concerning conservation and development of mineral resources is the California the SMARA of 1975, as amended. The SMARA is found in the California Public Resources Code (PRC), Division 2, Chapter 9, Section 2710, et. seq. The SMARA was enacted in 1975 to limit new development in areas with significant mineral deposits and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. In 1991, the Office of Mine Reclamation (OMR) was created to administer SMARA and to meet the SMARA's requirement by assisting cities, counties, state agencies, and mine operators with reclamation planning and promoting cost-effective reclamation.

The SMARA calls for the State Geologist to produce Mineral Resource Classification studies to provide direction to local jurisdictions for addressing mineral resource conservation.

The Mineral Resource Classification studies evaluate mineral resource availability and present such information in the form of Mineral Resource Zones (MRZs). Only portions of Calaveras County have been classified for some mineral resources. The Mineral Land Classification studies undertaken for Calaveras County identified the following types of mineral deposits present, or likely to be present, in the County:

[4] California Department of Forestry and Fire Protection. *Timber Harvesting Plan Status.* Available at: http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice_thpstatus. Accessed February 2018.

- Gold and associated metals (in deposits formed by hydrothermal processes);
- Copper, zinc, and associated metals (in deposits formed by volcanic processes);
- Talc, silica, and carbonate rock (industrial minerals formed by diverse processes);
- Chromite (in deposits formed by magmatic concentration); and
- Gold (in placer deposits).

The Mineral Resource Classification studies did not map aggregate, common clay, or common stone.

**Local Regulations**

The Calaveras County Code of Ordinances includes the following chapters relevant to the proposed project.

Chapter 17.12 – General Forest (GF) Zone

Lands designated as GF are intended to be utilized as areas for commercial timber production and related uses. Timber production activities in GF zones are not subject to limitations on hours of operation for logging activities. Some of the permitted uses in the GF zone include commercial agriculture, lumber mill, Christmas tree farm and sales, and limited recreation opportunities (Calaveras County 2007).

Chapter 17.14 – Timber Production (TP) Zone

The purpose of Chapter 17.14 is to implement the Forest Taxation Reform Act. Lands designated as within the TP zone are subject to all the requirements of the Forest Taxation Reform Act discussed previously. Lands within the TP zone may also be referred to as timber preserves. Development deemed incompatible with the purposes of timber production is not be permitted within the TP zone.

Chapter 17.56 – Mineral Extraction (ME) Zone

Chapter 17.56 of the County Code of Ordinances has been adopted by the County pursuant to the California's Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710 et seq.), as amended. The chapter includes provisions related to surface mining operations and land reclamation that are intended to prevent and/or minimize adverse effects on the environment and protect public health and safety. Section 17.56.020 of the chapter states the following:

> The purpose and intent of this chapter is to ensure that:
>
> A. There is continued availability of important mineral resources, while regulating surface mining operations.
> B. Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.

C. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
D. Residual hazards to the public health and safety are eliminated.

The provisions of the chapter apply to all lands within the jurisdiction of the County. The ME zone identified in the chapter is intended to apply to all existing and future mining operations requiring a reclamation plan.

## 4.2.4 Impacts and Mitigation Measures

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to agricultural, forest, and mineral resources.

### Standards of Significance

An impact may be considered to be significant if implementation of the proposed project would result in any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use;
- 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.

### Method of Analysis

Potential impacts to agricultural, forest, and mineral resources associated with implementation of the Draft General Plan are addressed below. The following analysis relies on information from relevant federal, State, and local agencies. In particular, current information from the CalFire, the Calaveras County Department of Agriculture, and the Draft General Plan was analyzed. Such information was considered in the context of the goals, policies and implementation measures (IMs) contained in the Draft General Plan. Based on the existing conditions in the County and the

standards of significance presented above, the Agricultural, Forest, and Mineral Resources chapter identifies any impacts that could occur as a result of buildout of the Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts is based on buildout of the Draft General Plan in comparison with the standards of significance identified above.

**4.2-1 Impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands) to non-agricultural use, and related to changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable*.**

Agricultural lands provide a variety of important functions and generate a wide variety of benefits to the residents of Calaveras County. For example, agricultural lands produce commodities that generate various economic benefits (in the form of local jobs and revenue), contribute to the aesthetic value of an area (i.e., greenbelts or transition zones), and create a variety of foraging habitats for wildlife species. In addition, the conversion of agricultural land has hydrological implications, as loss of farmland changes the existing watershed and may reduce groundwater recharge areas.

Development occurring under buildout of the Draft General Plan could potentially eliminate or modify important agricultural resources. In addition, buildout could result in fragmentation of existing agricultural areas. Fragmentation of existing agricultural lands may increase nuisance effects resulting from urban expansion into agricultural areas–also known as "edge effects." Edge effects include, but are not limited to, noise (from farm equipment and crop dusting), dust, odors, and drift of agricultural chemicals. From the agricultural perspective, conflicts with urban development include restrictions on the use of agricultural chemicals, complaints regarding noise and dust, trespass, vandalism, and damage from domestic animals (such as dogs). Such conflicts may increase costs to the agricultural operation, and combined with rising land values for residential development, encourage the additional conversion of additional farmland to urban uses.

The Draft General Plan Land Use Map includes a land use designation for Resource Production land. The Resource Production land use designation identifies lands capable of, and primarily used for, agricultural operations, timber production and/or mineral resource production, in order to maintain the land's viability and economic productivity and protect such lands from the intrusion of incompatible uses or activities. The Resource Production designation includes, but is not limited to, lands with conservation easements and lands designated as critical habitat areas, agricultural preserves, and timber production (including lands zoned for timberland production pursuant to the California Timberland Productivity Act of 1982). In addition, the Draft General Plan Land Use Map designates some areas as Working Lands. The Working Lands designation allows for similar land uses as Resource

Production lands, but is intended for smaller parcels and small-scale resource production operations which are compatible with rural residential development.

As discussed previously, Calaveras County has not been included in the FMMP; while lands with existing Williamson Act contracts have been classified as Prime Agricultural Land or Non-Prime Agricultural Land (see Figure 4.2-1), countywide data related to Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is not currently available. Therefore, an analysis of potential impacts associated with conversion of such lands throughout the County cannot be conducted. Instead, this EIR focuses on potential impacts associated with conversion of agricultural, forest, and mineral resources that would not be protected by the Resource Production or Working Lands designations in the Draft General Plan.

The Draft General Plan includes policies and associated programs that are intended to retain agricultural lands within the County. The Land Use Element of the Draft General Plan includes the following goals, policies, and implementation measures (IMs) related to protection of agricultural, forest, and mineral resources:

| | |
|---|---|
| Goal LU-2 | A land use pattern that allows those who own, operate, or manage the productive resources in the county, to maintain open space, wildlife habitat, agricultural lands, mineral resources, and forests. |
| Policy LU 2.1 | Respect and protect the property rights of people in their efforts to maintain or develop productive resources. |
| Policy LU 2.2 | Maintain availability of the Williamson Act contracts and other protections for agricultural, mineral and timber productivity as set forth in the Resource Production Element. (IM LU- 2A) |
| IM LU-2A | Title 17 of the Calaveras County Code – Update the Zoning Ordinance, Title 17 for consistency with the General Plan. |

The Resource Production Element of the Draft General Plan includes the following goals, policies, and IMs related to protection of agricultural, forest, and mineral resources:

| | |
|---|---|
| Goal RP-1 | Long term viability and economic productivity of Resource Production Lands within the County. |
| Policy RP 1.1 | Limit the intrusion and encroachment of incompatible uses that may affect Resource Production Lands. (IM RP-1A, RP-1B, RP-1C, RP-1D and RP-1E) |
| Policy RP 1.2 | Require newly created or lot line adjusted parcels adjoining Resource Production Lands be of adequate size and compatibly zoned to minimize potential conflict between the uses or potential uses on Resource Production Lands. (IM RP-1A, RP-1B, RP-1D and RP-1E) |

Policy RP 1.3 Buffer Resource Production Lands through setbacks or other measures to prevent noncompatible uses from impacting resource production uses. (IM RP-1A, RP-1B. RP-1D and RP-1E)

Policy RP 1.6 Public facilities that are not compatible with, or constrain the use of, the current and future productivity of Resource Production Lands shall not be located on or adjacent to Resource Production lands unless no other suitable site is available to meet the public service needs. (IM RP-1C)

Policy RP 1.7 Provide for the protection of resource production operations and activities and their economic viability. (IP RP-1A, RP-1B, RP-1D and RP-1E)

Policy RP 1.8 Obtain input from the County's Agricultural Advisory Committee regarding potential impacts to agricultural uses, including timber, prior to approval of a discretionary entitlement on or adjacent to Resource Production Lands. (IM RP-1D, RP-1E and RP-2F)

Goal RP- 2 Long term viability and economic productivity of agricultural lands and resources within the County recognizing their economic, aesthetic, cultural, and other values.

Policy RP 2.4 Continue to maintain a County Right-to-Farm Ordinance recognizing the right of agricultural uses to operate, so long as such uses are carried out in a manner consistent with generally accepted agricultural standards and practices, despite inherent conflicts with residential land uses. (IM RP-2B)

Policy RP 2.6 Identify and protect important farmland in the county. (IM RP-2G, RP-1D and RP-1E)

Policy RP 2.7 Solar energy installations shall be compatible with agricultural activities and such facilities shall not be located on prime agricultural land and shall not reduce the production of the primary agricultural product(s). (IM RP-2A)

IM RP-1A County Code Amendments – Amend the County Code to:

- Incorporate guidelines and standards for the development and maintenance of setbacks or other measures designed to minimize conflicts between activities conducted on Resource Production Lands and the encroachment of incompatible uses.
- Establish minimum parcel size standards for new lots to be created adjacent to Resource Production Lands.
- Incorporate guidelines for residential development on Resource Production Lands.

- Expand the types of agricultural tourism and other compatible non-traditional activities allowed on Resource Production Lands to enhance their economic viability.

IM RP-1B Findings for Approval – Before granting approval of a discretionary development application involving or adjoining land designated Resource Production a determination shall be made by the approving authority that the proposed use:

A. Will not intensify significantly existing conflicts or add new conflicts between uses on Resource Production lands and adjoining residential or incompatible uses; and
B. Will not create an island effect wherein Resource Production lands are located between the proposed project site and incompatible land uses; and
C. Will not significantly reduce or destroy the buffering effect of existing large parcel sizes adjoining Resource Production lands; and
D. Will not hinder timber production, harvesting practices, mineral production, mining practices, agricultural production and practices, access to water and public roads or otherwise conflict with the continuation of resource production operations or activities.

IM RP-1C Public Facilities on Resource Production Lands – Before authorizing or approving construction of a public facility on or adjoining land designated Resource Production a determination shall be made by the approving authority that:

A. Resource Production lands are conserved and protected, while meeting the need for adequate public facilities; and Calaveras County Resource Production Element PC Recommended Draft 12/17/15 Page-RP 10
B. Other potential sites outside of Resource Production lands were considered by the agency or permitting authority and whether such sites were considered acceptable or not feasible as a public facility; and
C. The effect of the proposed public facility upon adjoining Resource Production lands was considered, as was whether the proposed site would be incompatible with resource production operations on adjoining Resource Production lands.

IM RP-1D Significance Criteria for Resource Production Land Conversions – Establish a consistent methodology for evaluating the potential significance of agricultural land conversions to non-agricultural uses pursuant to the California Environmental Quality Act (CEQA) for use in conjunction with evaluating impacts to resource production lands. In the interim, the County will utilize the Calaveras County Agricultural Coalition Resource Production Lands Mitigation Program Guidelines, prepared November 8, 2011.

IM RP-1E Mitigation for Resource Production Land Conversions – Establish mitigation alternatives for the conversion of resource production land to nonresource production uses.

IM RP-2A Solar-Use Easements Installations on Agricultural Land – Amend the County Code to incorporate required findings and procedures for implementing state legislation and Department of Conservation requirements relative to solar-use easements and installations affecting Williamson Act Contracts.

IM RP-2B Right-to-Farm Ordinance – Update the County's Right-to-Farm Ordinance (Chapter 14.02) or associated code sections to:

- Reference the County's "Right to Farm" provisions on parcel and subdivision maps approved for locations in or adjacent to agricultural lands;
- Re-define protected agricultural land to include land designated as Resource Production in the General Plan or zoned agricultural per the County Code;
- Cross-reference and ensure consistency between multiple code sections addressing agricultural uses.

IM RP-2F Agricultural Advisory Committee – Continue to maintain an Agricultural Advisory Committee to review and recommend action to the Board of Supervisors concerning California Land Conservation Contracts (Williamson Act) and to promote a compatible relationship between agricultural and nonagricultural activities and to ensure that appropriate provisions are incorporated as necessary into new land use proposals to preserve ongoing agricultural operations.

IM RP-2G Farmland Mapping – Work with the California Department of Conservation to complete the Farmland Mapping and Monitoring Program for Calaveras County.

The above goals, policies, and IMs are intended to guide the preservation and continued use of existing agricultural lands within the County, specifically, land designated as Resource Production land or Working Lands by the Draft General Plan Land Use Map.

Policies RP 1.1, RP 1.2, RP 1.3, RP 1.6, RP 1.8, and RP 2.4 specifically prevent non-compatible land uses from conflicting with Resource Production lands. For example, Policy RP 2.4 maintains the County's existing Right-to-Farm Ordinance, which prevents residential land uses from interfering with adjacent agricultural operations. IM RP-1D requires the County to develop a consistent methodology for evaluating the potential significance of agricultural land conversions to non-agricultural uses pursuant to CEQA. Therefore, should future development within the County result in potential impacts to Resource Production land prior to development of such a methodology, IM RP-1D would require the County to rely on the existing Calaveras County Agricultural Coalition Resource Production Lands Mitigation Program Guidelines in evaluating such conversion.

All development occurring under buildout of the Draft General Plan would be required to comply with the above policies concerning Resource Production Land and other agricultural operations. New high-density residential development, or other similar land uses which are deemed incompatible with agricultural operations, would not be permitted adjacent to Resource Production land or Working Lands. Therefore, impacts to agricultural resources would be limited to areas where urban development, as identified by higher-density land use designations, would be located on or adjacent to existing agricultural resources not protected as Resource Production land or Working Lands.

As discussed below, the Draft General Plan would not result in the loss of lands currently under Williamson Act contracts, including lands characterized as Prime Agricultural Land per Figure 4.2-1, and the Draft General Plan Land Use Map would focus urban development around existing communities. However, given that the full extent of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the County is not known at this point in time, conversion of Farmland could potentially occur with implementation of the Draft General Plan Land Use Map. Therefore, buildout of the Draft General Plan could potentially result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and could result in changes to the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use. Thus, a ***significant*** impact would occur.

Mitigation Measure(s)

Feasible mitigation measures do not exist beyond the goals and policies included in the Draft General Plan. Therefore, the impact would remain *significant and unavoidable.*

**4.2-2 Impacts related to conflicting with existing zoning for agricultural use or with Williamson Act contracts. Based on the analysis below, the impact is *less than significant.***

Agricultural land within Calaveras County has been identified under the Williamson Act program based on the agricultural crop produced, including grapes, walnuts, olives, apples and other crops. As shown in Figure 4.2-1, a substantial portion of western Calaveras County contains lands under active Williamson Act Contracts. Thus, a potentially significant impact would occur if buildout of the Draft General Plan would result in a loss

of lands under Williamson Act Contracts or result in conflicts with existing zoning for agricultural use.

As discussed above, the Draft General Plan provides Resource Production and Working Lands designations, which are intended to maintain and encourage agricultural uses. The Draft General Plan includes policies and programs that provide for conservation of agricultural lands within the County, including lands under Williamson Act Contracts.

The Land Use Element of the Draft General Plan includes the following goals, policies, and IMs related to zoning for agricultural use and Williamson Act contracts:

Goal LU-2 (discussed above)

Policies LU 2.1 and 2.2 (discussed above)

IM LU-2A (discussed above)

The Resource Production Element of the Draft General Plan includes the following goals, policies, and IMs related to zoning for agricultural use and Williamson Act contracts:

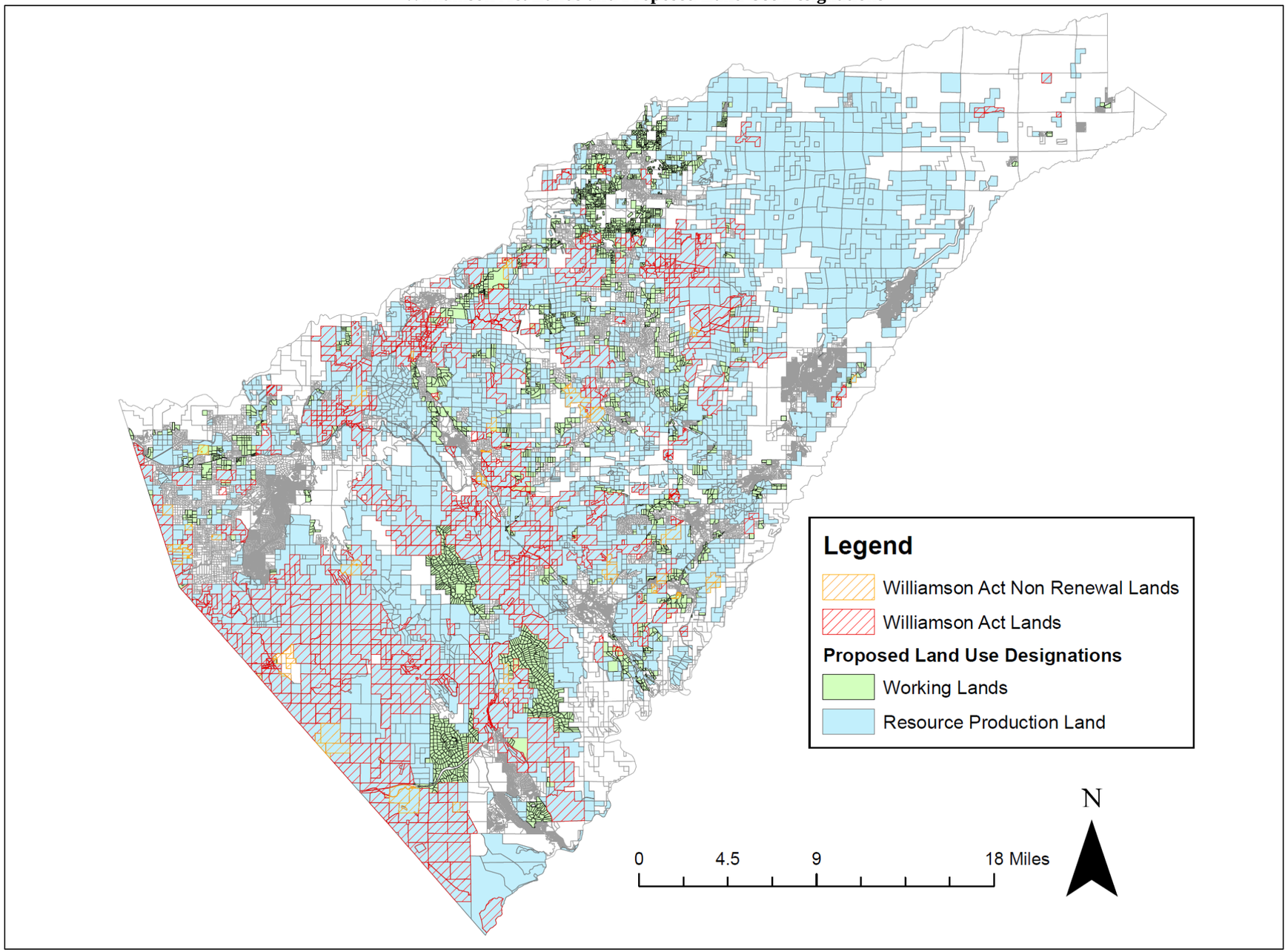
Goals RP-1 and RP-2 (discussed above)

Policies RP 1.1, RP 1.2, RP 1.3, RP 1.6, RP 1.8, RP 2.1, RP 2.4, RP 2.6, and RP 2.7 (discussed above)

IMs RP-1A, RP-1B, RP-1C, RP-1D, RP-1E, RP-2A, RP-2B, RP-2F, and IM RP-2G (discussed above)

Figure 4.2-4 below demonstrates the location of lands under Williamson Act contracts. In addition, the figure shows the location of Resource Production land and Working Lands as designated by the Draft General Plan Land Use Map. As noted previously, Williamson Act contracts currently in non-renewal status will be terminated following the end of the non-renewal period. As shown in Figure 4.2-4, the vast majority of lands under Williamson Act contracts within the County would be located within areas designated by the Draft General Plan Land Use Map as Resource Production. Lands under Williamson Act contracts which would not be located within such areas are limited to a single parcel located south of the Town of Burson and a small number of non-contiguous parcels located near the Town of San Andreas and the City of Angel's Camp; such parcels would be designated Rural Transition A or B per the Draft General Plan Land Use Map. Given that the Rural Transition A and B land use designations would allow for commercial agricultural uses, the proposed Draft General Land Use Map would not conflict with the existing Williamson Act contracts.

**Figure 4.2-3**
**Williamson Act Lands and Proposed Land Use Designations**



The above policies, goals, and IMs would prevent new development occurring under buildout of the Draft General Plan from conflicting with zoning for agricultural use or Williamson Act contracts by limiting non-compatible development from occurring on, or directly adjacent to, Resource Production lands and Working Lands. As such, the total amount of land under Williamson Act contract within the County would not decrease as a result of implementation of the Draft General Plan, and a ***less-than-significant*** impact would occur with respect to conflicting with existing zoning for agricultural use or with Williamson Act contracts.

Mitigation Measure(s)
*None required.*

**4.2-3 Impacts related to conflicting with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)), and resulting in the loss of forest land to non-forest use. Based on the analysis below, the impact is *less than significant.***

Buildout of the Draft General Plan would result in a potential impact to forest land or timberland if future development conflicts with zoning for such uses and/or results in the loss of forest land to non-forest use. As discussed previously, the County contains approximately 77,500 acres of land zoned as TP as of 2015.[5] Per Section 17.14.010 of the County Code of Ordinances, such land is intended for the primary and productive use of timber resources, including timber and wildlife management. The Code does not permit development within the TP zone if such development is found to be incompatible with the primary purposes of timber production. Per Section 17.12.020 of the Code of Ordinances, permitted uses within the GF zone include, but are not limited to, accepted timber practices, State, federal, or public forestation plans or projects, lumbermills, sawmills.

As discussed above, the Draft General Plan includes a land use designation for Resource Production land that identifies lands capable of, and primarily used for, agricultural operations, timber production and/or mineral resource production, in order to maintain the land's viability and economic productivity and protect such lands from the intrusion of incompatible uses or activities. The Resource Production land use designation includes, but is not limited to, lands designated as Timber Production (including lands zoned for TP pursuant to the California Timberland Productivity Act of 1982). Per Table LU-2 in the Draft General Plan, both Resource Production land and Working Lands are considered compatible with zoning for TP.

The Draft General Plan provides for a Resource Management land use designation that identifies public and quasi-public lands that are managed for timber, watershed, water quality protection, and groundwater recharge. The designation applies to, among other land uses, public lands owned by the State or federal government (e.g., State Parks, USFS, BLM). Typical uses include low intensity agriculture (e.g., grazing), forestry, open space

[5] Calaveras County Department of Agriculture. *Calaveras County 2015 Crop Report.* 2016.

conservation, natural resource management, recreation, public, and quasi-public uses. Per Table LU-2 in the Draft General Plan, Resource Management land is considered compatible with existing zoning for GF.

In order to protect forest resources and prevent conflicts with land zoned TP or GF, the Draft General Plan includes the following goals, policies, and implementation measures (IMs) related to forest resources:

Goal LU-2 (discussed above)

Policies LU 2.1 and 2.2 (discussed above)

IM LU-2A (discussed above)

Goal RP-3 Long term viability and economic productivity of timber lands and timber resources within the County, while recognizing their aesthetic, cultural, and other values.

Policy RP 3.1 Continue supporting landowner participation in the CalFire Forest Legacy Program, USDA Forest Legacy Program, the California Forest Improvement Program, and other long term forest conservation programs. (IM RP-3A)

Policy RP 3.2 Continue to maintain a Timber Production Zone district as required by the California Timberland Productivity Act of 1982 to identify and protect valuable timberland resources. (IM RP-3A)

Policy RP 3.3 Recognize and encourage the well-managed use of timber resources for multiple beneficial purposes. (IM RP-1A)

Policy RP 3.4 Support educational and voluntary stewardship programs that:

- Promote recognition of timber's importance to Calaveras County,
- Encourage implementation of best management practices,
- Enhance the economic viability of the County's timber industry,
- Provide for multiple or alternative beneficial uses of timber lands. (IM RP-2D)

IM RP-1E Mitigation for Resource Production Land Conversions – Establish mitigation alternatives for the conversion of resource production land to nonresource production uses.

IM RP-3A County Code – Review Chapter 17.14 of the County Code to ensure consistency with the Timber Productivity Act of 1982, including

procedures for immediate rezoning from the Timber Production zone (TP).

IM RP-3B Forest Conservation Programs – Ensure that the Agricultural Commissioner is aware and knowledgeable of the State and Federal forest conservation programs available to private owners so that useful advice may be provided in a manner that optimizes participation in those programs.

Goal RP-1 (discussed above)

Policies RP 1.1, RP 1.2, RP 1.3, RP 1.6, RP 1.7, RP 1.8, (discussed above)

IMs RP-1A, RP-1B (discussed above)

The above policies, goals, and IMs would prevent conversion of essential forest resources in the County. For instance, Policy RP 3.2 would maintain the County's TP zoning, while the associated implementation measure (IM RP-3A) would ensure that conflicts between the Draft General Plan and existing TP zoning would not occur.

Chapter 14.02 of the Code of Ordinances broadly addresses timber production as an activity protected by the County's Right-to-Farm provisions, which, as noted previously, would be maintained by Policy RP 2.4. Furthermore, the aforementioned protections provided to Resource Production land and Working Lands in regards to agricultural operations would also apply to timber production operations.

Implementation of the Draft General Plan would apply the Resource Management, Resource Production, and Working Lands land use designations to forested areas within the County. The goals, policies, and IMs included in the Draft General Plan, in addition to existing State, federal, and local regulations, would preclude incompatible uses from intruding into such lands. Areas with existing GF or TP zoning would not be designated with incompatible land uses or converted to non-forest uses.

Therefore, buildout of the Draft General Plan would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)), or result in the loss of forest land to non-forest use. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.2-4 Impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or 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. Based on the analysis below, the impact is *less than significant.***

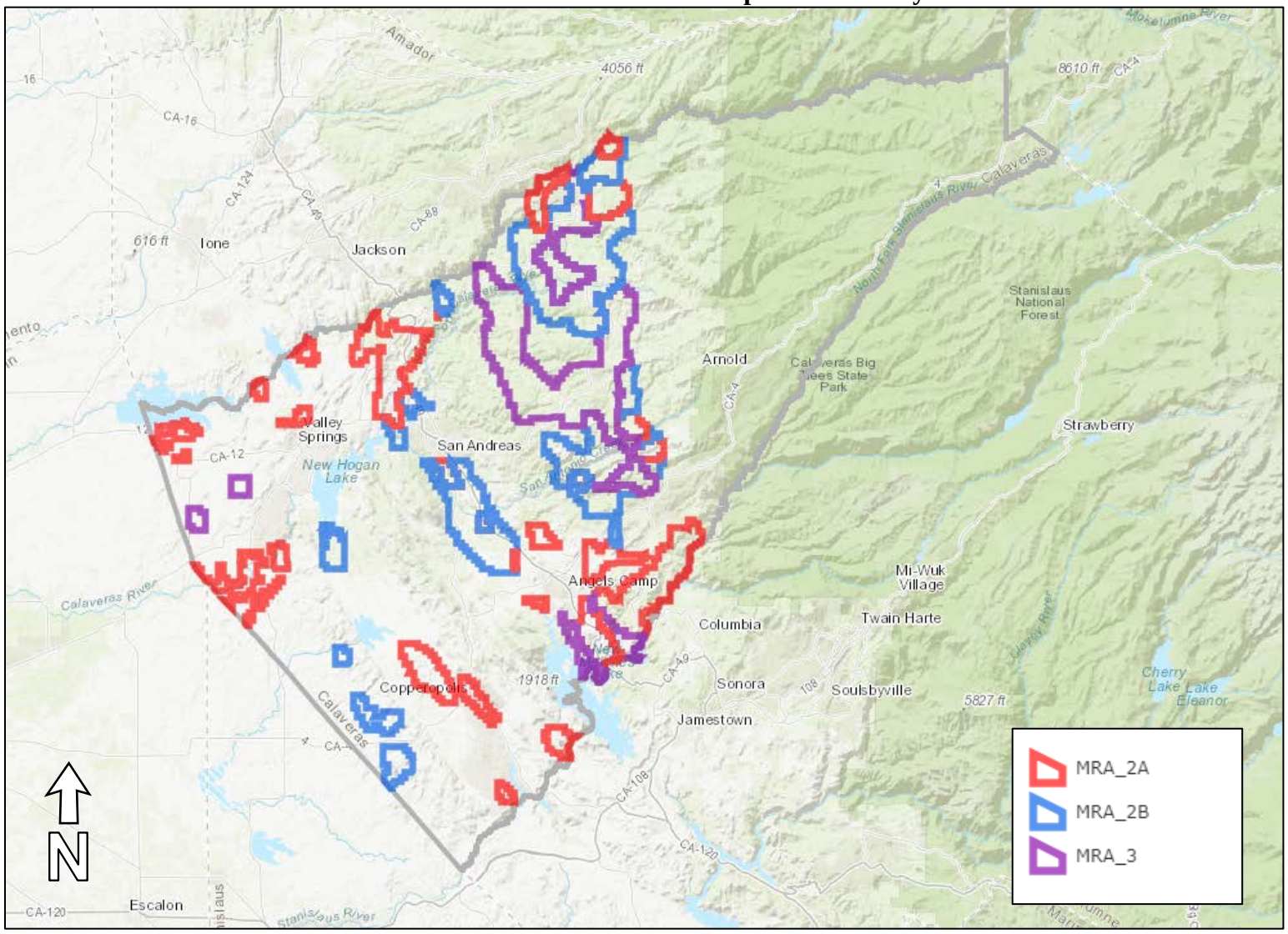
Buildout of the Draft General Plan has the potential to increase development pressures on lands within the County which contain valuable mineral resources, including, but not limited to, clay, sand, gravel, and limestone. Such resources continue to be mined within the County in substantial quantities.

The Draft General Plan designates areas within the County known to contain mineral resources as Resource Production lands and Working Lands. Both land use designations allow for mineral resource extraction land uses and allow for relatively limited building intensity (one dwelling unit per legal lot). The land use designations are intended to maintain the viability of mineral resource production in the County and prevent intrusion of non-compatible land uses. In addition, the Land Use Element of the Draft General Plan provides for a Mineral Resource Overlay, which implements the State's mineral land conservation regulations. The Mineral Resource Overlay includes the following land use designations: Mineral Resource Area (MRA)-2A; MRA-2B; and MRA-3 (see Figure 4.2-3). Per the Draft General Plan Land Use Map, the Mineral Resource Overlay overlaps with areas designated for future development, including, but not limited to, land designated Industrial, Residential High Density, Commercial, and Rural Transition A and B. Thus, future development under the Draft General Plan could potentially occur in areas where mineral resources exist or are likely to exist.

The Resource Production Element of the Draft General Plan includes the following goals, policies, and IMs related to protection of mineral resources:

| | |
|---|---|
| Goal RP-4 | An effective and comprehensive mining and reclamation program that acknowledges the long history of mining in Calaveras County and encourages the production and conservation of valuable mineral resources. |
| Policy RP 4.1 | Acknowledge the importance of mineral resources as finite and unique natural resources, and that the responsible protection and development of these resources is vital to the economic well-being of the state, the County, and the needs of society. (IM RP-4A, RP- 4B and RP-4G) |
| Policy RP 4.2 | Balance the interests of the County's mining industry and County residents and minimize conflicts between existing and planned land uses. (IM RP.4A, RP-4B, RP-4D, RP-4E and RP-4H) |
| Policy RP 4.3 | Conserve potential mineral resource lands for future use of mineral resources. (IM RP- 4A, RP-4C and RP-4G) |

**Figure 4.2-4**
**Draft General Plan Land Use Map MRZ Overlay**




*Source: Calaveras County, 2018.*

Goal RP-5 Mined lands reclaimed to a useable condition readily adaptable for subsequent land uses.

Policy RP 5.1 Require reclamation of mined lands to a usable condition readily adaptable for subsequent land uses in conjunction with discretionary reviews of proposed surface and subsurface mining operations; consider recreational, watershed, wildlife, range and forage, and aesthetic values; prevent or minimize adverse environmental effects; and eliminate residual hazards to the public health and safety. (IM RP-4H)

Policy RP 5.2 Implement reclamation planning in a manner that acknowledges the potential for ongoing and/or future mining activities while providing for the subsequent beneficial use of the mined land, providing flexibility in the post-mining uses. (IM RP-4H)

Policy RP 5.4 When reviewing proposed mining applications consider recreational, watershed, wildlife, range and forage, and aesthetic values; prevent or minimize adverse environmental effects; eliminate residual hazards to the public health and safety; and reclaim mined lands to a usable condition readily adaptable for subsequent land uses. (IM RP-4A)

IM RP-4A County Code – Amend the County Code to:

- Address the use and development of geothermal resources
- Update the ME combining zone district to be consistent with the State's mineral classification scheme.
- Clarify that a conditional use permit is required for all surface and subsurface mining activity unless specifically exempted pursuant to Section 17.56.040 (or equivalent).
- Include notification procedures for designating mineral reserve areas.
- Continue to use the ME Combining Zone to designate existing permitted and grandfathered mining operations, to identify lands with commercial mineral potential and to allow owners of land containing commercially valuable mineral resources to apply for mineral extraction permits.
- Address changes to state law and regulations from the State Mining and Geology Board.
- Incorporate California Mineral Land Classifications in Table RP-1.

IM RP-4B Subsurface Mining – Amend the Calaveras County Code to establish permitting procedures and standards for subsurface mining operations and activities that are not addressed pursuant to County Code Section 17.18.030 [i.e., are outside the Mineral Extraction (ME) zone].

IM RP-4C Mineral Resource Information – Adopt a procedure for incorporating new Mineral Classification Reports from the State Geologist into the general plan map land use map to reflect newly classified valuable mineral resources.

IM RP-4D Mining Advisory Committee – Consider establishing a Mineral Advisory Committee to make recommendations to the Board of Supervisors related to the management of mineral reserves countywide, to consider appropriate non-mining uses on mineral reserve lands, to review requests for general plan amendments on lands identified as containing important mineral reserves, and to review other actions related to mining operations in Calaveras County.

IM RP-4E Abandoned/Historic Mines – Use guidelines from the Abandoned Mine Lands Unit of the Department of Conservation and reference this agency as a source of funding for remediating abandoned/historic mines.

IM RP-4F Water Impacts from Mining Operations – Adopt standards for addressing water supply in conjunction with evaluating and permitting mining operations. Standards and guidelines should address:

- Conserving on-site water during mining operations
- Documenting pre-mining surface and subsurface water supply levels
- Addressing potential impacts associated with removing underground water by pumping

IM RP-4G Mineral Resource Zones – Petition the State Mining and Geology Board to prioritize additional areas of significant mineral resources in the county for consideration and designation as Mineral Resource Zones. Identify through appropriate zoning important mineral lands identified in State Classification Reports from the State Geologist to assist in their conservation for future use.

IM RP- 4H Reclamation – Continue to require a reclamation plan and financial assurances, consistent with state law including SMARA and adopted rules and regulations for the implementation of SMARA (California Code of Regulations California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1, and as may be amended), and other applicable state and federal standards, for all mining operations that are not otherwise expressly exempted by state law. In addition to State-mandated requirements, reclamation plans shall:

- When creating or restoring plant or wildlife habitats, aesthetically blend the reclaimed site into the surrounding area or provide an acceptable alternative so far as is reasonably practical.

- Provide for the utilization of existing facilities and/or infrastructure for compatible uses other than those associated with mining or mineral extraction upon the cessation of the mining operation.

All future development within the County would be required to comply with Chapter 17.56 of the County Code of Ordinances, which provides specific regulations governing mineral resource production and conservation within the County. For instance, Section 17.56.190 of the Code prohibits, to the extent possible, intrusion of incompatible land uses that may impede or preclude mineral extraction or processing in mineral resource areas that have been classified by the State Department of Conservation's Division of Mines and Geology or designated by the State Mining and Geology Board. Section 17.56.190 also states that prior to approving a use that would otherwise be incompatible with mineral resource protection, the County may impose conditions of approval necessary to protect mineral resources. The goals, policies, and IMs listed above would further reduce adverse effects to mineral resources associated with buildout of the Draft General Plan. Such provisions would apply to future development occurring within the MRZs identified in Figure 4.2-3. Therefore, while the Draft General Plan would allow for future development to occur within identified MRZs, such development would be subject to existing regulations governing protection of mineral resources. However, given that the County does not currently require conditions of approval for all new projects with the potential to result in the loss of mineral resources or limit the availability of mineral resources, impacts to such resources associated with implementation of the Draft General Plan could be ***significant***.

Mitigation Measure(s)

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

*4.2-4* *Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*

*IM RP-4A* *County Code – Amend the County Code to:*

- *Address the use and development of geothermal resources*
- *Update the ME combining zone district to be consistent with the State's mineral classification scheme.*
- *Clarify that a conditional use permit is required for all surface and subsurface mining activity unless specifically exempted pursuant to Section 17.56.040 (or equivalent), and that conditions will be imposed as necessary to protect mineral resources.*
- *Include notification procedures for designating mineral reserve areas.*

- *Continue to use the ME Combining Zone to designate existing permitted and grandfathered mining operations, to identify lands with commercial mineral potential and to allow owners of land containing commercially valuable mineral resources to apply for mineral extraction permits.*
- *Address changes to state law and regulations from the State Mining and Geology Board.*
- *Incorporate California Mineral Land Classifications in Table RP-1.*

# 4.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

## 4.3.1 Introduction

The Air Quality chapter of the EIR describes the effects of the Calaveras County Draft General Plan project (proposed project) on local and regional air quality as well as greenhouse gas (GHG) emissions and global climate change. The chapter includes a discussion of existing air quality, construction-related air quality impacts resulting from grading and equipment emissions, direct and indirect emissions associated with the project, the impacts of these emissions, including greenhouse gas emissions, on both the local and regional scale and mitigation measures warranted to reduce or eliminate any identified significant impacts. Analysis of GHG emissions is required by the California Environmental Quality Act (CEQA) section 15064.4. The chapter is based on the regulations of the Calaveras County Air Pollution Control District (CCAPCD), including the CCAPCD's *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*[1] and the air quality analysis performed for the Draft General Plan (See Appendix C).

## 4.3.2 Existing Environmental Setting

The following information provides an overview of the existing air quality in Calaveras County as well as providing details and descriptions regarding GHG emissions, the existing climate, and global climate change.

### Air Basin Characteristics

Calaveras County is located within the Mountain Counties Air Basin (MCAB), which is an approximately 11,000-square-mile area that encompasses Amador, Calaveras, Mariposa, Nevada, Plumas, Sierra, and Tuolumne Counties, as well as portions of El Dorado and Placer Counties. Most of the MCAB is located in the northern Sierra Nevada, although the western boundary of the MCAB extends into the Sacramento Valley.

The general climate of the MCAB varies considerably with elevation and proximity to mountains. The mountains and hills are primarily responsible for wide variations in rainfall, temperatures, localized wind patterns, and localized inversion layers that occur throughout the region. The temperature variations have a significant influence on wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry within the MCAB. Climates vary from alpine in the eastern areas to more arid at the western edge of the MCAB.

Relatively few sources of air quality emissions are located within the County. However, air quality impacts occur through the transport of air quality pollutants from the more developed Central

[1] Calaveras County Air Pollution Control District. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects.*

Valley to the County. Therefore, while sources of emissions within the County may be limited, the overwhelming transport of emissions from outside of the County into the County can negatively impact air quality within the County. The most visible impacts to air quality originating within the CCAPCD jurisdiction is a result of open burning of vegetation related to property owners, industrial activities, and state agencies.

**Ambient Air Quality Standards**

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The ambient air quality standards for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which air quality standards have been established are called "criteria" pollutants. Table 4.3-1 identifies the major pollutants, characteristics, health effects and typical sources. The federal and California ambient air quality standards (NAAQS and CAAQS, respectively) are summarized in Table 4.3-2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the federal and State standards differ in some cases. In general, the State of California standards are more stringent, particularly for ozone and particulate matter (PM), than the federal standards.

Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen ($NO_X$) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation. The primary source of ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment.

Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months. Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

Ozone concentrations within the County are highly affected by activities within the Sacramento and San Joaquin basins, as well as the San Francisco Bay Area Air Basin. In addition to the effect of ozone emissions outside of the County on ozone concentrations within the County, activities within the County such as the use of fossil fueled passenger vehicles, diesel fueled heavy equipment, and industrial processes contribute ozone precursors to the County.

**Table 4.3-1**
**Summary of Criteria Pollutants**

| Pollutant | Characteristics | Health Effects | Major Sources |
|---|---|---|---|
| Ozone | A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog. | • Eye irritation<br>• Wheezing, chest pain, dry throat, headache, or nausea<br>• Aggravated respiratory disease such as emphysema, bronchitis, and asthma | Combustion sources such as factories, automobiles, and evaporation of solvents and fuels. |
| Carbon Monoxide | An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels. | • Impairment of oxygen transport in the bloodstream<br>• Impaired vision, reduced alertness, chest pain, and headaches<br>• Can be fatal in the case of very high concentrations | Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces. |
| Nitrogen Dioxide | A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure. | • Lung irrigation and damage<br>• Increased risk of acute and chronic respiratory disease | Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants. |
| Sulfur Dioxide | A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels. | • Aggravation of chronic obstruction lung disease<br>• Increased risk of acute and chronic respiratory disease | Diesel vehicle exhaust, oil-powered power plants, and industrial processes. |
| Particulate Matter ($PM_{10}$ and $PM_{2.5}$) | A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs. | • Aggravation of chronic respiratory disease<br>• Heart and lung disease<br>• Coughing<br>• Bronchitis<br>• Chronic respiratory disease in children<br>• Irregular heartbeat<br>• Nonfatal heart attacks | Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust. |
| Lead | A metal found naturally in the environment as well as in manufactured products. | • Loss of appetite, weakness, apathy, and miscarriage<br>• Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract | Industrial sources and combustion of leaded aviation gasoline. |

*Sources:*

- *California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed March 2018.*
- *Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed March 2018.*
- *California Air Resources Board. Glossary of Air Pollution Terms. Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed August 2016.*

**Table 4.3-2**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | CAAQS | NAAQS | |
|---|---|---|---|---|
| | | | Primary | Secondary |
| **Ozone** | 1 Hour | 0.09 ppm | - | Same as primary |
| | 8 Hour | 0.07 ppm | 0.070 ppm | |
| **Carbon Monoxide** | 8 Hour | 9 ppm | 9 ppm | - |
| | 1 Hour | 20 ppm | 35 ppm | |
| **Nitrogen Dioxide** | Annual Mean | 0.03 ppm | 53 ppb | Same as primary |
| | 1 Hour | 0.18 ppm | 100 ppb | - |
| **Sulfur Dioxide** | 24 Hour | 0.04 ppm | - | - |
| | 3 Hour | - | - | 0.50 ppm |
| | 1 Hour | 0.25 ppm | 75 ppb | - |
| **Respirable Particulate Matter ($PM_{10}$)** | Annual Mean | 20 µg /$m^3$ | - | Same as primary |
| | 24 Hour | 50 µg /$m^3$ | 150 µg /$m^3$ | |
| **Fine Particulate Matter ($PM_{2.5}$)** | Annual Mean | 12 µg /$m^3$ | 12 µg /$m^3$ | 15 µg /$m^3$ |
| | 24 Hour | - | 35 µg /$m^3$ | Same as primary |
| **Sulfates** | 24 Hour | 25 µg /$m^3$ | N/A | - |
| **Lead** | 30 Day Average | 1.5 µg /$m^3$ | - | - |
| | Calendar Quarter | - | 1.5 µg /$m^3$ | Same as primary |
| **Hydrogen Sulfide** | 1 Hour | 0.03 ppm | - | - |
| **Vinyl Chloride** | 24 Hour | 0.01 ppm | - | - |
| **Visibility Reducing Particles1** | 8 Hour | See note below | - | - |

ppm = parts per million
ppb = parts per billion
µg/$m^3$ = micrograms per cubic meter

1. Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

*Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed March 2017.*

*Reactive Organic Gas*

ROG is a reactive chemical gas composed of hydrocarbon compounds typically found in paints and solvents that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.

*Oxides of Nitrogen*

$NO_X$ are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of $NO_X$, nitrogen dioxide ($NO_2$), is a reddish-brown gas

that discolors the air and is toxic at high concentrations. $NO_X$ results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of $NO_X$. $NO_X$ reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, $NO_X$ emissions are a major component of acid rain. Health effects related to $NO_X$ include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

PM

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about particles that are 10 micrometers in diameter or smaller ($PM_{10}$) because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5-10}$)," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. $PM_{2.5}$ particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health impacts relative to their mass. UFP is not currently regulated separately, but is analyzed as part of $PM_{2.5}$.

$PM_{10}$, $PM_{2.5-10}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while $PM_{10}$ sources include the same sources

plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

Common sources of PM pollution in the County include residential, development, and land management related activities. Residential sources include woodstoves and fire places, as well as residential open burning of vegetation related to private land clearing. Development activities such as construction, site preparation, and earth-moving activity can contribute emissions related to operation of diesel vehicles as well as windblown dust. Land management within the County can impact PM concentrations through forestry management burning, agricultural vegetation burning, and dust from agricultural earth moving or harvesting. Similar to ozone, PM concentrations within the County are highly dependent on air movement and conditions. For instance, localized inversion layers may reduce dispersion of PM pollution in proximity to a source while regional wind may transport PM pollution from other areas within the San Joaquin Valley into the County or help to disperse local PM pollution away from a source within the County.

Sulfur Dioxide

Sulfur Dioxide ($SO_2$) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. $SO_2$ is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne $NO_X$, suspended sulfur oxide particles contribute to poor visibility. The sulfur oxide particles are also a component of $PM_{10}$.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to $SO_2$ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of $SO_2$ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide

Hydrogen Sulfide ($H_2S$) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations, especially in enclosed spaces (800 ppm can cause death).

Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, and, thus, essentially persists forever. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) as a result of airborne dispersion and could become re-suspended into the air.

Because lead is only slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

Vinyl Chloride

Vinyl Chloride ($C_2H_3Cl$, also known as VCM) is a colorless gas that does not occur naturally, but is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Visibility Reducing Particles

Visibility Reducing Particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Toxic Air Contaminants (TACs)

In addition to criteria pollutants, TACs are a category of environmental concern. Many types of TACs exist, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline

stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate, benzene, formaldehyde, 1,3-butadiene and acetaldehyde.

Public exposure to TACs can result from emissions from normal operations as well as accidental releases. Heath effects of TACs include cancer, birth defects, neurological damage, and death.

A large variety of sources of TACs exist within the County. Cars and trucks used throughout the County constitute emissions sources, with diesel fueled vehicles releasing diesel particulate matter (DPM), which is a harmful class of PM pollution. Gas dispensing facilities throughout the County release various TAC emissions during refueling of vehicles and refilling of storage tanks, the most prominent of which is benzene. Industrial processes throughout the County can release process specific TACs, such as volatile organic compounds, or DPM, through the use of heavy machinery. Furthermore, the unique topography and wind patterns within the County can lead to temperature inversion layers and other atmospheric conditions that restrict air mixing and pollutant dispersion. Sources of TACs within environments that have limited atmospheric mixing can cause more severe health effects, as pollutants are concentrated in the localized area for extended periods of time.

Naturally Occurring Asbestos (NOA)

Asbestos is a general term used for naturally occurring fibrous materials that are found throughout California. NOA is most commonly found where ultramafic rock or serpentinite rock is present. Ultramafic rocks are an igneous type of rock that is formed in high temperatures below the surface of the earth. When ultramafic rocks are exposed at the surface, they may be altered to serpentinite or chrysotile asbestos or tremolite-actinolite asbestos. Serpentinite refers to the name of a rock type, whereas serpentine refers to a group of minerals that makes up the rock, serpentinite. Chrysotile fibers are a type of asbestos that are formed in serpentine. Due to the high likelihood for asbestos occurrences in California to be found within ultramafic rocks, the location of ultramafic rocks have been mapped by the Division of Mines and Geology in an effort to generally identify areas likely to contain NOA. Ultramafic rock occurs within the western portion of Calaveras County and generally extends north to southwest following the Bear Mountain and Melones Fault Zones. Specifically, areas identified as potentially containing NOA include the following: from Pardee Reservoir extending southwest through the Valley Springs area to just southeast of New Hogan Reservoir; north of Copperopolis extending southeast through New Melones Reservoir; and in the Mountain Ranch area.

The State considers all types of asbestos to be hazardous and identifies asbestos as being a carcinogen. Exposure to airborne asbestos fibers can result in several common diseases found in the lungs, including asbestosis, lung cancer, and mesothelioma. The risk of contracting any one of these diseases depends on intensity and duration of exposure.

Odors

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable annoyance and distress among the public and can generate citizen complaints to local governments

and air districts. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative or formulaic methodologies to determine the presence of a significant odor impact do not exist.

Sources of odors within the County are subjective and variable; however, typical sources include waste disposal facilities, wastewater treatment facilities, composting operations, agricultural operations, and industrial operations.

**Attainment Status and Regional Air Quality Plans**

Areas not meeting the NAAQS presented in Table 4.3-2 above are designated by the USEPA as nonattainment. Further classifications of nonattainment areas are based on the severity of the nonattainment problem, with marginal, moderate, serious, severe, and extreme nonattainment classifications for ozone. Nonattainment classifications for PM range from marginal to serious. The Federal Clean Air Act (FCAA) requires areas violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures for states to use to attain the NAAQS. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, rules, and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA reviews SIPs to determine if they conform to the mandates of the FCAA amendments and would achieve air quality goals when implemented.

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA) of 1988. The CCAA classifies ozone nonattainment areas as moderate, serious, severe, and extreme based on severity of violations of the CAAQS. For each nonattainment area classification, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment areas, attainment plans are required to demonstrate a five-percent-per-year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. Air districts with air quality that is in violation of CAAQS are required to prepare an air quality attainment plan that lays out a program to attain the CCAA mandates.

Table 4.3-3 presents the current attainment status for Calaveras County. Calaveras County has been designated nonattainment for the State and federal ozone standards and for the State $PM_{10}$ standard. Designations for all other ambient air quality standards within Calaveras County are unclassified or attainment (See Table 4.3-3). The CARB considers the nonattainment status of the County to be a result of “overwhelming transport” of emissions from outside of the County, for instance from the Central Valley and Bay Area, into the County, due to the prevalence of westerly winds into the County.

**Table 4.3-3**
**Calaveras County Attainment Status Designations**

| Pollutant | Federal Designation | State Designation |
|---|---|---|
| Ozone | Nonattainment | Nonattainment |
| Particulate Matter ($PM_{2.5}$) | Unclassifiable/Attainment | Unclassified |
| Particulate Matter ($PM_{10}$) | Unclassified | Nonattainment |
| Carbon Monoxide | Unclassified/Attainment | Unclassifiable/Attainment |
| Nitrogen Dioxide | Unclassified/Attainment | Attainment |
| Sulfur Dioxide | Unclassified | Attainment |
| Sulfates | No Federal Standard | Attainment |
| Lead | Unclassified/Attainment | Attainment |
| Hydrogen Sulfide | No Federal Standard | Unclassified |
| Visibility Reducing Particulates | No Federal Standard | Unclassified |

*Note: Unclassified/Unclassifiable is the designation given to any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. (Source: U.S. EPA, http://www.epa.gov/oaqps001/greenbk/define.html)*

*Source: California Air Resources Board, Area Designations Maps/State and National, http://www.arb.ca.gov/desig/adm/adm.htm, accessed December 2017.*

The CCAPCD has worked with the Amador Air District (AAD), to prepare attainment plans for PM and ozone emissions.

### Air Quality Monitoring

The CARB operates the air quality monitoring site at San Andreas-Goldstrike Road, which is located in the northwestern portion of Calaveras County. Table 4.3-4 shows historical occurrences of air pollutant levels exceeding the State and federal ambient air quality standards for 2014 through 2016. The number of days that each standard was exceeded is presented in Table 4.3-4 below.

**Table 4.3-4**
**Air Quality Monitoring Data Summary for Project Area**

| Pollutant | Standard | Days Standard Was Exceeded | | |
|---|---|---|---|---|
| | | 2014 | 2015 | 2016 |
| 1-Hour Ozone | State | 0 | 2 | 0 |
| | Federal | 0 | 0 | 0 |
| 8-Hour Ozone | State | 5 | 19 | 26 |
| | Federal | 0 | 11 | 9 |
| 24-Hour $PM_{2.5}$ | Federal | 0 | 4 | 0 |
| 24-Hour $PM_{10}$ | State | - | 3.0 | 0 |
| | Federal | 0 | 5 | 0 |

Note: Data obtained from monitoring station at 501 Gold Strike Road, San Andreas.

*Source: California Air Resources Board. Aerometric Data Analysis and Management (iADAM) System. Available at http://www.arb.ca.gov/adam/welcome.html. Accessed December 2017.*

Calaveras County is under the jurisdiction of the CCAPCD, which is recognized as a Special District and is governed by the Calaveras County Air Pollution Control Board. The CCAPCD manages the County's air quality through education and enforcement of CCAPCD rules and CARB measures and regulations.

**Sensitive Receptors**

Sensitive receptors are typically defined as facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Land uses considered more sensitive to air pollution than others include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. Existing sensitive receptors are spread throughout the County.

**Greenhouse Gas Emissions**

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. Since the beginning of the Industrial Revolution, global atmospheric concentrations of GHGs have increased due to human activities such as the burning of fossil fuels, clearing of forests and other activities. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.[2]

The primary GHG emitted by human activities is $CO_2$, with the next largest components being $CH_4$ and $N_2O$. The primary sources of $CH_4$ emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing $N_2O$ are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that energy-related activities account for the majority of U.S. emissions. Electricity generation is the largest single-source of GHG emissions, and transportation is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[3] Emissions of GHG are partially offset by uptake of carbon and sequestration in forests, trees in urban areas, agricultural soils, landfilled yard trimmings and food scraps, and absorption of $CO_2$ by the earth's oceans; however, the rate of emissions of GHGs currently outpaces the rate

[2] U.S. Environmental Protection Agency. Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases. Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases. Accessed November 17, 2016.

[3] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions.* Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions . Accessed November 2017.

of uptake, thus causing global atmospheric concentrations to increase.[4] Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global Warming Potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the global warming potential of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is $CO_2$. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of $CO_2$, as well as the decay rate of each gas relative to that of $CO_2$. Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of $CO_2$, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of $CO_2$, as shown in Table 4.3-5.

**Table 4.3-5**
**Global Warming Potentials and Atmospheric Lifetimes of Select GHGs**

| Gas | Atmospheric Lifetime (years) | Global Warming Potential (100 year time horizon) |
|---|---|---|
| Carbon Dioxide ($CO_2$) | 50-200[1] | 1 |
| Methane ($CH_4$) | 12 | 25 |
| Nitrous Oxide ($N_2O$) | 114 | 298 |
| HFC-23 | 270 | 14,800 |
| HFC-134a | 14 | 1,430 |
| HFC-152a | 1.4 | 124 |
| PFC: Tetrafluoromethane ($CF_4$) | 50,000 | 7,390 |
| PFC: Hexafluoroethane ($C_2F_6$) | 10,000 | 12,200 |
| Sulfur Hexafluoride ($SF_6$) | 3,200 | 22,800 |

1. For a given amount of carbon dioxide emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

*Source: U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. April 15, 2017.*

As shown in the table, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of $CO_2$. The "specified time horizon" is related to the atmospheric lifetimes of such GHGs, which are estimated by the USEPA to vary from 50 to 200 years for $CO_2$, to 50,000 years for tetrafluoromethane. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the global warming

[4] U.S. Environmental Protection Agency. *Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases.* Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases. Accessed November 17, 2016.

potential of a gas. The common indicator for GHG is expressed in terms of metric tons of $CO_2$ equivalents ($MTCO_2e$).

**Climate Change in California**

Uncertainties exist as to exactly what the climate changes will be in various local areas of the Earth. According to the Intergovernmental Panel on Climate Change's Working Group II Report, *Climate Change 2007: Impacts, Adaptation and Vulnerability*,[5] as well as the California Natural Resources Agency's report *Safeguarding California: Reducing Climate Risk*[6] climate change impacts to California may include:

- Increasing evaporation;
- Rearrangement of ecosystems as species and ecosystems shift northward and to higher elevations;
- Increased frequency, duration, and intensity of conditions conducive to air pollution formation (particularly ozone);
- Changes to statewide precipitation patterns including diminishing Sierra snowpack, which is anticipated to decline by 70 percent to 90 percent, threatening the State's water supply;
- Increased average surface temperatures and more frequent heat waves;
- Increased growing season and increased growth rates of weeds, insect pests and pathogens;
- Inundation by sea level rise, and exacerbated shoreline erosion; and
- Increased incidents and severity of wildfire events and expansion of the range and increased frequency of pest outbreaks.

The foregoing environmental impacts would have far reaching and interconnected consequences for Calaveras County.

## 4.3.3 REGULATORY CONTEXT

Air quality is monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area are discussed below.

**Federal Regulations**

The most prominent federal regulation is the FCAA, which is implemented and enforced by the USEPA.

[5] Intergovernmental Panel on Climate Change. *Climate Change 2007: Impacts, Adaptation, and Vulnerability.* 2007.

[6] California Natural Resources Agency. *Safeguarding California: 2018 Update. January 2018.*

FCAA and USEPA

The FCAA requires the USEPA to set NAAQS and designate areas with air quality not meeting NAAQS as nonattainment. The USEPA is responsible for enforcement of NAAQS for atmospheric pollutants and regulates emission sources that are under the exclusive authority of the federal government including emissions of GHGs. The USEPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

The EPA has adopted policies consistent with FCAA requirements demanding states to prepare SIPs that demonstrate attainment and maintenance of the NAAQS. The 1990 amendments of the FCAA added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has responsibility to review all state SIPs to determine conformance to the mandates of the FCAA, and the amendments thereof, and determine if implementation would achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions to transportation funding and stationary air pollution sources in the air basin.

**State Regulations and Guidance**

California has adopted a variety of regulations aimed at reducing air pollution and GHG emissions. The adoption and implementation of the key State legislation described in further detail below demonstrates California's leadership in addressing air quality. Only the most prominent and applicable California air quality- and GHG-related legislation are included below; however, an exhaustive list and extensive details of California air quality legislation can be found at the CARB website.[7]

State Regulations Related to Air Quality

The following regulations address air quality within California.

*CCAA and CARB*

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. The CCAA requires that air quality plans be prepared for areas of the State that have not met the CAAQS for ozone, CO, $NO_X$, and $SO_2$. Among other requirements of the CCAA, the plans must include a wide range of implementable control measures, which often include transportation control measures and performance standards. In order to implement the transportation-related provisions of the CCAA,

[7] California Air Resources Board. *Laws and Regulations*. Available at: https://www.arb.ca.gov/html/lawsregs.htm. Accessed November 2017.

local air pollution control districts have been granted explicit authority to adopt and implement transportation controls. The CARB, California's air quality management agency, regulates and oversees the activities of county air pollution control districts and regional air quality management districts. The CARB regulates local air quality indirectly using State standards and vehicle emission standards, by conducting research activities, and through planning and coordinating activities. In addition, the CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the USEPA. Furthermore, the CARB is charged with developing rules and regulations to cap and reduce GHG emissions.

Air Quality and Land Use Handbook

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities.[8] The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (I-405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" (CARB 2005).

Importantly, the Introduction section of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The Air Resources Board Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues" (CARB 2005).

*Assembly Bill 1807*

Assembly Bill (AB) 1807, enacted in September 1983, sets forth a procedure for the identification and control of TACs in California. CARB is responsible for the identification and control of TACs, except pesticide use, which is regulated by the California Department of Pesticide Regulation.

[8] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

*Assembly Bill 2588*

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq., provides for the regulation of over 200 TACs, including DPM, and is the primary air contaminant legislation in California. Under the act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public.

*Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations*

In 2002, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (Title 17, Section 93105, of the California Code of Regulations) went into effect, which requires each air pollution control and air quality management district to implement and enforce the requirements of Section 93105 and propose their own asbestos ATCM as provided in Health and Safety Code section 39666(d).[9]

*Senate Bill 656*

In 2003, the Legislature passed Senate Bill (SB) 656 to reduce public exposure to $PM_{10}$ and $PM_{2.5}$ above the State CAAQS. The legislation requires the CARB, in consultation with local air pollution control and air quality management districts, to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air districts to reduce $PM_{10}$ and $PM_{2.5}$ emissions. The CARB list is based on California rules and regulations existing as of January 1, 2004, and was adopted by CARB in November 2004. Categories addressed by SB 656 include measures for reduction of emissions associated with residential wood combustion and outdoor greenwaste burning, fugitive dust sources such as paved and unpaved roads and construction, combustion sources such as boilers, heaters, and charbroiling, solvents and coatings, and product manufacturing. Some of the measures include, but are not limited to, the following:

- Reduce or eliminate wood-burning devices;
- Prohibit residential open burning;
- Permit and provide performance standards for controlled burns;
- Require water or chemical stabilizers/dust suppressants during grading activities;
- Limit visible dust emissions beyond the project boundary during construction;
- Require paving/curbing of roadway shoulder areas; and
- Require street sweeping.

Under SB 656, each air district is required to prioritize the measures identified by CARB, based on the cost effectiveness of the measures and their effect on public health, air quality, and emission reductions. Per SB 656 requirements, the CCAPCD maintains regulations related to open burning,

[9] California Air Resources Board. *2002-07-29 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations*. June 3, 2015. Available at: http://www.arb.ca.gov/toxics/atcm/asb2atcm.htm. Accessed December 2017.

and participates in Carl Moyer programs including programs focused on retrofitting existing wood burning devices.

*Heavy-Duty Vehicle Idling Emission Reduction Program*

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.[10] The regulation consists of new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent $NO_X$ emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California beginning in 2008. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

*In-Use Off-Road Diesel-Fueled Fleet Regulation*

On July 26, 2007, CARB adopted a regulation to reduce DPM and $NO_X$ emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.[11] Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the California Code of Regulations.

State Regulations Related to Greenhouse Gases

The following regulations address GHG and climate change within California.

*Assembly Bill 1493*

California AB 1493 (Stats. 2002, ch. 200) (Health & Safety Code, §§42823, 43018.5), known as Pavley I, was enacted on July 22, 2002. AB 1493 requires that the CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by the CARB to be vehicles whose primary use is noncommercial personal transportation in the state." On June 30, 2009, the USEPA granted a

[10] California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed March 2017.

[11] California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed March 2017.

waiver of CAA preemption to California for the State's GHG emission standards for motor vehicles, beginning with the 2009 model year. Pursuant to the CAA, the waiver allows for the State to have special authority to enact stricter air pollution standards for motor vehicles than the federal government's. On September 24, 2009, the CARB adopted amendments to the Pavley regulations (Pavley I) that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The second phase of the Pavley regulations (Pavley II) is expected to affect model year vehicles from 2016 through 2020. The CARB estimates that the regulation would reduce GHG emissions from the light-duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030.

*Renewable Portfolio Standard (RPS)*

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

*Executive Order S-03-05*

On June 1, 2005, then-Governor Schwarzenegger signed Executive Order S-03-05, which established total GHG emission targets. Specifically, emissions are to be reduced to year 2000 levels by 2010, 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (Cal-EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary is also directed to submit biannual reports to the governor and state legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts.

To comply with the Executive Order, the Secretary of the Cal-EPA created a Climate Act Team (CAT) made up of members from various State agencies and commissions. In March 2006, the CAT released their first report. In addition, the CAT has released several "white papers" addressing issues pertaining to the potential impacts of climate change on California.

*Assembly Bill 32*

In September 2006, Assembly Bill (AB) 32, the California Climate Solutions Act of 2006, was enacted (Stats. 2006, ch. 488) (Health & Saf. Code, §38500 et seq.). AB 32 delegated the authority for its implementation to the CARB and directs CARB to enforce the State-wide cap. Among other requirements, AB 32 required CARB to (1) identify the State-wide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020, and (2) develop and implement a Scoping Plan. Accordingly, the CARB has prepared the *Climate Change Scoping Plan* (Scoping Plan) for California, which was approved in 2008 and updated in 2014 and 2017.[12] The following

12 California Air Resources Board. *AB 32 Scoping Plan*. Available at: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm. Accessed February 2018.

sections present further information regarding plans and programs that have been introduced in order to meet the statutory requirements of AB 32.

California Scoping Plan

The 2008 Scoping Plan identified GHG reduction measures that would be necessary to reduce statewide emissions as required by AB 32. Many of the GHG reduction measures identified in the 2008 Scoping Plan have been adopted, such as the Low Carbon Fuel Standard, Pavley, Advanced Clean Car standards, RPS, and the State's Cap-and-Trade system.

Building upon the 2008 Scoping plan, the 2013 and 2017 Scoping Plan Updates introduced new strategies and recommendations to continue GHG emissions reductions. The 2013 Scoping Plan Update created a framework for achievement of 2020 GHG reduction goals, and identified actions that may be built upon to continue GHG reductions past 2020, as required by AB 32. Following the 2013 Scoping Plan, the 2017 Scoping Plan sets a path for the achievement of California's year 2030 GHG reduction goals. Per the 2017 Scoping Plan, if a plan results in annual per capita emissions of no more than six $MTCO_2e$ by the year 2030 and no more than two $MTCO_2e$ by the year 2050, the proposed plan would be considered in compliance with all adopted State requirements for the reduction of GHG emissions, including AB 32, SB 32, and related executive orders.

California GHG Cap-and-Trade Program

California's GHG Cap-and-Trade Program was originally envisioned in the 2008 Scoping Plan as a key strategy to achieve GHG emissions reductions mandated by AB 32. The Cap-and-Trade Program is intended to put California on the path to meet the GHG emission reduction goal of 1990 levels by the year 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors has been established and facilities or industries subject to the cap are be able to trade permits (allowances) to emit GHGs. The CARB designed the California Cap-and-Trade Program to be enforceable and to meet the requirements of AB 32.13 The Program started on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions. On January 1, 2014 California linked the state's cap-and-trade plan with Quebec's, and on January 1, 2015 the program expanded to include transportation and natural gas fuel suppliers.14 AB 398 was adopted by the State's legislature in July 2017, which reauthorized the Cap-and-Trade program through December 31, 2030. The reauthorization and continued operation of the Cap-and-Trade program represents a key strategy within the State's 2017 Scoping Plan Update for the achievement of California's year 2030 GHG reduction goals.

[13] California Air Resources Board. *Overview of ARB Emissions Trading Program*. Available at: https://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed February 2018.

[14] *Ibid.*

*Executive Order S-01-07*

On January 18, 2007, then-Governor Schwarzenegger signed Executive Order S-01-07, which mandates that a State-wide goal be established to reduce carbon intensity of California's transportation fuels by at least 10 percent by 2020. The Order also requires that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California.

*Senate Bill 97*

As amended, SB 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. The bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. As directed by SB 97, the OPR amended the CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of GHG emissions and the effects of GHG emissions in CEQA documents. The amendments included revisions to the *Appendix G Initial Study Checklist* that incorporated a new subdivision to address project-generated GHG emissions and contribution to climate change. The new subdivision emphasizes that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. Under the revised CEQA Appendix G checklist, an agency should consider whether a project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and whether a project conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing emission of GHGs.

Further guidance based on SB 97 suggests that the lead agency make a good-faith effort, based on available information, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. When assessing the significance of impacts from GHG emissions on the environment, lead agencies should consider the extent to which the project may increase or reduce GHG, as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance determined applicable to the project, and/or the extent to which the project complies with adopted regulations or requirements to implement a state wide, regional, or local plan for the reduction or mitigation of GHG emissions. Feasible mitigation under SB 97 includes on-site and off-site measures, such as GHG emission-reducing design features and GHG sequestration.

*Senate Bill 375*

In September 2008, SB 375, known as the Sustainable Communities and Climate Protection Act of 2008, was enacted, which is intended to build on AB 32 by attempting to control GHG emissions by curbing sprawl. SB 375 enhances CARB's ability to reach goals set by AB 32 by directing CARB to develop regional GHG emission reduction targets to be achieved by the State's 18 metropolitan planning organizations (MPOs). Under SB 375, MPOs must align regional transportation, housing, and land-use plans and prepare a "Sustainable Communities Strategy" (SCS) to reduce the amount of vehicle miles traveled in their respective regions and demonstrate the region's ability to attain its greenhouse gas reduction targets. SB 375 provides incentives for creating walkable and sustainable communities and revitalizing existing communities, and allows

home builders to get relief from certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Furthermore, SB 375 encourages the development of alternative transportation options, which will reduce traffic congestion. Calaveras County is not included in an MPO, and, thus, is not required to prepare a SCS.

*Executive Order S-13-08*

Then-Governor Arnold Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The Executive Order is intended to hasten California's response to the impacts of global climate change, particularly sea level rise, and directs state agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry; biodiversity and habitat; and transportation and energy infrastructure. The report recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

*Assembly Bill 197 and Senate Bill 32*

On September 8, 2016, AB 197 and SB 32 were enacted with the goal of providing further control over GHG emissions in the State. SB 32 built on previous GHG reduction goals by requiring that the CARB ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by the year 2030. Achieving a 40 percent reduction of statewide GHG emissions by 2030 represents a critical milestone on the path to reducing statewide GHG Emissions by 80 percent by 2050, as required by Executive Order S-03-05. Additionally, SB 32 emphasizes the critical role that reducing GHG emissions would play in protecting disadvantaged communities and public health from adverse impacts of climate change. Enactment of SB 32 was predicated on the enactment of AB 197, which seeks to make the achievement of SB 32's mandated GHG emission reductions more transparent to the public and responsive to the Legislature. Transparency to the public is achieved by AB 197 through the publication of an online inventory of GHG and TAC emissions from facilities required to report such emissions pursuant to Section 38530 of California's Health and Safety Code. AB 197 further established a six-member Joint Legislative Committee on Climate Change Policies, which is intended to provide oversight and accountability of the CARB, while also adding two new legislatively-appointed, non-voting members to the CARB. Additionally, AB 197 directs the CARB to consider the "social costs" of emission reduction rules and regulations, with particular focus on how such measures may impact disadvantaged communities.

The CARB is currently drafting an update to the State's Climate Change Scoping Plan in accordance with the 2030 GHG emissions targets codified by SB 32. Although the CARB has begun preparing the update to the State's Climate Change Scoping Plan, at the time of preparation of this EIR, the CARB has not yet adopted the updated Scoping Plan.

*California Building Standards Code*

California's building codes (California Code of Regulations [CCR], Title 24) are published on a triennial basis, and contain standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The California Building Standards Commission (CBSC) is responsible for the administration and implementation of each code cycle, which includes the proposal, review, and adoption process. Supplements and errata are issued throughout the cycle to make necessary mid-term corrections. The 2016 code became effective January 1, 2017. The California building code standards apply State-wide; however, a local jurisdiction may amend a building code standard if the jurisdiction makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

California Green Building Standards Code

The 2016 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the CBSC, which became effective with the rest of the CBSC on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California.

The CALGreen Code encourages local governments to adopt more stringent voluntary provisions, known as Tier 1 and Tier 2 provisions, to further reduce emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. Calaveras County has not adopted any voluntary provisions of the CALGreen Code to date.

Building Energy Efficiency Standards

The 2016 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2013 Building Energy Efficiency Standards resulting in a 28 percent reduction in energy consumption from the 2013 standards for residential structures. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high performance attics and walls.

**Local**

Regulations from the applicable Calaveras County agencies are presented below.

CCAPCD

Air Quality in Calaveras County is protected by the CCAPCD. The primary goal of the CCAPCD is to protect public health by managing the County's air quality, and achieving or maintaining NAAQS and CAAQS. Air quality management is achieved through public education and enforcement of rules and regulations. The CCPACD promulgates and enforces rules and regulations, and enforces the CARB's Air Toxic Control Measures.

The CCAPCD permits and inspects stationary sources of air pollution. Stationary sources subject to CCAPCD regulation include gasoline dispensing facilities (gas stations), rock quarries, paint spray booths, and diesel generators greater than 50 break horsepower. The district disseminates burn day information from the CARB and issues burn permits for areas greater than five acres.

The CCAPCD and CARB rules and regulations most relevant to the Draft General Plan include, but are not limited to:

- Rule 202 – Visible Emissions;
- Rule 205 – Nuisance;
- Rule 207 – Particulate Matter;
- Rule 210 – Specific Contaminants;
- Regulation III – Open Burning;
- Regulation IV – Authority to Construct Regulations;
- Regulation V – Permit to Operate Regulations; and
- Regulation IX – Air Toxics Control Measures.

*Assessing Impacts from Land Use Projects*

The CCAPCD maintains guidelines for the assessment of land use projects within the County. The guidelines present expectations and methodologies for project analysis based on a project's compliance with the CCAPCD's SIPs. The multi-step project analysis process includes project screening, estimation of emissions, comparison of estimated project emissions to the CCAPCD's emissions thresholds, and selection of mitigation measures.[15]

The CCAPCD provides standard mitigation measures that may be applied to projects found to exceed district mass emissions thresholds. The standard mitigation measures are divided into several categories as presented below:

[15] Calaveras County Air Pollution Control District. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*.

Mitigations for Use During Design and Construction Phases

- Alternatives to open burning of vegetative material will be used unless otherwise deemed infeasible by the District. Suitable alternatives include chipping, mulching, or conversion to biomass fuel.
- Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible during construction.
- Temporary traffic control shall be provided during all phases of construction to improve traffic flow as deemed appropriate by local transportation agencies and/or Caltrans.
- Construction activities shall be scheduled to direct traffic flow to off-peak hours as much as practicable.
- There shall be a limit of one wood-burning appliance per residence, and it shall be an EPA Phase II certified appliance. Also, each new residence shall be equipped with a non-wood-burning source of heat.
- During initial grading, earth moving, or site preparation, larger projects may be required to construct a paved, coarse gravel or dust palliative treated apron, at least 100 feet in length, leading onto the paved road(s).
- Wheel washers may be required where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads on larger projects.
- All self-propelled off-road diesel-powered equipment and vehicles greater than 25 brake horsepower (bhp) shall be equipped with an engine meeting at least Tier 1 emission standards (typically manufactured 1996 or later).
- Larger residential projects (such as those exceeding 200 units) may be required to provide a greenwaste drop-off site for residents, along with an ongoing operation and funding plan. As an additional alternative, residential open burning may be prohibited within a project via CC&Rs. The District however is not responsible for enforcing CC&R requirements.

Mitigation for Public Transit (if public transit is available in the project area)

- Streets shall be designed to maximize pedestrian access to transit stops.
- The project will provide for on-site road and off-site bus turnouts, passenger benches, and shelters as demand and service routes warrant subject to review and approval by the local transportation planning agency.
- Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, easements, etc. The local transportation agency should be consulted for specific needs.

Mitigation for Traffic Emissions

- The project shall provide for pedestrian access between bus service and major transportation points within the project, and between separate sections of the project, when and where feasible.
- The project should contribute to traffic-flow improvements (i.e., right-of-way, capital improvements, etc.) that reduce emissions and are not considered as substantially growth inducing. The local transportation agency should be consulted for specific needs.

Mitigation for Land Use Emissions

- The project shall incorporate mixed uses, where permitted by local development regulations, to achieve a balance of commercial, employment, retail and housing options where feasible.
- Larger projects shall provide for neighborhood parks or other recreational options such as trails to minimize vehicle travel to off-site recreational uses and/or commercial areas.
-

Mitigation for Commercial and Industrial Projects

- Increase building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).
- Improvement of thermal efficiency of commercial and industrial structures as appropriate by reducing thermal load with automated and timed temperature controls, or occupancy load limits.
- Incorporate shade trees, adequate in number and proportional to the project size, throughout the project site to reduce building heating and cooling requirements.
- Use fleet vehicles that run on clean-burning fuels as may be practicable.

While the CCAPCD encourages projects and lead agencies to develop project specific mitigation measures, such measures should be developed under consultation with the CCAPCD.

## 4.3.4 Impacts and Mitigation Measures

The standards of significance and methodology used to analyze and determine the proposed project's potential project-specific impacts related to air quality and GHG emissions are described below. In addition, a discussion of potential impacts resulting from implementation of the Draft General Plan, as well as mitigation measures where necessary, is also presented.

### Standards of Significance

Based on the recommendations of CCAPCD, consistent with Appendix G of the CEQA Guidelines and professional judgment, a significant impact would occur if implementation of the Draft General Plan would result in any of the following:

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

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (i.e., exceed the CCAPCD thresholds of significance listed in Table 4.3-6);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations (including localized CO concentrations and TAC emissions);
- Create objectionable odors affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Criteria Pollutant Emissions

In order to evaluate air pollutant emissions from development projects, the CCAPCD established project-level significance thresholds for emissions of ROG, $NO_X$, and $PM_{10}$. The significance thresholds, expressed in pounds per day (lbs/day), serve as air quality standards in the evaluation of air quality impacts associated with proposed development projects. Thus, if a proposed project's emissions exceed the CCAPCD thresholds, the projects could have a significant effect on regional air quality and attainment of federal and State AAQS. The significance thresholds, expressed in pounds per day (lbs/day), listed in Table 4.3-6 are the CCAPCD's recommended thresholds of significance for use in the evaluation of air quality impacts associated with proposed development projects.

**Table 4.3-6**
**CCAPCD Thresholds of Significance**

| Pollutant | Construction Threshold (lbs/day) | Operational Threshold (lbs/day) |
|---|---|---|
| ROG | 150 | 150 |
| $NO_X$ | 150 | 150 |
| $PM_{10}$ | 150 | 150 |

*Source: Calaveras County Air Pollution Control District, Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects.*

It should be noted that the thresholds of significance presented in Table 4.3-6 are project-level thresholds that are designed for use in analysis of individual development projects. The Draft General Plan would not result in direct development of individual projects within the County; rather, the Draft General Plan provides a framework for further development within the County. Nevertheless, adoption of the Draft General Plan would allow for future development within the County, which would increase the amount of criteria air quality pollutants emitted within the County. Thus, while the Draft General Plan would not directly result in increased emissions, buildout of the Draft General Plan would include increased Countywide emissions. Although the CCAPCD's *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects* does not have specific thresholds of significance for plan-level analyses, use of the project-level

thresholds would present a conservative analysis for the proposed project. Therefore, in the absence of other applicable emissions thresholds, the estimated emissions under buildout of the Draft General Plan will be compared to the CCAPCD's thresholds of significance presented in Table 4.3-6.

GHG Emissions

The CCAPCD has not adopted thresholds of significance for the analysis of GHG emissions related to implementation of a proposed project. However, as discussed above, the 2017 Scoping Plan identifies per capita emissions rates that may be used in local planning for the assessment of GHG emissions. As discussed in the 2017 Scoping Plan, if a plan results in annual per capita emissions of no more than six $MTCO_2e$ by the year 2030 and no more than two $MTCO_2e$ by the year 2050, the proposed plan would be considered in compliance with all adopted State requirements for the reduction of GHG emissions. Such State requirements include AB 32, SB 32, and related executive orders discussed above.[16]

**Method of Analysis**

The analysis protocol and guidance provided by the CCAPCD's *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects* was used to analyze the proposed project's air quality and GHG emissions impacts. Where potentially significant air quality or GHG emissions impacts are identified, mitigation measures are required that would reduce or eliminate the impact.

Build-out of the Draft General Plan would include short-term construction related emissions as well as long-term operational emissions. Although potential impacts from construction activity are qualitatively considered in this EIR, the uncertainty of construction activity related to buildout of the Draft General Plan prohibits the quantification of such emissions. Operational emissions related to build-out of the Draft General Plan are subject to some uncertainty; however, a sufficient amount of information exists related to land use estimates for build-out of the Draft General Plan that long-term operational criteria pollutant and GHG emissions from various sources may be estimated. The long-term operational criteria pollutant and GHG emissions from buildout of the Draft General Plan were estimated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2 - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the ITE Manual, vehicle mix, trip length, water use, solid waste generation, etc. However, where project-specific data was available, such data was input into the model. It should be noted that for the purposes of air quality and GHG emissions assessment, buildout of the Draft General Plan was assumed to occur by 2035. Assuming that buildout would occur by 2035 allows for a conservative analysis of potential emissions from all potential development within the County under the Draft General Plan. Therefore, if buildout of the entire County does not occur by 2035, the actual Countywide emissions would be less severe than the emissions analyzed in this chapter.

[16] California Air Resources Board. *California's 2017 Climate Change Scoping Plan*. November 2017.

Based on information within the Draft General Plan, as well as technical analyses conducted by Fehr and Peers for buildout of the Draft General Plan, the following assumptions were made for modeling of buildout of the Draft General Plan:

- Buildout of the Draft General Plan would result in 4,027,100 daily vehicle miles travelled (VMT) within the County; and
- The energy provider for the County, PG&E, would continue to comply with State of California RPS, through the Draft General Plan buildout year.

The results of emissions estimations were compared to the standards of significance discussed above in order to determine the associated level of impact. All CalEEMod modeling results are included in Appendix C to this EIR.

Per the 2017 Scoping Plan, Countywide GHG emissions are considered on a per capita basis. The emissions estimation completed for the Draft General Plan assumed buildout of the Draft General Plan by the year 2035 to present an environmental worst-case scenario. As discussed in Chapter 3, Project Description, of this EIR, buildout of the Draft General Plan could potentially accommodate a population of 111,527. Because the emissions estimation assumes buildout of the Draft General Plan in year 2035, for the purposes of emissions analyses, the County's population was assumed to be 111,527 under year 2035 buildout conditions. It should be noted that as discussed in Chapter 3, Project Description, of this EIR, growth projections for the County would result in a much lower population projection for year 2035. However, for the purposes of analyzing potential air quality and GHG emissions, assuming full buildout of the Draft General Plan provides a more conservative approach to analyzing potential emissions. Thus, if development within the County leads to a population similar to the 2035 projection rather than the full buildout population of 111,527, Countywide emissions would likely be less than the emissions analyzed in this chapter and potential impacts would likely be less intense than those analyzed below. For more information regarding alternative buildout scenarios for the County, see Chapter 6, Alternatives Analysis, of this EIR, which presents an analysis of potential impacts that could occur should buildout of the County be limited to the Countywide growth estimates prepared by the Department of Finance.

Additional CalEEMod runs were completed for the 2017 Scoping Plan target years of 2030 and 2050. The year 2030 and 2050 modeling runs included the same assumptions as were used for year 2035, including full buildout of the Draft General Plan, daily VMT, and PG&E's compliance with California's RPS.

Existing County Emissions

In addition to estimating potential future emissions that could occur under buildout of the draft General Plan, emissions from existing development within the County were considered. The USEPA conducts comprehensive emissions estimates on the national, state, county, and tribal level every three years. Emissions estimation is known as the National Emissions Inventory (NEI), and includes point sources, such as power plants and airports, as well as nonpoint sources, which include asphalt paving, consumer solvent use. In addition to the foregoing emission sources, the NEI includes emissions from on-road sources such as light and heavy-duty vehicles, nonroad sources including locomotives and landscaping equipment, and event sources, such as emissions

from wildfires. The most recent NEI data is available from the year 2014.[17] All NEI data is presented in Appendix C of this EIR.

It should be noted that differences exist between the USEPA and CARB definition of certain organic compounds. Whereas the USEPA regulates VOCs, the CARB regulates ROGs. Although differences exist between the nomenclature of such emissions, the constituents of such emissions are substantively similar between VOCs and ROGs.[18] Therefore, while the NEI presents emissions for VOCs within the County, such emissions are presented as ROGs in this analysis to maintain consistency with the CARB's guidance regarding such pollutants.

Emissions from Natural Lands

As noted above, both the NEI and CalEEMod include emissions estimation from anthropogenic sources such as vehicle usage. However, CalEEMod does not include emissions estimation from biogenic sources, such as emissions of volatile organic compounds (VOCs) from vegetation, nor does CalEEMod estimate emissions from wildfires or prescribed burns. Calaveras County includes heavily vegetated areas, which represents a significant source of natural VOCs, and, as discussed in Chapter 4.7, Hazards and Hazardous Materials, are subject to wildfire risks. Furthermore, prescribed burns are used within the County to manage fire risk. Buildout of the Draft General Plan may result in the conversion of natural lands for other uses, see Chapter 4.2, Agricultural, Forest, and Mineral Resources; nevertheless, biogenic VOC emissions as well as pollutant emissions related to wildland fires and prescribed burns are anticipated to continue into the future. Although changes to the existing wildland fire regime and the rate of biogenic VOC emissions, or alterations to the application of prescribed burns for fire control could occur, future changes to emissions from such sources are uncertain and speculative. Therefore, due to the lack of comprehensive data regarding changes to such emissions and because CalEEMod does not include estimations of emissions related to biogenic VOCs, wildland fires, and prescribed burns, the NEI estimates for such emissions were added to the CalEEMod emissions estimates for buildout of the General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts related to air quality is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.3-1 A violation of any air quality standard or substantial contribution to an existing or projected air quality violation during operations, and a conflict with or obstruction of implementation of applicable air quality plans through the emission of a cumulatively considerable amount of criteria pollutants. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

[17] United States Environmental Protection Agency. *Air Emissions Inventories: National Emissions Inventory (NEI)*. Available at https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei. Accessed March 2018.

[18] California Air Resources Board. *Definitions of VOC and ROG*. January 2009.

Due to the nonattainment designation for the County, the CCAPCD, in concert with the AAD, has developed plans to attain the State and federal standards for ozone and particulate matter. Adopted CCAPCD rules and regulations, as well as the thresholds of significance, are consistent with the air quality plans.

Sources of criteria pollutant within the County include mobile and stationary sources. Activities such as vehicle trips within the County make up the majority of the mobile source emissions. Additional emissions sources include area sources such as heating mechanism, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.). As summarized in Table 4.3-1, health effects associated with ROG include eye irritation, wheezing, chest pain, dry throat, headache, nausea, and aggravation of respiratory diseases. Health effects associated with $NO_X$ include lung irritation, lung damage, and increased risk of acute and chronic respiratory disease. Adverse health effects associated with $PM_{10}$ include heart and lung disease, coughing, bronchitis, chronic respiratory diseased in children, irregular heartbeat, and nonfatal heart attacks. Similar to ROG, $PM_{10}$ can cause aggravation of chronic respiratory diseases.

In order to reduce potential impacts related to the emission of criteria pollutants and to avoid conflicts with the applicable air quality plans, the Conservation and Open Space Element of the Draft General Plan includes various goals and policies.

Goal COS-4A Air quality in compliance with applicable state and federal standards that contributes to the health and safety and maintains the quality of life of the County's residents and visitors.

Policy COS 4.1 Coordinate local air quality programs with regional programs aimed at improving air quality. (IM COS-5A)

Policy COS 4.3 Continue to work with state and federal agencies to acknowledge, and reflect in air quality regulations, that air pollutant movement from the Valley to mountain counties is the primary contributor to degraded air quality in Calaveras County. (IM COS-5A)

Policy COS 4.5 Encourage retention of existing mature trees in landscaping for new development, consistent with fire protection needs, to facilitate carbon sequestration. (IM LU-4A and LU-4C)

Policy COS 4.6 Encourage alternatives to open burning of yard debris and construction clearing. (IM COS-2E and COS-5D)

In addition to the goals and policies presented above, the Draft General Plan includes the following Implementation Measures (IMs) related to Air Quality.

IM COS-2C Air Quality Regulations re Prescribed Burning. Support modification of air quality regulations to accommodate the increased use of prescribed burning and other disposal methods on public and private lands.

IM COS-5A Regional Air Quality Planning Efforts. Provide representation from Calaveras County at regional planning events that address the issues and opportunities available for effective air quality management [e.g., preparing a regional Air Quality Plan or State Implementation Plan (SIP)] and implement those components applicable to Calaveras County as prescribed by state and federal regulations, as feasible, and continue to comply with the rules set forth by the CCAPCD and CARB.

As acknowledged in Policy COS 4.3, the nonattainment status of the County is predominantly attributable to the overwhelming transport of pollutants from the Central Valley and the Bay Area into the County. Thus, the County's attainment of CAAQS and NAAQS is beyond the sole jurisdiction of the County. Nevertheless, Goal COS-4A ensures that the County maintain air quality as necessary to protect the health and safety of visitors and residents.

Considering that the County's nonattainment status is largely due to activities outside of the County, Policy COS 4.1 encourages coordination between local and regional programs. Increased coordination locally and regionally would reduce the amount of criteria air pollutants being transported into the County, and help the County to achieve attainment of CAAQS and NAAQS. Policy COS 4.1 would be put into action through IM COS 5A, which directs the County to take part in regional air quality planning, including updating Air Quality Plans and SIPs. As discussed, given the large influence of transported pollutants on County air quality, regional coordination is key to improving air quality within the County.

In addition to regional planning activity, the Draft General Plan includes several policies that would reduce the emission of criteria pollutants within the County. For instance, Policy COS 4.5 encourages the protection of mature trees in new developments, although Policy COS 4.5 focuses on the carbon sequestration potential of mature trees, it should be noted that trees and landscaping can help to reduce pollutant concentrations. Furthermore, Policy COS 4.6 would reduce a source of emissions within the County by leading to decreased use of open burning of yard debris.

While long-term operations of the Draft General Plan present an on-going source of emissions within the County, construction activity related to buildout of the Draft General Plan would be considered a short-term or intermittent source of criteria pollutant emissions. Typical sources of construction emissions include PM, CO, ROG, and $NO_X$ from diesel powered construction equipment, ROG from paint and solvents, particulate matter from vehicle traffic on unpaved roads, and PM emissions from soil disturbance. It should be noted that because this EIR provides for a program-level analysis of Draft General Plan buildout conditions, specific information related to future construction activities (e.g., grading plans, soil import/export, equipment used, etc.) is not available at this time. Therefore, for the purpose of this EIR, construction emissions are evaluated qualitatively.

Currently, the CCAPCD requires that any project including soil disturbance in excess of one acre submit a Dust Control Plan to the District for review and approval. Per the

CCAPCD's guidance, emissions from construction activities should be estimated and evaluated on a project-by-project basis, and, if necessary, mitigation measures in addition to dust suppression requirements may be required. The CCAPCD's project-level thresholds of significance for construction emissions of $NO_X$, ROG, and $PM_{10}$ are 150 lbs/day.

Any future construction activities occurring under buildout of the Draft General Plan which would involve soil disturbance in excess of one acre would be subject to all applicable CCAPCD requirements, including submittal of a Dust Control Plan, quantification of construction-related emissions, and evaluation of such emissions in the context of CCAPCD's construction emissions thresholds. In the event that construction emissions are determined to exceed applicable CCAPCD thresholds, the lead agency for the project would consult with CCAPCD to develop project-specific mitigation measures sufficient to ensure that emissions are sufficiently reduced. Therefore, buildout of the Draft General Plan would not violate any air quality standard or contribute substantially to an existing or projected air quality violation during construction, and a ***less-than-significant*** impact would occur.

While the foregoing goals, policies, and IMs demonstrate that the County's air quality is highly affected by transport of air quality pollutants into the County, and the County has taken steps to reduce regional emissions (Policy COS 4.3, Policy COS 4.1, and IM COS 5A), as well as emissions from within the County (Goal COS 5A and Policy COS 4.6), buildout of the Draft General Plan would result in increased emissions from within the County. Potential emissions from buildout of the Draft General Plan were estimated and are compared to the NEI estimate of emissions from existing sources within the County, as presented in Table 4.3-7 below.

**Table 4.3-7**
**Existing Operational Emissions and Anticipated Draft General Plan Buildout Emissions (lbs/day)**

| Pollutant | NEI Emissions Estimate | Draft General Plan Buildout Emissions | Difference |
|---|---|---|---|
| $NO_X$ | 7,318 | 24,601 | *+17,283* |
| ROG | 205,842 | 283,456 | *+77,614* |
| $PM_{10}$ | 13,868 | 38,367 | *+24,499* |

Note: Both the NEI Emissions and Draft General Plan Buildout Emissions include emissions from biogenic VOCs, wildfires, and prescribed burns.

*Sources:*
*United States Environmental Protection Agency. Air Emissions Inventories: National Emissions Inventory (NEI). Available at: https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei. Accessed March 2018.*
*CalEEMod, December 2017 (see Appendix C).*

As shown in Table 4.3-7, buildout of the Draft General Plan would result in increased emissions of $NO_X$, ROG, and $PM_{10}$ from sources within the County. While the County's current status as nonattainment for ozone and $PM_{10}$ is largely due to the transport of pollutants from areas outside the County to the County, because buildout of the Draft

General Plan would greatly increase emissions of pollutants for which the County is in nonattainment, the Draft General Plan would have the potential to significantly impact the County's achievement of attainment status for ozone and $PM_{10}$. In addition, Draft General Plan buildout emissions would exceed CCAPCD's project-level thresholds of significance, which are 150 lbs/day for $NO_X$, ROG, and $PM_{10}$.

It should be noted that whereas the CCAPCD thresholds of significance are project-level thresholds, the NEI estimates and the emissions modeling performed for the Draft General Plan considered all development within the County, including existing development, that would exist at buildout of the Draft General Plan. Thus, emissions related to the Draft General Plan are not necessarily suitable for project-level analysis. Nevertheless, the comparison of potential emissions from buildout of the Draft General Plan to the CCAPCD's project-level threshold demonstrates that emissions from buildout of the Draft General Plan would constitute a significant source of emissions.

The FCAA requires that areas designated as nonattainment prepare SIPs to outline comprehensive strategies intended to ensure future attainment of NAAQS. As discussed previously, due to the transport of pollutants from outside of the County into the County and activities within the County that contribute pollution, the County is designated as nonattainment for ozone and $PM_{10}$. The SIP process is comprehensive and iterative, including multiple plans, programs, rules, regulations, and controls, which build and change over time to respond to changes in regulations and activities within the SIP area. The CCAPCD ensures development and planning within the County is in compliance with the applicable rules, regulations, and programs within the SIP. Specifically, as discussed previously, the CCAPCD Guidelines present expectations and methodologies for project analysis based on a project's compliance with the CCAPCD's SIPs. The multi-step project analysis process includes project screening, estimation of emissions, and comparison of estimated project emissions to the CCAPCD's emissions thresholds.[19] For projects found to exceed the CCAPCD's mass emissions thresholds, the CCAPCD provides standard mitigation measures. Such mitigation measures are divided into seven categories based on the source of emissions.

Thus, the CCAPCD would ensure that development of the County under the Draft General Plan would occur in compliance with the SIP; consequently, the Draft General Plan would not conflict with the SIP for the County. Nevertheless, buildout of the Draft General Plan would result in an increase in countywide emissions, as presented in Table 4.3-7. The increase in countywide emissions would be considered a substantial contribution to the existing non-attainment of the County for ozone and $PM_{10}$.

Notwithstanding the above, IM COS-2C illustrates the need to balance the interests of air quality with other environmental concerns, notably forestry management. IM COS-2C encourages the County to update regulations relating to prescribed burns. Prescribed burns can be a critical tool in the protection of forestry resources and the reduction of risk to

[19] Calaveras County Air Pollution Control District. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*.

communities within the County. Concurrently, however, the County is considered in nonattainment for PM pollution. Prescribed burns are a source of PM pollution, which can affect sensitive receptors, and continue to affect the County's attainment status for PM. Therefore, when considering ways to reduce criteria air pollutants within the County, competing interests must be balanced to ensure the best overall environmental outcome.

Although the County's air quality will continue to be affected by the overwhelming transport of emissions into the County, buildout of the Draft General Plan would result in operational emissions of significant amounts of criteria air pollutants. As discussed above, the Draft General Plan includes goals, policies, and IMs to reduce the potential impacts related to emissions of criteria pollutants within the County. Furthermore, the CCAPCD would ensure the County's continued compliance with the SIP. However, because buildout of the Draft General Plan would result in increased emissions as presented in Table 4.3-7, and such increases would exceed the CCAPCD's project-level thresholds, as presented in Table 4.3-8, implementation of the Draft General Plan would have the potential to result in the continued violation of air quality standards. Thus, the Draft General Plan would result in a ***significant*** impact.

Mitigation Measure(s)

Buildout of the Draft General Plan would result in increased emission of criteria air pollutants within the County, for which the County is currently designated as nonattainment. The following mitigation measures would alleviate the impacts due to such development. However, uncertainties regarding buildout of the County and the efficacy of the proposed mitigation measures exist, thus feasible measures to ensure that impacts associated with buildout of the Draft General Plan are reduced to a less-than-significant level do not exist. Consequently, the above impact would remain *significant and unavoidable*.

*4.3-1(a) The following new policy shall be added to the Draft General Plan:*

*Policy COS 4.9 The County shall continue to support emissions reductions programs such as the Carl Moyer Program, and find methods of incentivizing the replacement or retrofit of small emissions sources throughout the County, such as the replacement of existing wood stoves with EPA Phase II certified appliances, and the installation of new replacement engines or technologies to reduce emission from off-road and on-road engines within the County.*

*4.3-1(b) The following new policy shall be added to the Draft General Plan:*

*Policy COS 4.10 Should proposed developments within the County be anticipated to result in significant impacts related to the emission of criteria air pollutants, the County shall require the mitigation measures provided in the CCAPCD's*

*Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects to the extent feasible.*

*4.3-1(c) IM COS-2C of the Draft General Plan shall be revised as follows:*

*IM COS-2C Air Quality Regulations re Prescribed Burning. Support modification of air quality regulations to accommodate the increased use of prescribed burning and other disposal methods on public and private lands, where such activity would not pose a threat to nearby sensitive receptors or regional air quality.*

**4.3-2 Exposure of sensitive receptors to substantial pollutant concentrations. Based on the analysis below and with implementation of mitigation, the impact is *less than significant.***

As discussed previously, TACs are generated by various sources including motor vehicles, industrial operations, gas dispensing, and the use of heavy duty diesel powered machinery. Buildout of the Draft General Plan would include expanded industrial activities within the County as well as a growth in the County's population, which could result in more residents living in areas in proximity to existing or future sources of TACs. The Draft General Plan includes a goal and a policy related to the exposure of sensitive receptors to substantial pollutant concentrations.

Goal COS-4A Air quality in compliance with applicable state and federal standards that contributes to the health and safety and maintains the quality of life of the County's residents and visitors.

Policy COS 4.2 New development shall separate and/or buffer sensitive receptors from harmful air emission sources. (IM COS-5A)

Goal COS-4A would ensure that the County works towards continued attainment of state and federal air quality standards. Several criteria pollutants included in the CAAQS and NAAQS would be considered TACs; thus, contributions towards attainment of such standards would reduce the potential for future residents to be exposed to the criteria pollutants that are considered TACs. However, the CAAQF and NAAQS include relatively few pollutant categories, and many other types of TACS would be emitted within the County under buildout of the Draft General Plan. Furthermore, TACs are dispersive, and, thus, while TAC emissions may be reduced on the County level, TAC emissions in proximity to a source of TACs may remain high, and expose sensitive receptors to substantial concentrations of pollutants. Considering the dispersive nature of TAC emissions, the Policy COS 4.2 of the Draft General Plan would work towards ensuring that adequate distances exist between sensitive receptors and sources of TACs.

The CCAPCD takes an active role in managing the emissions of TACs within the County through the enforcement of the District's Regulations and Rules. Regulation V, Permit to

Operate Regulations, identify specific permitting requirements for new emissions sources within the County. Furthermore, Regulation IX, Air Toxics Control Measures, applies specific Statewide regulations to the emission of specific TACs within the County. TACs subject to control under Regulation IX include benzene, hexavalent chromium, dioxins, asbestos, toxic metals, ethylene, and perchloroethylene. Therefore, existing sources of TACs within the County as well as potential future sources are subject to review and approval by the CCAPCD prior to, and during, operations.

Construction activities related to buildout of the Draft General Plan may result in the emission of TACs; however, such emissions are regulated by the CCAPCD. For instance, the CCAPCD requires that projects consider the presence of asbestos containing ultramafic rock or serpentine prior to initiation of ground disturbing activity. Furthermore, as codified in the California Code of Regulations, Title 17, Section 93106, the CCAPCD prohibits the use of materials containing 0.25 percent asbestos or greater in certain applications such as trails, playgrounds, and roads. The foregoing requirements would ensure that construction activity would not result in the emission of naturally occurring asbestos or asbestos within surfacing materials. Operation of heavy-duty construction equipment results in the emission of DPM. However, the CCAPCD works with project applicants to apply the CARB's Airborne Toxic Control Measures, which are designed to ensure that off-road construction equipment includes up-to-date emissions control technology, which reduces TAC emissions. Finally, construction of individual projects within the County would occur over a relatively short and intermittent amount of time. Therefore, sensitive receptors would not be exposed to construction related TACs for extended periods of time.

Considering the above, the CCAPCD has permitting authority over new and existing sources of TACs within the County. Additionally, the Draft General Plan identifies the need to ensure that buffers exist between sensitive receptors and sources of TACs. Despite the foregoing protections, the potential remains that buildout of the Draft General Plan could result in the placement of new sensitive receptors near an existing TAC or placement of a new source of TACs in proximity to existing sensitive receptors. Thus, implementation of the Draft General Plan would have the potential to result in the exposure of sensitive receptors to substantial pollutant concentrations, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level. Specifically, Mitigation Measure 4.3-2(a) would ensure that sensitive receptors are not subject to harmful TACs associated with new development proposed within the County; and Mitigation Measure 4.3-2(b) would ensure that future construction, grading, quarrying, and surface mining operations within the County do not conflict with CCAPCD regulations related to asbestos.

*4.3-3(a) Policy COS 4.2 of the Draft General Plan shall be revised as follows:*

*Policy COS 4.2 New development shall separate and/or buffer sensitive receptors from harmful air emission sources. Where feasible, buffer distances shall be maintained in compliance*

*with the CARB's Air Quality and Land Use Handbook or as directed by the CCAPCD. Where buffer distances cannot be maintained per the CARB's guidance, and a proposed project may result in the exposure of sensitive receptors to substantial pollutant concentrations, the County shall require the preparation of a Health Risk Assessment for the proposed project. Such Health Risk Assessments shall be conducted in compliance with guidance from the CCAPCD as well as the State Office of Environmental Health Hazard Assessment. The Health Risk Assessment shall include, where necessary, recommendations to reduce potential health risks to sensitive receptors through including, but not limited to, the following:*

- *Buffer requirements;*
- *The installation of air filtration devices;*
- *Restrictions on the hours of operations of sources of TACs; and/or*
- *The implementation best available control technologies.*

*The County shall require that the recommendations from the Health Risk Assessment are implemented, as applicable, to ensure that sensitive receptors are not subject to substantial health risk effects related to harmful air emission sources. (IM COS-5A)*

*4.3-3(b) The following new policy shall be added to the Draft General Plan:*

*Policy COS 4.11 All construction, grading, quarrying, and surface mining operations within the County shall be required to consider asbestos emissions per CCAPCD Rule 906 – Asbestos Airborne Toxic Control Measure, and the California Air Resources Board's Final Regulation Order 2002-07-29 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations.*

**4.3-3 The creation of objectionable odors affecting a substantial number of people. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.**

Various sources of odors exist within the County. Buildout of the Draft General Plan would have the potential to result in new industrial development, increased wastewater treatment, and increases in other economic activities that may involve increases in the emission of odiferous compounds throughout the County.

The County currently regulates the emission of odiferous compounds through the County's Code of Ordinance. For instance, Title 6, Animals, Title 8, Health and Safety, Title 13, Public Services, Title 14, Agriculture, and Title 17, Zoning, all include provisions barring the emission of odors that could cause a nuisance for nearby land uses. In addition to the County's Code of Ordinances, the CCAPCD regulates odors through Regulation II, Prohibitions, Rule 205 Nuisance. Rule 205 prohibits the discharge of emissions that could cause nuisance or annoyance to a considerable number of persons or to the public. Both the County's Code of Ordinance and Rule 205 of the CCAPCD are enforced based on complaints. If complaints are received, the CCAPCD or the County investigates complaints, and determines or ensures a solution for the source of the complaint, which could include operational modifications. Thus, if people are exposed to odors under buildout of the Draft General Plan, odor complaints to the County and CCAPCD would ensure that such odors are addressed and any potential odor effects reduced to less-than-significant levels.

Considering the above, The County's Code of Ordinances and CCAPCD regulations provide an avenue for the abatement of odors. However, the County's Draft General Plan does not include goals, policies, or IMs that would ensure that the creation of objectionable odors affecting a substantial number of people would not occur with implementation of the Draft General Plan. Consequently, the Draft General Plan would have the potential to expose substantial numbers of people to objectionable odors and a ***significant*** impact would result.

Mitigation Measure(s)

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

*4.3-3* *The following new policy shall be added to the Draft General Plan:*

*Policy COS 4.12 New development shall separate and/or buffer sensitive receptors from sources of odiferous compounds. Should new developments be anticipated to result in the emission of odiferous compounds in proximity to existing or proposed sensitive receptors, the new source of odors shall be required to implement the best available control technologies to reduce the potential exposure of future receptors to odors. Additionally, if a proposed project includes placement of new sensitive receptors in proximity to existing sources of odors, the proposed project shall be required to formally notify future sensitive receptors of the likelihood of exposure to substantial odors.*

**4.3-4 Generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment and/or a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (i.e., emissions reductions required by AB 32 and SB 32). Based on the analysis below, even with mitigation, the impact is *significant and unavoidable.***

As discussed in the Regulatory Context section of this Chapter, GHG emissions have been regulated by the State through various pieces of legislation, principally AB 32 and SB 32. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Buildout of the Draft General Plan would cumulatively contribute to increases of GHG emissions that are associated with global climate change. Sources of GHG emissions within the County are widespread including sources and activities such as passenger vehicles and haul vehicles, electricity generators, natural gas fueled heating devices, landscape equipment, heavy-duty machinery, wastewater treatment, and forest fires. Such sources primarily contribute $CO_2$ emissions, but other GHGs such as $CH_4$, and $N_2O$, as well as compounds such as black carbon, can contribute to climate change and would be emitted within the County.

The Draft General Plan includes several goals and policies related to GHG emissions within the County.

Goal COS-4B Greenhouse gas emissions associated with vehicular travel, electric power generation, and energy use in compliance with applicable state goals and standards.

Policy COS 4.4 Develop and adopt a comprehensive strategy to assist in achieving emission reduction goals of AB 32. (IM COS-5B, COS-5C and COS-5D)

Policy COS 4.5 Encourage retention of existing mature trees in landscaping for new development, consistent with fire protection needs, to facilitate carbon sequestration. (IM LU-4A and LU-4C)

Policy COS 4.7 Encourage energy conserving construction techniques and the use of alternative energy sources. (IM COS-5E and PF-3A)

Policy COS 4.8 Encourage the use and installation of alternative energy generating systems, including solar, wind, bio fuel, and other systems, in new development and in retrofitting existing structures. (IM COS-2E, COS-5E and PF-3A)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to GHG emissions.

IM COS-2E Green Waste. Review the zoning ordinance and Air Pollution Control District regulations and amend as necessary to facilitate the development of green waste to energy projects and other projects that convert green waste to products.

IM COS-5B GHG Baseline for Calaveras County. Undertake a greenhouse gas (GHG) emissions inventory to establish baseline levels of GHGs generated from all major emission sources in the County consistent with the requirements of Assembly Bill 32 (California Global Warming Solutions Act of 2006).

IM COS-5C GHG Reduction Plan. Develop a GHG reduction plan outlining the strategies, goals, and actions for contributing to the overall reduction in greenhouse gas (GHG) emissions consistent with AB 32.

IM COS-5D Green Waste Collection. Provide green waste collection programs at County-operated landfill and transfer stations where feasible. Utilize public/private partnerships to utilize green waste in alternative uses and waste to energy facilities.

IM COS-5E Incentives for Alternative Energy. Modify the County's development standards and zoning ordinance to provide incentives for providing alternative energy producing facilities compatible with surrounding uses, such as solar arrays in parking lots that serve to provide shade and energy production. Coordinate with and support state and federal programs that assist landowners in energy conservation and production.

Implementation of the Draft General Plan would involve the County undertaking significant planning efforts to achieve compliance with State laws regarding GHG emissions (Goal COS-4B). To achieve compliance with State laws, the County would develop a comprehensive strategy (COS 4.4) for reducing GHG emissions from a quantified baseline of existing GHG emissions from activity within the County (IM COS-5B). IM COS-5C would formalize the emissions reductions strategies into a Countywide GHG Reduction Plan.

Several Draft General Plan policies and IMs provide strategies that could be used within the GHG Reduction Plan required by IM COS-5C to reduce GHG emissions from existing and proposed developments. For instance, Policy COS 4.5 encourages new development to retain mature trees to allow for continued carbon sequestration within the trees. Furthermore, the use of alternative energy sources, such as photovoltaic systems would reduce energy related emissions from buildout of the County, and would be encouraged by the changes to the County's development standards and zoning ordinance discussed in IM COS-5E. While changes to County regulations could accelerate the installation of

alternative energy systems throughout the County, Policy COS 4.8 seeks to further encourage the use of alternative energy by new development and through the retrofit of existing developments throughout the County. By increasing the use of alternative energy within existing developments, the Draft General Plan would reduce existing GHG emissions within the County related to energy consumption. Additionally, the Draft General Plan identifies green waste as a potential source of GHG emissions reductions (IM COS-5B, IM COS-2E). Decomposition of organic materials in landfills releases methane ($CH_4$), which is a powerful GHG. Therefore, diversion of organic material through green waste collection would reduce GHG emissions related to landfill operations.

Implementation of the aforementioned Draft General Plan goals, policies, and IMs would result in a quantification of existing Countywide emissions and reduction of GHG emissions in compliance with State law. However, a GHG Reduction Plan has not yet been adopted for the County, and because such a plan has not been adopted the potential reduction in GHG emissions that would result from the plan are currently unknown. In the absence of an adopted GHG Reduction Plan for the County, the potential operational GHG emissions related to buildout of the Draft General Plan have been estimated and compared to the per capita emissions targets established in the 2017 Scoping Plan. Because the 2017 Scoping Plan includes emissions targets for both 2030 and 2050, emissions estimates for both target years were prepared. Table 4.3-9 and Table 4.3-10 provide Countywide emissions estimations for the years 2030 and 2050, respectively. In addition to the operational emissions presented in Table 4.3-9 and Table 4.3-10, construction activity related to buildout of the Draft General Plan would be considered a short-term or intermittent source of GHG emissions. Construction-related sources of GHG emissions would include heavy-duty construction equipment and construction worker vehicle traffic. However, because this EIR provides for a program-level analysis of Draft General Plan buildout conditions, specific information related to future construction activities (e.g., grading plans, soil import/export, equipment used, etc.) is not available at this time. Furthermore, construction GHG emissions would be relatively minor as compared to the operational emissions of the entire County.

As shown in Table 4.3-9 and Table 4.3-10, in the absence of an adopted GHG Reduction Plan, buildout of the Draft General Plan would result in GHG emissions in excess of the CARB's identified statewide per capita emissions targets. Because buildout of the County would exceed the CARB's per capita emissions targets implementation of the Draft General Plan would be considered to conflict with the goals of SB 32 and contribute to a ***significant*** impact related to GHG emissions.

| Table 4.3-8<br>Unmitigated Year 2030 GHG Emissions | |
|---|---|
| | **Annual GHG Emissions** |
| Area | 74,149 $MTCO_2e$/yr |
| Energy | 475,612 $MTCO_2e$/yr |
| Mobile | 529,112 $MTCO_2e$ /yr |
| Waste | 162,367 $MTCO_2e$/yr |
| Water | 72,652 $MTCO_2e$/yr |
| **Total Annual GHG Emissions** | 1,313893 $MTCO_2e$/yr |
| **Total Annual GHG Emissions Per Capita[1]** | **11.78 $MTCO_2e$/capita/yr** |
| 2017 Scoping Plan Year 2030 Target Per Capita Emissions | 6 $MTCO_2e$/capita/yr |
| **Exceeds Threshold?** | **YES** |
| [1.] Per capita emissions assumes a Countywide population of 111,527 at buildout of the Draft General Plan<br><br>*Source: CalEEMod, December 2017 (see Appendix C).* | |

| Table 4.3-9<br>Unmitigated Year 2050 GHG Emissions | |
|---|---|
| | **Annual GHG Emissions** |
| Area | 74,149 $MTCO_2e$/yr |
| Energy | 475,612 $MTCO_2e$/yr |
| Mobile | 481,340 $MTCO_2e$ /yr |
| Waste | 162,367 $MTCO_2e$/yr |
| Water | 72,652 $MTCO_2e$/yr |
| **Total Annual GHG Emissions** | 1,266,121 $MTCO_2e$/yr |
| **Total Annual GHG Emissions Per Capita[1]** | **11.35 $MTCO_2e$/capita/yr** |
| 2017 Scoping Plan Year 2050 Target Per Capita Emissions | 2 $MTCO_2e$/capita/yr |
| **Exceeds Threshold?** | **YES** |
| [1.] Per capita emissions assumes a Countywide population of 111,527 at buildout of the Draft General Plan<br><br>*Source: CalEEMod, December 2017 (see Appendix C).* | |

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact associated with the generation of GHG emissions. However, it should be noted that the GHG Reduction Plan for the County required by the Draft General Plan has not been adopted or drafted, and a guarantee cannot be made that GHG Emissions from future development within the County would not exceed the CARB's per capita emissions targets. Therefore, the Draft General Plan would be considered to conflict with the goals of AB 32 and SB 32, and the impact is assumed to remain *significant and unavoidable*.

*4.3-4(a)* *Policy COS 4.4 of the Draft General Plan shall be revised as follows:*

| | |
|---|---|
| *Policy COS 4.4* | *Develop and adopt a comprehensive strategy to assist in achieving emission reduction goals of AB 32 and SB 32. (IM COS-5B, COS-5C and COS-5D)* |

*4.3-4(b)* *IM COS-5B of the Draft General Plan shall be revised as follows:*

| | |
|---|---|
| *IM COS-5B* | *GHG Baseline for Calaveras County. Undertake a greenhouse gas (GHG) emissions inventory to establish baseline levels of GHGs generated from all major emission sources in the County consistent with the requirements of Assembly Bill 32 (California Global Warming Solutions Act of 2006) and SB 32.* |

*4.3-4(c)* *IM COS-5C of the Draft General Plan shall be revised as follows:*

| | |
|---|---|
| *IM COS-5C* | *GHG Reduction Plan. Develop a GHG reduction plan outlining the strategies, goals, and actions for contributing to the overall reduction in greenhouse gas (GHG) emissions consistent with AB 32 and SB 32.* |

*4.3-4(d)* *The following new policy shall be added to the Draft General Plan:*

| | |
|---|---|
| *Policy COS 4.14* | *The County shall investigate the potential use of woody biomass generated through forest management, such as thinning and defensible space clearing, for the generation of renewable energy.* |

*4.3-4(e)* *The following new implementation measure shall be added to the Draft General Plan:*

| | |
|---|---|
| *IM COS-5F* | *Modify the County's development standards and zoning ordinance to provide incentives for providing infrastructure that supports alternative fueled vehicles, such as electric vehicle charging stations, natural gas fueling capabilities, and biodiesel.* |

# 4.4 BIOLOGICAL RESOURCES

## 4.4.1 INTRODUCTION

The Biological Resources chapter of the EIR describes biological resources known to occur within the County. The chapter's discussion includes existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities within the County. Information for this analysis was largely drawn from the *Biological Resources* report prepared by Monk & Associates, Inc. for the County (see Appendix D).[1]

## 4.4.2 EXISTING ENVIRONMENTAL SETTING

The following discussion provides an overview of the biological resources that exist within the County. Biological resources are described in the context of the habitats that are present within the County, as well as those habitats that are considered sensitive communities, and the areas of the County that serve as movement corridors for wildlife.

Within the discussion of habitat types present within the County, specific attention is paid to sensitive biological communities, as well as special-status species, where applicable. For the purposes of this analysis, special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) and Federal Endangered Species Acts (FESA) or other regulations, and species that are considered rare by the scientific community (for example, the California Native Plant Society). Special-status species are defined as:

- Plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq.*; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

- Plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

- Plants and animals that meet the definition of endangered, rare, or threatened under CEQA (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;

- Plants occurring on Ranks 1A, 1B, and 2 of CNPS' *Electronic Inventory*.[2]

[1] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.

[2] California Native Plant Society. *Inventory of Rare and Endangered Plants.* Available at http://www.rareplants.cnps.org.

- Migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);

- Animals that are designated as California "species of special concern" by the California Department of Fish and Wildlife (CDFW) (2017); and

- Animal species that are “fully protected” in California (Fish and Game Code §§ 3511, 4700, 5050, and 5515).

**Habitat Types Present in Calaveras County**

The general distribution of vegetative communities within the County is presented in Figure 4.4-1 below. In addition, Figure 4.4-2 and Table 4.4-1 present the estimated acreage of each vegetation type within the County. The principle habitat types within the County include drainage, seasonal wetland, coniferous forest, chaparral, montane hardwood, riparian woodland, valley oak woodland, foothill woodland, anthropogenic, ruderal non-native annual grassland, urban, as well as lakes and rivers. Discussions of each habitat type includes a discussion of the vegetational communities and wildlife species that occur within the given habitat type.

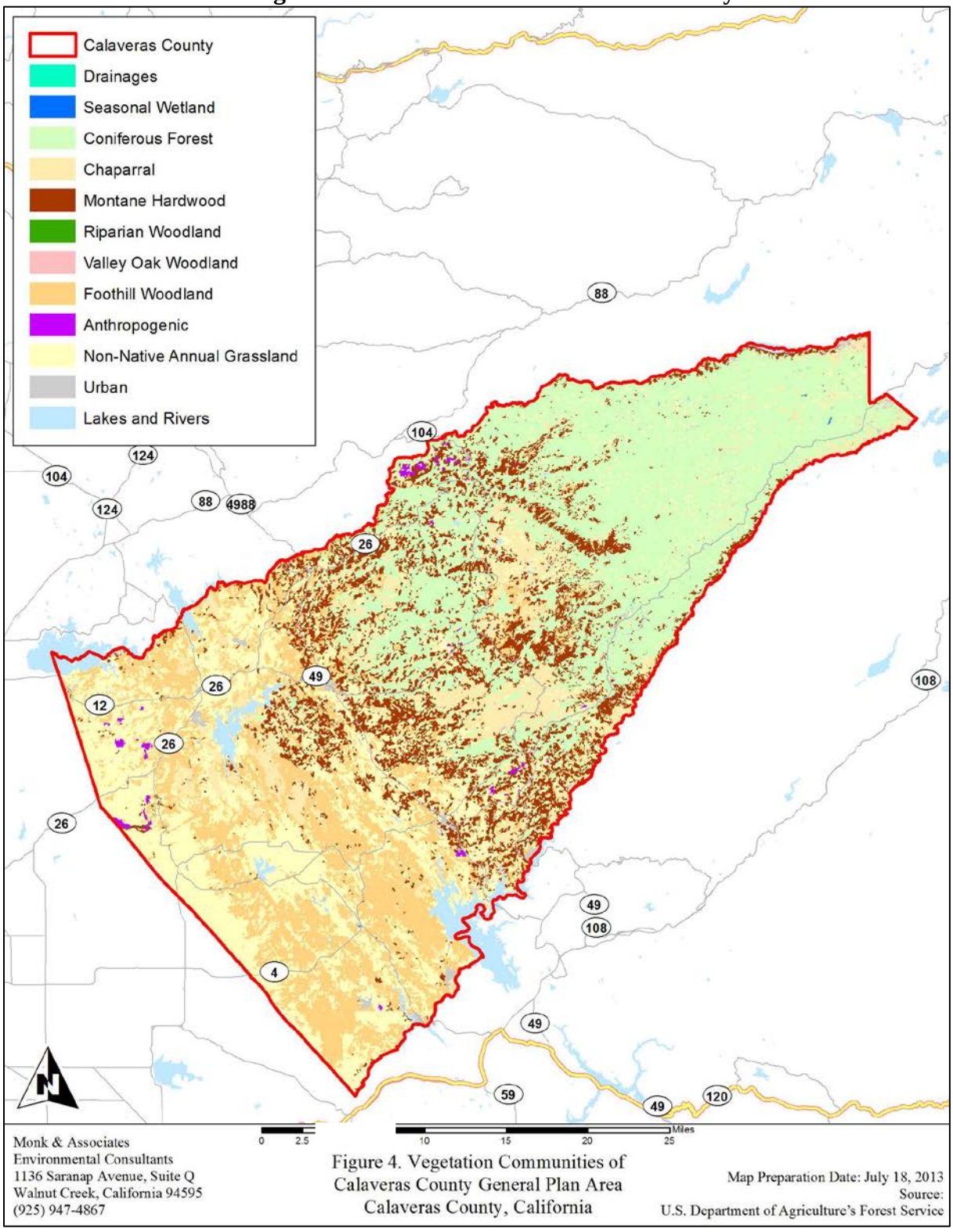
Anthropogenic Communities

Communities dominated by plants that are introduced by humans and established or maintained by human disturbance are “anthropogenic communities.” Primarily, there are three such communities in the County: agrestal (crops), plantation (vineyard and orchard), and ruderal (weedy often nonnative vegetation in disturbed areas). While small gardens and both residential and commercially landscaped areas are also anthropogenic communities, they are highly variable in composition, are typically intensively managed and maintained, and as such are not discussed further herein. The three primary anthropogenic communities listed above make up approximately 2,784 acres or 0.30 percent of the County. The three communities are discussed further in the sections below.

*Agrestal Communities (Croplands)*

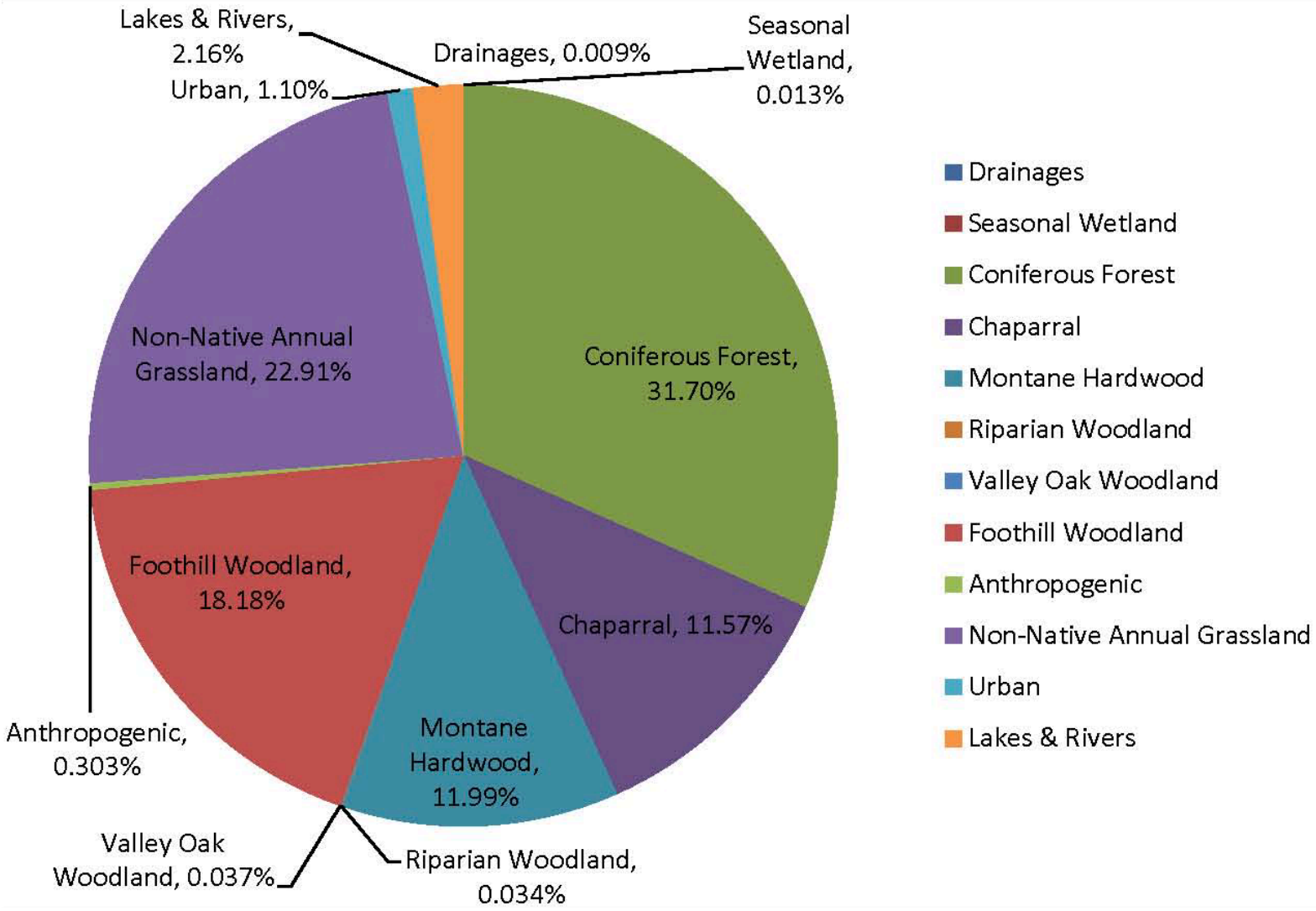
An “agrestal” community is a weed dominated community of rural, agricultural areas. Agrestal communities form in areas that have been disturbed by cultivation. Plants introduced by humans, generally for agricultural commodity crops, dominate such communities. Many species of weeds thrive in the same environments as crop plants. Weed species are able to grow to maturity and to reproduce side by side with crop plants. Most agrestal areas are in the western half of the County (Figure 4.4-1).

**Figure 4.4-1**
**Vegetation Communities of Calaveras County**




*Source: Monk & Associates. Calaveras County Draft General Plan EIR Biological Resources March 15,2017.*

**Figure 4.4-2**
**Proportion of Plant Communities within Calaveras County**




*Source: Monk & Associates. Calaveras County Draft General Plan EIR Biological Resources March 15,2017.*

| Table 4.4-1<br>Plant Communities/Land Use Types within the County | | |
|---|---|---|
| Plant Community | **Approximate Area (Acres)** | **Approximate % of County** |
| Drainages | 57.0 | 0.009% |
| Seasonal Wetland | 87.1 | 0.013% |
| Coniferous Forest | 210,307.7 | 31.70% |
| Chaparral | 76,782.5 | 11.57% |
| Montane Hardwood | 79,539.0 | 11.99% |
| Riparian Woodland | 226.0 | 0.034% |
| Valley Oak Woodland | 246.0 | 0.037% |
| Foothill Woodland | 120,607.6 | 18.18% |
| Anthropogenic | 2,784 | 0.303% |
| Ruderal Non-Native Annual Grassland | 151,975.3 | 22.91% |
| Urban | 7,313.2 | 1.10% |
| Lakes & Rivers | 14,303.2 | 2.16% |
| **Calaveras County** | **663,452.7** | - |
| *Source: Monk & Associates. Calaveras County Draft General Plan EIR Biological Resources March 15,2017.* | | |

In general, agrestal areas do not provide habitat for many wildlife species. Most farms are "clean farmed" meaning that few or little naturalized habitats remain within the farmed areas. The intense cultivation and manipulation of the soil, including the application of pesticides, herbicides, and fertilizers tend to limit the number of species that occupy or use cropland habitats. Nevertheless, hay fields can provide habitat for a number of resident species, particularly small mammal populations, including California meadow vole (*Microtus californicus*), western harvest mice (*Reithrodontomys megalotis*), deer mice (*Peromyscus maniculatus*), and California ground squirrels (*Spermophilus beechyi*). Rodents using the fields as habitat in turn serve as prey for various raptors, including red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), and red-shouldered hawk (*Buteo lineatus*), among others. Migratory species such as the greater white-fronted goose (*Anser albifrons*) and Canada goose (*Branta canadensis*) also frequently stop over and feed/rest in hay fields and other agricultural row crop fields during migrations.

Migratory bird species also use agrestal communities, particularly in the winter months after crops are harvested. Waterfowl and shorebirds often alight in agricultural fields in the winter months en route to and from nesting grounds. Flooded conditions provide foraging opportunities for shore birds such as western sandpiper (*Calidris mauri*) that probe for invertebrates in the substrate. Common waterfowl species such as mallards (*Anas platyrhynchos*), snow geese (*Chen caerulescens*), and Canada geese often feed on leftover crops that are incidentally discarded during and after harvesting. Other birds also take advantage of cut over hay fields to forage for invertebrates in these fields while migrating through the area.

*Plantation*

The acreages of plantation habitats in Calaveras County including urban windrows, orchards, and timber management areas that include replanted conifer forest habitats that follow timber harvests,

are most difficult to enumerate as many are quite small to very large areas. In many areas of the County plantations of trees have been established for various purposes. Some trees were planted in rows as windbreaks; some were planted over large areas for agricultural purposes. Christmas tree farms, such as those found within the County, are a type of plantation community. Another type of plantation is an orchard. Nut and fruit crops such as walnuts (*Juglans spp.*), almonds (*Prunus dulcis*), pistachios, and peaches (*Prunus spp*.) are planted primarily in the western portion of the County. Management of land on which these trees are growing ranges from regular cultivation of the soil or mowing of the herbaceous understory to little or no secondary disturbance. Depending upon the nature and intensity of the disturbance associated with management of the plantation, variable assemblages of exotic or native species may grow under and between the trees. The overall vegetation may have the appearance and species composition of a cultivated field, a pasture, or a foothill woodland community.

Wildlife found in orchards is dependent upon the amount of control used. Rodenticides are often applied to control ground squirrels and other agricultural "pests." Herbicides and pesticides are often applied to the trees to control the insect damage which in turn limits the number of birds that will be found foraging for insects among and on the trees. Orchards, with few chemical controls, will attract birds such as western scrub jay, American robin, northern mockingbird, and rodents and rabbits such as the California ground squirrel, Botta's pocket gopher, and the Black-tailed jackrabbit (*Lepus californicus*).

Vineyards are another type of plantation community because a vineyard is comprised of grape vines typically planted in rows. Vineyards are also present within the County. Vineyards, unless organically grown, apply a high amount of pesticides, herbicides and rodenticides. The use of these chemicals limits the diversity of plants and animals found in vineyards. Typically, vineyards do not constitute good native plant or wildlife habitats.

*Ruderal*

Roadsides, small vacant or abandoned lots (i.e., previously paved or graveled), and other disturbed, open areas within the County are dominated by ruderal plant species. Ruderal communities are assemblages of plants that thrive in waste areas and similar disturbed sites in towns and cities. Ruderal habitats are dominated by introduced grasses and forbs (broad-leaved plants) that eventually out-compete and replace the original native grassland species. Examples of ruderal plant species found within the County are yellow star thistle (*Centaurea solstitialis*), filarees (*Erodium botrys, E. brachycarpum, E. cicutarium, E. moschatum*), bind weed (*Convolvulus arvensis*), sow's ear (*Sonchus oleraceus, S. asper*), four-leaved allseed (*Polycarpon tetraphyllum tetraphyllum*), prickly lettuce (*Lactuca serriola*), sweet fennel (*Foeniculum vulgare*), and poison hemlock (*Conium maculatum*).

Animals found in ruderal habitats are typically those species adapted to man and man-induced disturbance such as house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicana*), European starling (*Sturnus vulgaris*), northern mockingbird, rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and feral cat (*Felis cattus*).

Upland Plant Communities and Associated Wildlife Habitats

Upland plant communities not closely associated with human disturbance are discussed in the following section.

*Non-Native Annual Grassland*

Calaveras County contains approximately 151,975 acres of non-native grassland vegetation. Prior to the settlement of Europeans in California, California grasslands and savannahs were dominated by native, perennial bunchgrasses. When the Europeans settled California, woodland vegetation was cleared for settlement, to allow grazing opportunities, and for commercial purposes. At the same time, a variety of Mediterranean grasses and forbs (broad-leaved plants) were brought to California and introduced as crops or ornamental species, or inadvertently were transported to California grassland communities in the fur and digestive systems of livestock. Land use changes including land clearing, planting to livestock friendly grasses, and heavy domestic animal grazing changed the landscape and the oak savannah/grassland communities. The highly palatable native grassland plants and forbs were out-competed by the introduced exotic species. Today, introduced species tolerant of grazing pressure, particularly annual grasses of Eurasian ancestry, such as bromes (*Bromus spp.*), oats (*Avena spp.*), and barley (*Hordeum spp*.) have mostly displaced the native grasses, creating a non-native annual grassland community. Grasslands within the County are an example of how livestock grazing and other man-induced activities can greatly change the vegetative composition of the landscape.

Grasslands in the County have been grazed by livestock over the past two centuries. Such grasslands provide habitat for common, graniverous (seed-eating) birds such as mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), savannah sparrow (*Passerculus sandwichensis*), and lesser goldfinch (*Carduelis psaltria*). These grasslands also provide habitat for common insectivorous birds such as western meadowlark (*Sturnella neglecta*), western bluebird (*Sialia mexicana*), Say's phoebe (*Sayornis saya*), American pipit (*Anthus rubescens*), and northern mockingbird (*Mimus polyglottos*), among others. Other common animals that occur in grassland habitats include California ground squirrel (*Spermophilus beecheyi*), black-tailed hare (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), California meadow vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), and raptors such as American kestrel (*Falco sparverius*) and red-tailed hawk, which prey on the smaller birds and mammals. Reptiles include the racer (*Coluber constrictor*), gopher snake (*Pituophis melanoleucus*), and western skink (*Eumeces skiltonianus*). Oak trees scattered in the grassland community provide perching opportunities and vantage points for raptors in search of their prey. Larger mammals such as coyote (*Canis latrans*), European red fox (*Vulpes vulpes*), striped skunk, and Virginia opossum, are common or can be expected to be in grasslands within the County.

*Chaparral*

Many different chaparral communities exist within Calaveras County totaling approximately 76,783 acres. Although specific variations within chaparral occur within the County, the chaparral community is discussed in general terms within this EIR. Chaparral is a one to two-layer community characterized by a dominance of drought-adapted sclerophyllous (having thick,

leathery leaves), evergreen shrubs approximately six to 13 feet tall (Holland 1986). Common dominant shrub species for this community type include chamise (*Adenostoma fasciculatum*), toyon (*Heteromeles arbutifolia*), black sage (*Salvia mellifera*), different species of manzanita (e.g., *Arctostaphylos patula* and *Arctostaphylos viscida*), and ceanothus (e.g., *Ceanothus cuneatus* and *Ceanothus integerrimus*). Scrub oaks (e.g., *Quercus dumosa* and *Quercus garryana*) and California huckleberry (*Vaccinium ovatum*) are also likely in the chaparral community within the County. Chaparral shrubs often form a dense, impenetrable thicket with their overlapping canopies that can shade out herbaceous species. The herbaceous understory, if present, varies both seasonally and annually. The chaparral community is adapted to fire and many of its plant species are capable of stump sprouting. Many others are adapted to seed germination after fires. After fires, the mix of annual grasses and forbs change from year to year. The chaparral plant community is well distributed from northwestern Baja to southern Oregon occurring on shallow, rocky soils.

Common types of chaparral that occur within the County include chamise chaparral which is dominated by chamise (*Adenostoma fasciculatum*); buckbrush chaparral which is dominated by buckbrush (*Ceanothus cuneatus*); and, northern mixed chaparral which is dominated by a mix of manzanita (*Arctostaphylos spp*.) and ceanothus species. Ione chaparral, while narrowly restricted in the County, provides habitat for several federal and state listed plant species.

Ione chaparral is a plant community restricted to coarse, very acidic, nutrient-poor soils of the Ione Formation. This geologic formation occurs in central portions of Butte and Yuba Counties, the western portions of Nevada, Placer, El Dorado, Amador, and Calaveras counties. The Ione chaparral plant community extends as far south as Madera County. Most vegetation is incompatible with acidic, nutrient-poor soils not only because of their low macronutrients such as calcium, nitrogen, and magnesium, but also because of the high amounts of other elements that most plants find toxic, such as aluminum. A number of plant species uniquely adapted to Ione Formation soils occur in this plant community and are classified as special-status plants. Ione manzanita (*Arctostaphylos myrtifolia*), a federally listed threatened species, is the dominant species of Ione chaparral where it typically occurs in dense stands. Four other special-status plant species (with a special-status of California Native Plant Society Rank 2 or higher) are associated with Ione chaparral: Parry's horkelia (*Horkelia parryi*) (California Native Plant Society Rank 1B), Ione buckwheat (*Eriogonum apricum var. apricum*) (federal and state listed endangered; California Native Plant Society Rank 1B), and Irish Hill buckwheat (*Eriogonum apricum var. prostratum*) (federal and state listed endangered; California Native Plant Society Rank 1B). Other species associated with this plant community include white-leaf manzanita (*Arctostaphylos viscida*), interior live oak (*Quercus wislizenii*), scrub oak (*Quercus berberidifolia*), chamise, coyote brush (*Baccharis pilularis*), California yerba santa (*Eriodictyon californicum*), toyon and hoary coffeeberry (*Frangula californica tomentella*).

Many wildlife species travel over and through the chaparral on their way to other habitats. Only a few have home ranges limited to chaparral. Those birds, mammals, and reptiles that are resident in chaparral (that is, den, nest, reside, and forage in the chaparral) include California thrasher (*Toxostoma redivivum*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculatus*), California quail (*Callipepla californica*), Bewick's wren (*Thryomanes bewickii*), brush rabbit (*Sylvilagus bachmani*), Botta's pocket gopher, California mouse (*Peromyscus californicus*),

striped racer (*Masticophis lateralis*), western fence lizard (*Sceloporus occidentalis*), and Northern Pacific rattlesnake (*Crotalus oreganus oreganus*).

*Conifer Forest Communities*

Several different coniferous trees (i.e., needle-leaved or scale-leaved trees that bear cones) are present within the County. Such trees will be discussed together and are only separated into two separate communities in this EIR, based on elevation. The two communities are: (1) upper montane mixed coniferous forest, and (2) lower montane mixed coniferous forest. Coniferous forests cover approximately 210,307 acres of Calaveras County's 663,452 acres or 32 percent of the County. The two classifications include the Holland (1986) community types: Westside ponderosa pine forest, Sierran mixed conifer forest, Sierran white fir forest, and big tree forest in the lower montane zone. The upper montane zone includes Jeffery pine forest, Jeffery pine-fir forest, and red fir forest. Mixed conifer forest, upper and lower montane, forms the dominant vegetation type for the County and occurs at elevations above 2,500 feet; this covers the eastern half of the County (see Figure 4.4-1).

Lower Montane Mixed Conifer Forest

Lower montane vegetation is dominated by forests. Such forests are often classified in varied ways but most broadly referred to as Sierra mixed-conifer forests. The dominant tree species, including ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), and white fir (*Abies concolor*), have broadly overlapping distributions. In the County all three of the aforementioned dominant tree species are present. Ponderosa pine and other mixed conifer trees dominate much of the lower montane zone. At the lowest margins, ponderosa pine forest intermingles with chaparral. At lower elevations, stands of black oak or individuals of ponderosa pine and incense cedar may be intermixed with chaparral or foothill woodlands on sites with deeper soils or drainages. Ponderosa pine or Douglas fir often occur interspersed with canyon live oak as individual trees or small stands where soils are deeper.

The giant sequoia (*Sequoia giganteum*) groves of the central and southern Sierra Nevada (also commonly referred to as "big tree forests") present a special case of mixed-conifer forests. Such groves are typically dominated by white fir, or at higher elevations by red fir, with sugar pine (*Pinus lambertiana*) as an important component (Barbour et al 2007). Giant sequoias are commonly third in abundance in such groves, although their basal area often exceeds that of other species. One occurrence of giant sequoia grove/big tree forest is located in Calaveras County, the North Calaveras Grove in the Calaveras Big Trees State Park.

Upper Montane Mixed Conifer Forest

Upper montane vegetation types grow at elevations above white fir and mixed-conifer series of the Sierra Nevada. The elevation of the transition from lower montane forests occurs at about 1,800 meters (5,905 feet) above sea level in the central and northern Sierra Nevada. In addition to coniferous forests, montane meadows, aspen, montane chaparral,

and non-forested rock outcrops are prevalent in this zone. Three major community types of distinctive conifer composition form the upper montane forests: red fir forests, lodgepole pine forests, and Jeffrey pine forests.

Red fir forests are composed of stands of red fir (*Abies magnifica*) trees that occur in elevational belts immediately above montane white fir and mixed-conifer forests. Stands of red fir forest are often virtual monocultures of this species. The dense canopy in red fir forests reduces light penetration and wind. Red fir is a large and long-lived conifer. At the lower margins of a red fir forest, red fir often mixes with white fir and sugar pine, and less commonly with giant sequoia. At higher elevations red fir can be found with lodgepole pine (*Pinus contorta murrayana*), Jeffrey pine (*Pinus jeffreyi*), and mountain hemlock (*Tsuga mertensiana*).

Lodgepole pine forests are in open stands that make up a widespread upper montane forest over much of the Sierra Nevada. Such forests generally occur at elevations of about 1,830 to 2,400 meters (6,004 to 7,874 feet) in the northern Sierra Nevada. The generally low stature and open stand structure of lodgepole pine forests is a function of severe climate conditions where it grows at upper elevations typically in thin, nutrient-poor soils that characterize this zone. Commonly, these stands have few understory shrubs and little soil litter accumulations.

Jeffery pine replaces the ponderosa pine in the upper montane zone of the Sierra Nevada. The Jeffrey pine's belt of primary occurrence lies at 1,600 to 2,600 meters (5,249 to 8,530 feet) above sea level in the southern Sierra Nevada and 1,520 to 1,830 meters (4,986 to 6003 feet) above sea level in the northern Sierra Nevada (Barbour et al 2007). On the western slopes of the range, Jeffrey pine most commonly occurs in mixed stands with white fir and incense cedar at lower elevations and with red fir and lodgepole pine at higher elevations. The understory is composed of shrub species typically found in montane chaparral such as Ceanothus spp. and manzanitas (*Arctostaphylos spp*.).

Coniferous forests are densely wooded habitats that provide wildlife with nesting opportunities, denning opportunities, cones and seeds for foraging, and bark, leaf duff, and fallen logs to support and recruit insect populations which in turn provide food for reptiles, amphibians, birds, and mammals. Examples of wildlife expected in the County's coniferous forest habitats are Northern goshawk (*Accipiter gentilis*), common raven (*Corvus corax*), Steller's jay (*Cyanocitta stelleri*), northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), white-headed woodpecker (*Picoides albolarvatus*), downy woodpecker (*Picoides pubescens*), Clark's nutcracker (*Nucifraga columbiana*), varied thrush (*Ixoreus naevius*), American robin (*Turdus migratorius*), purple finch (*Carpodacus purpureus*), mountain chickadee (*Poecile gambeli*), brown creeper (*Certhia americana*), black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), and mountain lion (*Felis concolor*). Examples of Neotropical migrant birds likely to be found in coniferous forests in the spring and summer include olive-sided flycatcher (*Contopus cooperi*), Pacific-slope flycatcher (*Empidonax difficilis*), and western wood-pewee (*Contopus sordidulus*).

*Hardwood Forest and Woodland Communities*

Hardwood forests and woodlands are dominated by evergreen tree species (such as evergreen oaks (*Quercus spp*.) and madrone (*Arbutus menziesii*)) and broad-leaved deciduous trees (such as some species of oaks, maples (*Acer macrophyllum*) and alders (*Alnus spp*.)). Coniferous trees (such as firs and pines) may also be present.

Hardwood forests in the County include montane hardwood and montane hardwood-conifer forests along the drainages of major rivers and aspen (*Populus tremuloides*) forests at high elevations. Examples of montane hardwood and hardwood-conifer forests found within the County are madrone forest and McNab cypress woodland. Montane hardwood communities cover approximately 79,539 acres of the County. Examples of wildlife found in the hardwood forests include mule deer, coyote, gray fox (*Urocyon cinereoargenteus*), raccoons, and Virginia opossums. Raptors such as the goshawk are found at higher elevations, while smaller hawks including sharp-shinned hawks (*Accipiter striatus*) and Cooper's hawks (*Accipiter cooperi*) are commonly found at lower elevations. Owls including the great horned owl (*Bubo virginianus*), western screech-owl (*Otus kennicottii*), and northern saw-whet owl (*Aegolius acadicus*) inhabit hardwood forests. Furthermore, smaller birds including acorn woodpecker (*Melanerpes formicivorus*), western scrub jay, hairy woodpecker (*Picoides villosus*), downy woodpecker, chestnut-backed chickadee (*Poecile rufescens*), Anna's hummingbird (*Calypte anna*), and many others use hardwood forests for habitat. Reptiles found at higher elevation hardwood forests include the California mountain kingsnake (*Lampropeltis zonata*), and at mid to lower elevation hardwood forests include Northern Pacific rattlesnake, California whipsnake (*Masticophis lateralis*), California king snake (*Lampropeltis getula*), ring neck snake (*Diadophis punctatus*), common garter snake (*Thamnophis sirtalis*), and lizards including western fence lizard and northern alligator lizard (*Gerrhonotus coeruleus*). Rodents found in hardwood forests include the deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher, and broad-footed mole (*Scapanus latimanus*), among others. Examples of woodland communities present in the County are foothill woodland (covering approximately 120,608 acres of the County), valley oak woodland (covering approximately 246 acres of the County), and riparian woodland (covering approximately 226 acres of the County). Such plant communities are further described in the following sections.

Madrone Forest

Madrone forest is a forest alliance listed in *A Manual of California Vegetation*.[3] Madrone is an evergreen hardwood tree that is dominant or co-dominant in the tree canopy. Madrones occur with big leaf maple, tan oak (*Lithocarpus densiflorus*), Douglas fir and various species of oak. The shrub layer is sparse to intermittent. Madrone forest is found in the western portion of the County along stream terraces and upland slopes with productive soils or steep slopes with shallow, rocky, infertile soils at elevations from 328 to 4,593 feet. Madrone forest fits the Holland classification of "mixed evergreen forest."[4] Madrone forests also fall under the U.S. Forest Service classification of "montane

[3] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.
[4] *Ibid.*

hardwood" and is included under the montane hardwood category in Figure 4.4-1 and Table 4.4-1.

McNab Cypress Woodland

The McNab cypress woodland is the classification given to a woodland community dominated by McNab cypress trees (*Hesperocyparis macnabiana*, formerly *Callitropsis macnabiana*).[5] The McNab cypress woodland occurs at elevations of 300-1,100 meters (984 to 3,608 feet) above sea level in parts of Calaveras County that also support knob cone pine, foothill pine, and manzanita (*Arctostaphylos viscida*), though the shrub layer is sparse to intermittent. McNab cypress woodland can be found on open slopes and ridges with soils derived from basalt, conglomerate, gabbro, greenstone, or serpentine. The woodland community falls under the U.S. Forest Service classification of "montane hardwood" and is included under this category in Figure 4.4-1 and Table 4.4-1.

Foothill Woodland

Foothill woodland in Calaveras County falls into the Holland classification of blue oak woodland.[6] Foothill woodland within the County is dominated by blue oaks (*Quercus douglasii*) and interior live oaks (*Quercus wislizenii*). Blue oaks are common in drier areas and on very shallow soils. Interior live oak is more common on moist north and east-facing slopes. California buckeye (*Aesculus californica*) is scattered throughout but is mostly associated with the live oak phase of the woodland. Foothill pine (*Pinus sabiniana*) is also a common native associate. Grasses and other herbaceous species from the surrounding grassland typically form the understory in blue oak woodlands, whereas buck brush (*Ceanothus cuneatus var. cuneatus*), toyon, and poison oak (*Toxicodendron diversilobum*) are common understory shrubs in the interior live oak phase. Typical wildlife found in Foothill Woodland is discussed in Valley Oak Woodland below.

Valley Oak Woodland

Valley oak woodland is dominated by valley oak (*Quercus lobata*) trees. The valley oak tree is the "monarch of California oaks by virtue of its size, age, and beauty."[7] Valley oak may be the largest North American oak (*op. cit.*). The valley oak is a winter-deciduous tree with a round, spreading canopy of massive limbs when mature. Smaller branches on mature trees will sometimes droop or weep, extending all the way to the ground. Valley oak woodlands commonly occur on deep alluvial soils of valley flood plains. The community varies from open savannas to dense forest-like stands along rivers and other drainages. The understory is typically herbaceous, supporting annual and perennial grasses and forbs typical of the surrounding grassland community.

5 Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.
6 *Ibid.*
7 *Ibid.*

Oak trees are known to provide habitat for a variety of wildlife species. Hundreds of vertebrate species and thousands of invertebrate species are associated with California's oak habitats.[8] Oak acorns, leaves, wood, and sap are sustenance for myriad insects, birds, and mammals. Examples of wildlife species expected to occur within the County's foothill and valley oak woodland communities includes amphibian species such as the arboreal salamander (*Aneides lugubris*) and California slender salamander (*Batrachoseps attenuatus*). These two salamander species are commonly found underneath rotting logs and oak leaf litter on the woodland floor. Insectivorous bird species such as American robin, varied thrush, northern flicker, Steller's jay, western scrub jay, Nuttall's woodpecker (*Picoides nuttalli*), brown creeper, ruby crowned kinglet (*Regulus calendula*), oak titmouse (*Parus inornatus*), chestnut-backed chickadee, and white-breasted nuthatch (*Sitta carolinensis*) thrive in oak woodlands on the various insects and other invertebrates that live on oak leaves, burrow in oak bark, and that collect in the leaf litter and rotting logs. Raptors (i.e., birds of prey) such as the red shouldered hawk, great horned owl, western screech-owl, and Cooper's hawk nest in oak woodland canopy. Mammal species expected to occur in the oak woodland habitat include mule deer, gray fox, coyote, raccoon, Virginia opossum, striped skunk, gray squirrel (*Sciurus griseus*), broad-footed mole, and deer mouse.

Along the oak woodland edges, where the habitat transitions into grassland or chaparral, reptile species such as common king snake, gopher snake, western fence lizard, western skink, and northern alligator lizard can be found. In large areas of undeveloped land where oak or foothill woodland transitions into grassland, one could also expect to find bobcat (*Felis rufus*) and coyote.

Aquatic Plant Communities and Associated Wildlife Habitats

Plant communities and wildlife habitat areas associated with aquatic environments are discussed below.

*Seasonal Wetlands*

Seasonal wetlands are habitats that may appear dry in the summer and fall months but with fall and winter rains become saturated or inundated, often remaining inundated for a period of several weeks to months each year. Seasonal wetland habitats within the County include habitats known as vernal pools, which experience alternating wet and dry conditions as discussed above. Seasonal wetlands are characterized by hydric soils and confining topography such as topographic low areas or any low area (i.e., depressional topography) that was inadvertently created through man's activities. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (absence of free oxygen) conditions within the upper part of the soil profile. After saturation/inundation and desaturation, redoximorphic features form in many soil profiles from the reduction and oxidation of iron and manganese compounds in the soil. Hydric soils frequently have a high clay content with low permeability or may exhibit hardpans and/or cemented durapans in subsoil layers. Such soils when contained within depressional topography

[8] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.

may perch water near or at the surface creating wetland hydrology. Such areas eventually colonize and become dominated by seasonal wetland plants, and thus persist as seasonal wetlands. According to the US Department of Agriculture (USDA) Forest Service vegetation map, approximately 87.1 acres of seasonal wetlands are located in Calaveras County (see Figure 4.4-1 and Table 4.4-1). However, the USDA Forest Service map is very broad; ground surveys of individual properties within the County would likely reveal that this acreage figure is higher.

Seasonal wetlands, including vernal pools, provide important functions including ground water recharge and discharge, pollutant filtration, and serve as an aquatic habitat for a variety of wildlife species ranging from invertebrates and insects to amphibians, reptiles, birds, and mammals. Seasonal wetlands in the County support cosmopolitan wetland species such as umbrella sedge (*Cyperus eragrostis*), hyssop loose strife (*Lythrum hyssopifolium*), curly dock (*Rumex crispus*), and rabbit's foot grass (*Polypogon monspilensis*) among many others.

Seasonal wetlands provide a seasonal water source for wildlife. Typically, seasonal wetlands remain saturated or inundated through March, or in an above normal rainfall year, may stay inundated as late as mid-May or even to June. This inundation period allows many amphibian and invertebrate species the opportunity to lay their eggs, hatch, and develop to metamorphosis. Western toads (*Bufo boreas*) and Sierran tree frogs (*Pseudacris sierra*), and at lower elevations in the County, the federal and state listed California tiger salamander (*Ambystoma californiense*) can occur in these habitats. In addition, invertebrates such as may flies (*Ephemeroptera*), damselflies (*Odonata*), backswimmers (*Notonectidae and Corixidae*), water striders (*Gerridae*), and predaceous diving beetles (*Dytiscidae*) are common in seasonal wetlands. Wading birds such as great egrets (*Ardea alba*), great blue herons (*Ardea herodias*), and greater yellow legs (*Tringa melanoleuca*), among others can frequently be observed foraging at seasonal wetland habitats. Mammals such as coyotes, raccoons, and striped skunks can be observed at wetlands (or their tracks, scat or other sign) drinking the water and/or foraging for food.

*Stream Channels and Drainages – Riparian Woodland*

Calaveras County is bounded by the Mokelumne River to the north and the Stanislaus River to the south. The North Fork of the Mokelumne River serves as the northern boundary of the County, prior to joining the North Fork, the South Fork of the Mokelumne River traverses through a section of the northern portion of the County. The North Fork of the Stanislaus River creates the southern boundary of the County, while the Middle and South Forks of the Stanislaus River are within Tuolumne County. In addition to the two aforementioned major rivers that flow along the edges of the County, a number of perennial to intermittent streams flow through the County, including Calaveras River, which is impounded by the New Hogan Dam, prior to continuing to the confluence of the Calaveras River and the San Joaquin River west of Stockton. Some additional examples are Calaveras Creek, Littlejohns Creek, and Cosgrove Creek among many others. Many of these rivers and streams support riparian vegetation. It is estimated that approximately 226 acres of riparian woodland habitat is present within the County (see Figure 4.4-1 and Table 4.4-1).

The word "riparian" derives from the Latin "Ripa" which means "bank or shore," as of a stream or river. The original meaning has largely been retained through subsequent history, pertaining to

the terrestrial, moist soil zone immediately landward of aquatic wetlands, other freshwater bodies, both perennial and intermittent watercourses, and many estuaries.[9]

Riparian woodlands are rich habitats, supporting numerous plant species that can include trees, shrubs, vines, and annual and perennial herbs. The riparian variety of plants provides a complex vegetative structure, which in turn supports a diversity of wildlife species. Riparian woodland is associated with many of the creeks and drainages within the County. Tree species found in the riparian woodland plant community within the County vary depending upon the elevation and location within the County. Riparian tree species include big leaf maple (*Acer macrophyllum*), California buckeye, arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and black cottonwood (*Populus nigra*). Riparian woodlands typically have a shrubby and herbaceous understory with shrubs such as poison oak, snowberry (*Symphoricarpos albus var. laevigatus*), non-native Himalayan blackberry (*Rubus discolor*), and native California blackberry (*Rubus ursinus*), and herbs such as California bee plant (*Scrophularia californica*) and seep monkey flower (*Mimulus guttatus*), vines such as clematis (*Clematis ligusticifolia*), and pipevine (*Aristolochia californica*).

Drainages within the County provide a water source for birds, mammals, amphibians, and reptiles, as well as providing breeding habitat for common amphibian species such as Sierran tree frog, western toad, and California newt (*Taricha torosa*). Within the County, many invertebrates and insects complete their life cycle in drainages as well. Mallards, raccoons, mule deer, and opossums all can be expected to be found using such drainages. The vegetation and sap of willow trees typically attracts numerous insects to their branches. These insects, in turn, attract common insectivorous bird species such as ruby-crowned kinglet (*Regulus calendula*), bushtit (*Psaltriparus minimus*), yellow-rumped warbler (*Dendroica coronata*), and less common species such as Neotropical migrants like the yellow warbler (*Dendroica petechia*) and yellow-breasted chat (*Icteria virens*), among others.

*Pond Lakes*

Ponds and lakes are inland bodies of water that vary in size from small stock ponds and natural seeps/ponds to large constructed reservoirs such as New Melones Lake and New Hogan Reservoir. Emergent vegetation such as cattails (*Typha angustifolia* and *T. latifolia*) and rushes (*Bolboschoenus* spp., *Schoenoplectus* spp., and *Juncus* spp.) can be found along the margins of these aquatic habitats. Floating vegetation such as water starwort (*Callitriche spp*.), duck weed (*Lemna spp*.) and buttercup (*Ranunculus aquatilis*) can be found on the water's surface of smaller ponds. These floating plants provide food for herbivorous waterfowl such as the mallard which is a common duck species in urban and rural settings. Larger ponds and lakes can be expected to support bufflehead (*Bucephala albeola*), ruddy duck (*Oxyura jamaicensis*), American wigeon (*Anas americana*), ring-necked duck (*Aythya collaris*), common merganser (*Mergus merganser*) and along lake and pond margins shore birds such as the killdeer (*Charadrius vociferus*). More remote, less disturbed lakes and ponds can be expected to support mallards, common goldeneye (*Bucephala clangula*), wood ducks (*Aix sponsa*), and shorebirds such as the spotted sandpiper (*Actitis macularia*). Ponds, lakes, and reservoirs provide wildlife with a permanent to near

[9] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.

permanent source of water (depending on whether the smaller waterbody dries down in the summer months). They also provide resting habitat for waterfowl migrating along the Pacific Flyway. Quite often, Canada geese stop over near shorelines of larger lakes and ponds to forage. Many amphibians depend on water, at least seasonally, to complete their life cycle. The Sierran tree frog, western toad, and the federal and state listed California tiger salamander are all amphibian species known to occur in ponds within the County.

**Sensitive Plant Communities**

The California Department of Fish and Wildlife (CDFW) maintains a list of plant communities within the state that are of special concern. Communities of special concern are communities that have historically had a limited distribution as well as communities that have become limited because of human activities. Within the County there are three plant communities that the CDFW considers rare enough to warrant monitoring and have included them in the California Natural Diversity Database (RareFind 3) (CNDDB) records.[10] The three plant communities are riparian woodland, Ione chaparral, and big tree forest and are discussed below.

Riparian Woodland

Riparian woodland grows along streams, rivers, and other waterways. Such woodlands are best developed along those waterways that have perennial water. Most riparian communities in California have been described by Holland as sensitive communities[11] meriting inclusion in the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California*.[12] The CDFW also considers most riparian plant communities rare enough to warrant monitoring. Riparian vegetation is also protected under §1602 of California Fish and Game Code and authorization from the CDFW is required prior to altering or otherwise disturbing riparian communities.

Ione Chaparral

Ione chaparral is a unique plant community of the Sierra foothills found in a few isolated patches north and south of the town of Ione in Amador County. This geologic formation also occurs in the central portions of Butte and Yuba counties, the western portions of Nevada, Placer, El Dorado, and Calaveras Counties. It extends as far south as Madera County.[13] A number of plant species uniquely adapted to Ione Formation soils occur in this plant community and are classified as special-status plants. Ione manzanita (*Arctostaphylos myrtifolia*), a federally listed threatened species, is the dominant species of Ione chaparral, where the species occurs in dense stands. Four other special-status plant species are associated with Ione chaparral: Parry horkelia (*Horkelia parryi*) (CNPS Rank 1B), Ione buckwheat (*Eriogonum apricum var. apricum*) (federal and state listed endangered; CNPS Rank 1B), Irish Hill buckwheat (*Eriogonum apricum var. prostratum*)

[10] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.
[11] *Ibid.*
[12] *Ibid.*
[13] *Ibid.*

(federal and state listed endangered; CNPS Rank 1B), and Bisbee Peak rush-rose (*Helianthemum suffrutescens*; known as *H. scoparium* in The Jepson Manual 1993 and 2012) (CNPS Rank 3).

Big Tree Forest

The big tree forest consists of large stands of giant sequoias that are present in isolated groves along the west slope of the Sierra Nevada. As mentioned in the section above, there is one occurrence of giant sequoia grove/big tree forest in Calaveras County: North Calaveras Grove in Calaveras Big Trees State Park. The giant sequoia is among the fastest growing of all trees and is the largest tree in volume in North America, attaining heights averaging 76 to 84 meters and ages of over 2,000 years. Giant sequoias are fire-adapted species with fire-resistant bark, and serotinous cones (i.e., cones that release seeds with the heat of a fire). They are managed by prescribed burns that ensure wildfires do not burn hot enough to reach canopy layers (i.e., crown fires) of these very large trees.

**Wildlife Movement Corridors**

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: 1) wildlife movement corridors provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can recolonize habitats from which populations have been locally extirpated.[14] All three functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating, and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

Establishing connections among natural lands has long been recognized as essential for sustaining natural ecological processes and biodiversity. Nature needs room to move. For many species to persist and for communities to withstand environmental disturbances such as fire or climate change, isolated nature preserves simply are not adequate to ensure species persistence. Habitat fragmentation reduces, often irreversibly, the permeability of the landscape to its native flora and fauna. In California, urban sprawl, roads, and other anthropogenic forces are carving up habitat into ever-smaller fragments. Maintaining connectivity between the remaining natural areas and minimizing further fragmentation is crucial to the long-term viability of California's natural heritage. If selected carefully and managed properly, habitat linkages and wildlife corridors, which can range from a large intact ranch bridging two protected areas to narrow riparian corridors or highway underpasses, can significantly contribute to both the viability of individual species and the integrity of the natural community.[15]

Wildlife requires connected corridors and habitat linkages to find food, mates, and to maintain species diversity. Based on hundreds of studies, the evidence is clear: isolated remnants of land

[14] Monk & Associates. *Calaveras County Draft General Plan EIR Biological Resources.* March 15, 2017.
[15] *Ibid.*

suffer predictable, cumulative losses of species; this is one of the strongest generalizations in the field of ecology. Habitat isolation is harmful.

**Special-Status Species**

Calaveras County is known to support 18 species of special-status plants (Table 4.4-2) and 14 special-status wildlife species (Table 4.4-3), as defined above. The Special-Status Species known to occur in Calaveras County are presented in Table 4.4-2 and Table 4.4-3 below.

**Table 4.4-2**
**Special-Status Plants with Potential to Occur within the County**

| Common and Scientific Name | Fed / State / CNPS Status[1] | Habitat Requirement |
|---|---|---|
| Red Hills soaproot *Chlorogalum grandiflorum* | -- / -- / 1B.2 | Chaparral; cismontane woodland; [serpentinite or gabbroic]. |
| Three-bracted onion *Allium tribracteatum* | -- / -- / 1B.2 | Chaparral; lower montane coniferous forest; upper montane coniferous forest [volcanic]. |
| Tuolumne button-celery *Eryngium pinnatisectum* | -- / -- / 1B.2 | Cismontane woodland; lower montane coniferous forest; vernal pools; [mesic]. |
| Delta button-celery *Eryngium racemosum* | -- / CE / 1B.1 | Riparian scrub (vernally mesic clay depressions). |
| Spiny-sepaled button-celery *Eryngium spinosepalum* | -- / -- / 1B.2 | Valley and foothill grassland; vernal pools. 100-200 m. |
| Stebbins' lomatium *Lomatium stebbinsii* | -- / -- / 1B.1 | Chaparral; lower montane coniferous forest; [gravelly, volcanic clay]. |
| Hoover's calycadenia *Calycadenia hooveri* | -- / -- / 1B.3 | Cismontane woodland; valley and foothill grassland [rocky]. Below 300 m. |
| Mariposa cryptantha *Cryptantha mariposae* | -- / -- / 1B.3 | Rocky serpentinite soils in chaparral |
| Davy's sedge *Carex davyi* | -- / -- / 1B.3 | Subalpine coniferous forest; upper montane coniferous forest. Dry, often sparse, meadows, slopes. |
| Ione manzanita *Arctostaphylos myrtifolia* | FT / -- / 1B.2 | Chaparral; cismontane woodland; [acidic Ione clay or sandy]. |
| Ahart's dwarf rush *Juncus leiospermus ahartii* | -- / -- / 1B.2 | Vernal pools. |

*(Continued on next page)*

**Table 4.4-2**
**Special-Status Plants with Potential to Occur within the County**

| Common and Scientific Name | Fed / State / CNPS Status[1] | Habitat Requirement |
|---|---|---|
| Pleasant Valley mariposa lily *Calochortus clavatus avius* | -- / -- / 1B.2 | Open oak/pine forest, (Josephine silt loam and volcanic). |
| Small's southern clarkia *Clarkia australis* | -- / -- / 1B.2 | Cismontane woodland, lower montane coniferous forest. 800-1500 m. |
| Beaked clarkia *Clarkia rostrata* | -- / -- / 1B.3 | Cismontane woodland; valley and foothill grassland. About 500 m. |
| Yellow-lip pansy monkeyflower *Mimulus pulchellus* | -- / -- / 1B.2 | Lower montane coniferous forest; meadows and seeps; [vernally mesic]. 600-2,000 m. |
| Pincushion navarretia *Navarretia myersii* | -- / -- / 1B.1 | Vernal pools. |
| Parry's horkelia *Horkelia parryi* | -- / -- / 1B.2 | Chaparral; cismontane woodland; [especially Ione formation]. |
| Chinese Camp brodiaea *Brodiaea pallida* | FT / CE / 1B.1 | Valley and foothill grassland (vernal streambeds, serpentinite). |

Notes:
[1] CNPS = California Native Plant Society
CE = California Endangered; CR = California Rare
FT = Federal Threatened; FE = Federal Endangered; FPE = Federal Proposed Endangered; FPT = Federal Proposed Threatened; FC = Federal Candidate; FPD = Federally Proposed for delisting
Rank 1B = Rare, threatened, or endangered in California and elsewhere
Rank 2 = Rare, threatened, or endangered in California, but more common elsewhere
CNPS Threat Rank Extensions:
.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20 to 80% of occurrences threatened)
.3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

*Source: Monk & Associates. Calaveras County Draft General Plan EIR Biological Resources March 15,2017.*

**Table 4.4-3**
**Special-Status Wildlife with Potential to Occur within the County**

| Common and Scientific Name | Fed / State / Other Status[1] | Habitat Requirements |
|---|---|---|
| **Invertebrates** | | |
| Vernal pool fairy shrimp *Branchinecta lynchi* | FT / -- / -- | Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains. Inhabit static rain-filled/vernal pools, small, lear water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression. |

*(Continued on next page)*

| Table 4.4-3<br>Special-Status Wildlife with Potential to Occur within the County | | |
|---|---|---|
| **Common and Scientific Name** | **Fed / State / Other Status[1]** | **Habitat Requirements** |
| **Insects** | | |
| Valley elderberry longhorn beetle *Desmocerus californicus dimorphus* | FT / -- / -- | Riparian and other habitats with elderberries (Sambucus sp.). Prefers shrubs with stems 1 to 5 inches in diameter. |
| **Amphibians** | | |
| California tiger salamander *Ambystoma californiense* | FT / CT / -- | Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose. |
| Western spadefoot toad *Spea hammondii* | -- / CSC / -- | Found primarily in grassland habitats but may occur in valley and foothill woodlands. Requires vernal pools, seasonal wetlands, or stock ponds for breeding and egg laying. Eggs are typically laid in March. Eggs hatch and larval metamorphose quickly. |
| California red-legged frog *Rana draytonii* | FT / CSC / -- | Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development. |
| Foothill yellow-legged frog *Rana boylii* | -- / CSC / -- | Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation. |
| **Reptiles** | | |
| Western pond turtle *Actinemys marmorata* | -- / CSC / -- | Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County. |
| **Birds** | | |
| Bald eagle *Haliaeetus leucocephalus* | -- / CE / -- | Ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests within one miles of water. |
| Northern goshawk *Accipiter gentilis* | -- / CSC / -- | In summer, within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water, red fir, lodgepole pine, Jeffery pine, and aspens are typical nest trees, |
| Tricolored blackbird *Agelaius tricolor* | -- / CSC / -- | Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging. |
| **Mammals** | | |
| Western red bat *Lasiurus blossevillii* | -- / CSC / -- | Prefers riparian areas where they roost in tree foliage. This bat is occasionally captured in riparian habitats dominated by cottonwoods, oaks, sycamores, and walnuts and is rarely found in desert habitats. |

*(Continued on next page)*

**Table 4.4-3**
**Special-Status Wildlife with Potential to Occur within the County**

| Common and Scientific Name | Fed / State / Other Status[1] | Habitat Requirements |
|---|---|---|
| Townsend's big-eared bat *Corynorhinus townsendii* | -- / CSC / CC | Occurs in humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, and buildings. Extremely sensitive to disturbance. |
| Greater western mastiff bat *Eumops perotis californicus* | -- / CSC / -- | Inhabits open habitats including conifer and broad-leaved woodlands, coastal scrub, chaparral, and grassland. Roosts in crevices, high buildings, trees, and tunnels. |
| Fisher – West Cost DPS *Martes pennanti* | FPT / CC / CSC | Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and denning. Need large areas of mature, dense forest. |

Notes:
[1] FT = Federal Threatened; FE = Federal Endangered; FPE = Federal Proposed Endangered; FPT = Federal Proposed Threatened; FC = Federal Candidate; FPD = Federally Proposed for delisting
CE = California Endangered; CT = California Threatened; CR = California Rare; CC = California Candidate; CSC = California Species of Special Concern; FP = Fully Protected; WL = Watch List. Not protected pursuant to CEQA.

*Source: Monk & Associates. Calaveras County Draft General Plan EIR Biological Resources March 15,2017.*

## 4.4.3 REGULATORY CONTEXT

A number of federal, State, and County policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the County.

### Federal Regulations

The following are the federal environmental laws and policies relevant to the CEQA review process.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The Unites States Fish and Wildlife Service (USFWS) enforces all other cases. Sections 9, 7, and 10 of FESA are most relevant to the proposed project and are discussed in further detail below.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 Code of Federal Regulations 17.3).

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an incidental take permit either through a Section 7 Consultation or through preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA. In general, an incidental take permit is required when there is evidence that a protected species is actually present on the site and there is evidence that a "take" could occur. (See *Arizona Cattle Growers' Assn. v. U.S. Fish and Wildlife, Bureau of Land Management* (9th Cir. 2001) 273 F.3d 1229.)

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. Critical habitat designations mean: (1) specific areas within a geographic region currently occupied by a listed species, on which are found those physical or biological features that are essential to the conservation of a listed species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a listed species that are determined essential for the conservation of the species.

The Section 7 consultation process only applies to actions taken by federal agencies that are considering authorizing discretionary projects. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the "federal nexus agency," for example, the U.S. Army Corps of Engineers (Corps) or the Federal Highway Administration). Project applicants, including private parties, cities, and counties, may participate in the Section 7 consultation at the discretion of the federal agencies conducting the Section 7

consultation. The Section 7 consultation process is triggered by a determination of the "action agency" – that is, the federal agency that is carrying out, funding, or approving a project - that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation between the nexus agency and the USFWS/NMFS is required. As part of the formal consultation, the USFWS/NMFS may resolve any issues informally with the nexus agency or may prepare a formal Biological Opinion assessing whether the proposed action would be likely to result in "jeopardy" to a listed species or if it could adversely modify designated critical habitat. If the USFWS/NMFS prepares a Biological Opinion it will contain either a "jeopardy" or "non-jeopardy" decision. If the USFWS/NMFS concludes that a proposed project would result in adverse modification of critical habitat or would jeopardize the continued existence of a federal listed species (that is, it will issue a jeopardy decision), it would be unlikely that the nexus federal agency would authorize its discretionary permit. If the USFWS/NMFS prepares a "non-jeopardy" Biological Opinion, the nexus federal agency may authorize the discretionary permit making all conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an "incidental take" permit that allows applicants to "take" federally listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, counties that are considering a discretionary permit, Section 10 provides a mechanism for obtaining take authorization. Under Section 10 of FESA, for the applicant to obtain an "incidental take permit," the applicant is required to submit a "conservation plan" to the USFWS or NMFS that specifies the impacts that are likely to result to federally listed species, and the measures the applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms "incidental take permit," "Section 10 permit," and "Section 10(a)(1)(B) permit" are used interchangeably by the USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement (e.g., Federal Highway Administration) address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with the USFWS to develop a memorandum of understanding (MOU) that governs what steps are necessary for federal agencies to ensure that their activities do not result in the take of listed migratory species. Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

Clean Water Act and the United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the Corps has authority to regulate activities that result in *discharge of dredged or fill material* into "waters of the United States." The term waters of the United States includes wetlands and "other waters" (for example, drainages). Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the ordinary high water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is:

I) the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." (33 CFR Section 328.3[e])

Wetlands are defined as: "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act. There also must be a significant nexus of tributaries in order for a water to be regulated. Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting waters of the United States. In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404 of the Clean Water Act, the Corps normally provides two alternatives for permitting impacts to "waters of the United States." The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments)

and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal EPA and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g. a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

**State Regulations**

The following are the State environmental laws and policies relevant to biological resources.

California Endangered Species Act

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take (*the death*) of a listed species.

If CDFW determines that a proposed project could impact a State listed threatened or endangered species, CDFW will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFW and/or USFWS (if it is a Federal listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit issued pursuant to Section 2081 of the Fish and Game Code would be necessary (versus a Federal incidental take permit for Federal listed species). CDFW will issue an incidental take permit only if:

1) The authorized take is incidental to an otherwise lawful activity;
2) The impacts of the authorized take are minimized and fully mitigated;
3) Measures required to minimize and fully mitigate the impacts of the authorized take:
    a) Are roughly proportional in extent to the impact of the taking on the species;
    b) Maintain the project applicant's objectives to the greatest extent possible; and,
    c) Capable of successful implementation; and,

4) Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a habitat conservation plan (HCP) as part of the federal Section 10(a) permit process, the HCP might be incorporated into the Section 2081 permit if it meets the substantive criteria of Section 2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFW staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the federal Endangered Species Act, it might also be incorporated into the Section 2081 permit if it meets the standards of Section 2081(b).

A Section 2081 permit may not authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take." These species are listed in several statutes that identify "fully protected" species and "specified birds." See Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a "fully protected" species or a "specified bird" occurs, an applicant must design the project to avoid all take.

Fish and Game Code Section 2080.1 allows an applicant who has obtained a "non-jeopardy" federal Biological Opinion pursuant to Section 7 of the FESA, or who has received a federal 10(a) permit (federal incidental take permit) pursuant to the FESA, to submit the federal opinion or permit to CDFW for a determination as to whether the federal document is "consistent" with CESA. If after 30 days CDFW determines that the federal incidental take permit is consistent with state law, and that all state listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFW determines that the federal Biological Opinion or permit is not consistent with CESA, or that there are state listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state CESA permit under Section 2081(b). Section 2081(b) is of no use if an affected species is state-listed, but not federally listed.

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, when lands are preserved to protect listed species via recordation of conservation easements or dedication to conservation organizations or regulatory agencies, management endowment fees for these protected lands are usually also required as agreement condition for issuance of an incidental take permit(s). Management endowments are "non-wasting" meaning only the interest derived from the principal endowment may be used to manage and maintained preserved lands in perpetuity.

<u>California Fish and Game Code</u>

California Fish and Game Code (CFGC) Sections 3503, 3503.5, 3511, and 3513 prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment

and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take." Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (Section 3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (Section 3511). "Fully protected" birds may not be taken or possessed (i.e., kept in captivity) at any time.

CDFW Species of Special Concern

In addition to formal listing under FESA and CESA, plant and wildlife species receive consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFW. CDFW tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society

The CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. The list information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

| | |
|---|---|
| List 1A: | Plants believed extinct. |
| List 1B: | Plants rare, threatened, or endangered in California and elsewhere. |
| List 2: | Plants rare, threatened, or endangered in California, but more numerous elsewhere. |
| List 3: | Plants about which we need more information - a review list. |
| List 4: | Plants of limited distribution - a watch list. |

Public Resources Code 21083.4/Senate Bill 1334

Through the passage of SB 1334, which enacted Public Resources Code (PRC) 21083.4, the potential conversion of oak woodland is subject to CEQA review and findings, and significant impacts are to be mitigated. All 58 counties in California are required to adopt oak woodlands management plans and ordinances that require a discretionary permit for oak woodland conversions and set a minimum mitigation standard. PRC 21083.4 offers a "menu" of mitigation options. Typically, significant impacts to oaks or oak woodland requires replacement tree mitigation at a five to one ratio (i.e., five oak trees are planted for every removed oak tree). For projects located within an existing urbanized area, Urban Reserve Line, Urban Services Line, or within a city's sphere of influence as approved by a Local Agency Formation Commission, mitigation could be reduced to one to one. Mitigation options in PRC 21083.4 include:

- A monetary contribution to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements;

- Onsite mitigation which requires the dedication in perpetuity of a conservation easement on mitigation lands that are contiguous with the project and that will provide for a biologically functional oak woodland community;
- Offsite mitigation which requires the permanent preservation of oak woodland habitat of equivalent biological value. Those mitigation lands shall be purchased in fee or by a conservation easement and conserved in perpetuity; and
- Monitoring and replacement of dead and diseased trees would be required. The planting mitigation alternative may be used in conjunction with the other mitigation alternatives. If the CDFW establishes a mitigation bank, the mitigation bank could be used to fulfill the offsite mitigation requirements of an oak woodlands conversion project, but no landowner may be compelled to use the mitigation bank. The oak woodlands management plan or county ordinance may exempt the following activities:

    - Affordable housing projects for low and very low income (as defined HCD) located within an existing urbanized area, Urban Reserve Line, Urban Services Line, or within a city's sphere of influence as approved by LAFCO.
    - The conversion of three acres or less of oak woodlands. A person or other legal entity may not use this exemption more than once in a five-year period;
    - The harvesting of fuelwood for (non-commercial) use on the parcel from which it is harvested;
    - An approved Natural Community Conservation Plan or approved subarea plan within an approved Natural Community Conservation Plan that includes oaks as a covered species;
    - The removal of dead and diseased trees that pose significant risks to life, property, or to healthy trees; and
    - Projects within oak woodlands in which no oak trees greater than five inches in diameter at breast height are to be removed or projects that do not encroach upon the dripline of oak trees greater than five inches at breast height.

Implementation of PRC Section 21083.4 shall be governed by the CEQA lead agency (the County, City, or School Districts) and the lead agency's findings during a review conducted pursuant to the CEQA for a proposed discretionary project. The project-related significance of impacts to oaks and any required mitigation shall be based upon specific project analyses and CEQA lead agency requirements.

Natural Community Conservation Program

The Natural Community Conservation Program (NCCP) is an unprecedented effort by the State of California, as well as numerous private and public partners, which takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP, which began in 1991 under the California Natural Community Conservation Planning Act, is broader in orientation and objectives than CESA and FESA; these laws are designed to identify and protect individual species that are already listed as threatened or endangered. The primary objective of the NCCP is to conserve natural communities at the ecosystem scale, while accommodating compatible land uses (CDFG, 2003).

California Regional Water Quality Control Board

The California Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB) regulate activities in "waters of the State" (which include wetlands, other waters, tidal waters, and the immediate watersheds around such features) through Section 401 of the Clean Water Act and/or the Porter-Cologne Water Quality Control Act. While the Corps administers a permitting program that authorizes impacts to waters of the United States pursuant to Section 404 of the Clean Water Act, including wetlands and other waters, any Corps permit authorized for a proposed project would be inoperative unless it is an NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification of water quality pursuant to Section 401 of the Clean Water Act. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality.

## 4.4.4 Impacts and Mitigation Measures

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to biological resources.

**Standards of Significance**

The following thresholds are based on Appendix G of the State CEQA Guidelines. Impacts would be significant if buildout of the Draft General Plan would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on oak woodlands;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

**Method of Analysis**

A programmatic analysis of impacts to biological resources from General Plan build out is provided below. The analysis below is not project specific as that type of analysis would take place at the time individual projects were brought before the County Planning and/or Public Works staff. Given the programmatic nature of the current project, specific impacts to biological resources are unknown and a qualitative analysis is presented below. Data used for this analysis include Geographic Information Systems (GIS) layers provided by Calaveras County, aerial photographs, topographic maps, the CNDDB,[16] and the CNPS online Inventory of Rare, Threatened, and Endangered Plants of California.[17] Other data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special-status species and sensitive habitat information obtained from the CDFW and the USFWS' Critical Habitat maps. Finally, Monk & Associate's knowledge of biological resources in Calaveras County from recent past project-level field work and analysis in the County was also applied to assess expected impacts from future development.

**Impacts and Mitigation Measures**

The following discussion of impacts related to biological resources is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community. Based on the analysis below, and even with mitigation, the impact is *significant and unavoidable*.**

With buildout of the proposed Draft General Plan, the population of the County is projected to increase. Significant portions of the anticipated population growth would be accommodated by higher density residential, commercial, and industrial uses, which would

[16] California Department of Fish and Wildlife. *California Natural Diversity Database*. Available at https://www.wildlife.ca.gov/Data/CNDDB. Accessed 2017.

[17] California Native Plant Society. *Inventory of Rare and Endangered Plants.* Available at http://www.rareplants.cnps.org. Accessed April 5, 2017.

follow the historical development pattern in and around the existing communities where infrastructure and services are available. However, because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on special-status species, species populations, and other sensitive biological resources is not possible at this time. Furthermore, some of the population growth is anticipated to occur outside of the existing communities, throughout the rural areas of the County.

Myriad special-status plant species occur in Calaveras County in a variety of habitat and substrate types, from the federally and state listed Chinese Camp brodiaea to the CNPS Ranked species Parry's horkelia. Potential impacts to these plant species include permanent loss of habitat due to conversion for development and loss of individuals for example from digging, grading or disking of land. Special-status animals that occur in the County are also numerous and diverse, from the fisher (*Martes pennanti*) to the California red-legged frog. Potential impacts to special-status animals include loss of habitat due to land conversion and death of individuals during earth-work and construction. In addition to the special-status species that exist within the County, numerous other species reside, reproduce, and migrate through the County. Survey of land considered to potentially support special-status species prior to implementing actions that could temporarily or permanently impact habitats for special-status species could reduce potential future loss of such species.

The Draft General Plan includes policies and associated programs that are intended to protect the County's biological resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals and policies intended to protect special-status species.

Goal COS-3 A diversity of native plants, fish, and wildlife species and their habitats.

Policy COS 3.1 New development shall use site planning techniques, including buffers and setbacks, and encourage clustering of development to protect sensitive biological resources. (IM COS-4B)

Policy COS 3.2 Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies. (IM COS-3B, COS-4B, COS-4C and COS-4F).

Policy COS 3.3 Require new development and/or modified developments and infrastructure projects to include a Biology report that identifies and mitigates impacts to special-status wildlife habitat, rare plant habitats, wetlands and other jurisdictional waters of the U.S. and/or State, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C).

In addition to the goals and policies presented above, the Draft General Plan includes the following implementation measure (IMs) related to the protection of special-status species.

IM COS-3B Grading, Drainage and Erosion Control. Review planning and permitting processes to assess implementation of post-construction erosion control measures and best management practices. Where improvements are necessary amend the *Design Manual for Grading, Drainage and Erosion Control* and/or the County's Grading Ordinance to correct gaps impacting effective implementation.

IM COS-4B Mitigation Options for Biological Resources. Adopt written guidelines establishing mitigation measures acceptable to Calaveras County for mitigating impacts to sensitive biological resources. Applicants may apply these mitigation options or hire a qualified professional biologist to identify alternative mitigation.

IM COS-4C Habitat Conservation Plan for Amphibians. Subject to available funding and in cooperation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, pursue a countywide habitat conservation plan to allow incidental take of California tiger salamander and California red-legged frog habitat. Consider expanding the plan to include special-status species occupying similar habitats. Consider coordinating the effort with neighboring counties to assist in sharing the costs of preparing the plan and to expand mitigation opportunities.

IM COS-4F Voluntary Biological Resources Conservation Activities. Support efforts where appropriate to identify and acquire high value biological resource areas from willing sellers on private lands for mitigating impacts to biological resources.

The Draft General Plan policies and IMs focus on identifying existing biological resources and preventing or mitigating for potential impacts to special-status species. Policy COS 3.3 requires that new development projects include biology reports, which would identify the special-status species and habitat present on project sites and propose mitigation for potential impacts to such biological resources. Protection of special-status species and habitat can only be effectively implemented where such resources are known to occur. Therefore, requiring biology reports to identify special-status species and habitat present at a project site is an important first step to the protection of such resources.

The Draft General Plan augments Policy COS 3.3 through further requirements on new developments, which are included in Policy COS 3.1 and Policy COS 3.2. Policies COS 3.1 and COS 3.2 would reduce potential impacts to special-status species resulting from buildout of the Draft General Plan by requiring new developments to avoid impacts to special-status species through planning and project design to the maximum extent practicable. The planning and project design measures required by COS policies COS 3.1 and COS 3.2 would concurrently act to minimize potential impacts to non-special-status plants and wildlife, which would reduce the potential for the Draft General Plan to result in the reduction of species populations below self-sustaining levels Where impacts cannot

be avoided, such impacts must be mitigated (Policy COS 3.2). To aid mitigation of potential impacts, the Draft General Plan instructs the County to establish Countywide mitigation measures that applicants may use for proposed projects (IM COS-4B). The use of Countywide mitigation measures would ensure that equitable standards are applied to all new development projects, which would minimize potential impacts to biological resources resulting from new development within the County. Moreover, the use of Countywide mitigation measures would allow for programmatic management of native species populations, including special-status species, which could allow for more coherent species management across the County.

IM COS-4C encourages the County to undertake Countywide planning for the conservation of special-status amphibian species through the preparation of a Habitat Conservation Plan (HCP) for such species. An HCP would allow the County to more effectively manage special-status populations over the entire County and would facilitate programmatic mitigation (IM COS-4B) of such special-status species. Increasing the efficacy of special-status species management would reduce the potential impacts related to development within the County by ensuring that development complies with programmatic mitigation and Countywide requirements. In addition to providing for the protection of special-status species, HCPs can apply to non-special-status species, and, because potential future HCPs act on a Countywide basis, would aid the Countywide conservation of special-status and non-special-status species throughout the County. Therefore, the County's Draft General Plan would ensure that special-status and non-special-status species throughout the County are protected on a per project basis as well as a Countywide basis.

Although the Draft General Plan encourages development within existing communities and includes various measures to reduce potential impacts related to special-status species, buildout of the Draft General Plan would result in impacts to special-status plant and animal species, or other sensitive biological resources including non-special-status plant and wildlife populations. Therefore, buildout of the Draft General Plan could result in a ***significant*** impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would minimize direct and indirect adverse effects on special-status plant and animal species, or other sensitive biological resources associated with buildout of the Draft General Plan by requiring certain projects to conduct biological evaluations of project sites prior to project implementation. Biological evaluations of future project sites would provide for the identification of any potential sensitive biological resources existing within project sites, which would allow for project-specific mitigation in accordance with resource agency (CDFW and/or USFWS) protocols/policies. Standard protocols/policies include, but are not limited to, the imposition of non-disturbance buffers surrounding sensitive biological resources, the purchase of mitigation credits or the provision of compensatory habitat areas for biological resources that would be lost due to implementation of a project. However, because the exact location of future development is not known at this time, other feasible measures are not available beyond the goals, policies, and IMs in the Draft General Plan to reduce impacts related to direct and indirect adverse effects on special-status plant and animal

species, or other sensitive biological resources associated with buildout of the Draft General Plan. Therefore, the impact is considered *significant and unavoidable*.

*4.4-1(a) The following new implementation measure shall be added to the Draft General Plan:*

*IM COS-4H The County shall require development that is subject to a discretionary entitlement and subject to environmental review under CEQA to evaluate potential impacts to biological resources and to minimize, avoid and/or mitigate significant impacts to the following special-status species or as otherwise required by State or Federal law:*

1. *Threatened and endangered plant and animal species listed by the Federal Endangered Species Act.*
2. *Rare, threatened and endangered plant and animal species listed by the California Endangered Species Act.*
3. *Other special-status species including, but not limited to:*
   - *A) Federal candidate species for listing under the FESA;*
   - *B) State candidate species for listing under the CESA;*
   - *C) California Fully Protected Species (protected pursuant to Fish and Game Code);*
   - *D) California Species of Special Concern (CEQA Guideline §15382);*
   - *E) Plant species listed by the California Native Plant Society as Ranks 1A, 1B, 2A and 2B (CEQA Guideline §15382);*
   - *F) Nesting birds (protected pursuant to California Fish and Game Codes §§3503, 3503.5, 3511, and 3513 which prohibit the "take, possession, or destruction of birds, their nests or eggs.");*
   - *G) Birds of prey. All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5);*
   - *H) Birds protected pursuant to the federal Migratory Bird Treaty Act;*
   - *I) Bald eagles and golden eagles as protected pursuant to the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d)*

*and California Fish and Game Code (Section 3503.5).*

*4.4-1(b)* *The following new implementation measure shall be added to the Draft General Plan:*

*IM COS-4I* *At the County's discretion, for development that is subject to a discretionary entitlement and subject to environmental review under the CEQA, the County shall require project applicants to enlist the services of a qualified biologist to evaluate a proposed project's impact on special-status species as defined above and determine what avoidance measures or mitigation measures are warranted to offset or mitigate these impacts to the extent feasible.*

*4.4-1(c)* *Policy COS-3.2 of the Draft General Plan shall be revised as follows:*

*Policy COS 3.2* ~~*Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies.*~~ *To the extent practicable avoid impacts to habitats that are known to support state or federally listed species. Where impacts cannot be avoided, compensate for these impacts in accordance with resource agency (CDFW and/or USFWS) protocols/policies for the listed species.*

*For project sites that support suitable breeding or dispersal habitats for listed species, in the absence of focused surveys proving absence, mitigation is warranted. For applicants that choose not to mitigate or compensate for impacts to such habitat based on the assumption that the habitat is suitable breeding or dispersal habitats for listed species, the County shall require project specific site surveys conducted per resource agency guidance for the FESA/CESA species in question by a permitted biologist. If such surveys are conducted with applicable resource agency concurrence and prove absence, then mitigation may not be required by the County.*

*When appropriate, mitigation for impacts to CESA/FESA listed species and/or their habitats may be accomplished via CDFW and/or USFWS approval for the applicant to purchase species compensation credits from an agency approved conservation bank. For*

*mitigation that includes avoidance on project sites or that provides offsite mitigation land preservation, a qualified biologist shall be required to develop a long-term maintenance and management plan for any onsite species avoidance area, and/or for either on or offsite mitigation preserves established to compensate for a project's effects on CESA/FESA listed species.*

*For any proposed projects that trigger the requirements for an Incidental Take Permit, the County shall require proof that Incidental Take Permits have been acquired by the CDFW and/or USFWS as appropriate prior to issuing discretionary permits that allow commencement with a proposed project.*

**4.4-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.**

Recognized sensitive plant communities within the County include Ione chaparral, riparian woodland, and big tree forest. While the limits of big tree forest within the County are clearly delineated on land use maps, the extent of riparian woodlands and Ione chaparral within the County have not been delineated. It is currently estimated that 226 acres of riparian woodland is present in the County; this figure would need to be ground-truthed on a project-by-project basis for accuracy.

Because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on these significant communities and/or other sensitive plant communities is not possible at this time. Direct impacts to riparian habitat, Ione chaparral, and other sensitive habitats include removal of these habitats during development/construction of projects, or indirect impacts from adjacent development that affects the health and vigor of these communities. Indirect impacts to these communities also include habitat degradation caused by the introduction of invasive plant species. Invasive plants can be introduced incidentally from construction equipment carrying the invasive weed seeds on their tires into new areas and through selection of invasive landscape plants, or by creating unvegetated/disturbed areas that are optimal for colonization by invasive weeds. Finally, erosion caused by land grading and manipulation, which results in deposition of sediments in significant plant communities would be an indirect impact.

Development implemented under the Draft General Plan may introduce invasive plant species into the County or cause the spread of invasive plant species into new areas of the County. Because many of the plants established in California plant communities are "weeds," for purposes of this analysis, invasive plant species are defined as:

> Those plants listed by the California Invasive Plant Council (Cal-IPC) as having a "high" degree of invasiveness as listed on the California Invasive Plant Inventory (2006) and updates to this inventory as posted online (http://www.cal-ipc.org/ip/inventory).

Examples of plants with a "high" ranking on the Cal-IPC inventory are yellow star thistle (*Centaurea solstitialis*), perennial pepperweed (*Lepidium latifolium*), and pampas grass (*Cortaderia selloana*). Another invasive weed of concern on the Cal-IPC's inventory, but that only has a "moderate" ranking is stinkwort (*Dittrichia graveolens*). This plant was unknown in California prior to 1993 (Hickman 1993 and Baldwin et al 2012) but has rapidly spread throughout the state. Stinkwort may have been transported to California by large trucks carrying sand and gravel for road building (and carrying stinkwort seeds).

The Draft General Plan includes policies and associated programs that are intended to protect the County's biological resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals and policies intended to protect riparian habitats and other sensitive communities.

Goal COS-3 A diversity of native plants, fish, and wildlife species and their habitats.

Policy COS 3.1 New development shall use site planning techniques, including buffers and setbacks, and encourage clustering of development to protect sensitive biological resources. (IM COS-4B)

Policy COS 3.2 Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies. (IM COS-3B, COS-4B, COS-4C and COS-4F).

Policy COS 3.3 Require new development and/or modified developments and infrastructure projects to include a Biology report that identifies and mitigates impacts to special-status wildlife habitat, rare plant habitats, wetlands and other jurisdictional waters of the U.S. and/or State, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C).

Policy COS 3.7 Support efforts to eradicate invasive species and encourage practices that reduce their spread. (IM COS-4G).

In addition to the goals and policies presented above, the Draft General Plan includes the following implementation measure (IMs) related to the protection of sensitive natural communities.

IM COS-4G Invasive Species. Coordinate with state and Federal agencies and programs and other organizations to control the spread of invasive species. Work to secure funding where available to support these efforts.

Buildout of the Draft General Plan would involve new development within the County. As discussed in Impact Statement 4.4-1, the Draft General Plan would require new development to identify existing biological resources within a project site. Such biological resources would include riparian forests and other sensitive communities. If a new development project would result in impacts related to such biological resources, Draft General Plan Policies COS 3.1, 3.2, and 3.3 would require that impacts be avoided to the maximum extent practicable, and properly mitigated. The identification, avoidance, and mitigation of existing riparian forests and other sensitive communities and potential impacts would reduce the impact of future development on riparian forests and other sensitive communities.

Additionally, the suppression of invasive species, required by Policy COS 3.7, would reduce potential competition, and help maintain the existing riparian forests and other sensitive communities within the County. Controlling the spread of invasive species (IM COS-4G) would help to further protect existing riparian forests and other sensitive communities, by reducing competition from non-native species.

Implementation of the Draft General Plan's policies would ameliorate the potential impacts of General Plan buildout by protecting sensitive communities and reducing competition from invasive species. Despite the reduction in potential impacts that would result from implementation of the above goals and policies, buildout of the Draft General Plan is anticipated to impact riparian forests and other sensitive communities, and, thus, implementation of the Draft General Plan would result in a ***significant*** impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would minimize potential impacts of General Plan buildout by protecting sensitive communities and reducing competition from invasive species by requiring certain projects to conduct biological evaluations of project sites prior to project implementation. Biological evaluations prior to implementation of future projects would include identification of CDFW approved protective measures needed for the preservation of existing sensitive communities. Protective measures for sensitive communities may involve the establishment of non-disturbance buffers surrounding sensitive communities, or, should avoidance be infeasible, on- or off-site compensatory planting under CDFW guidance. Furthermore, biological evaluations would identify any known invasive species within the development site and recommend proper means of removal of such species to reduce competition with native species. However, because the exact location of future development is not known at this time, other feasible

measures are not available beyond the goals, policies, and IMs in the Draft General Plan to reduce impacts related to direct and indirect adverse effects on sensitive communities associated with buildout of the Draft General Plan. Therefore, the impact is considered *significant and unavoidable*.

*4.4-2(a) The following new implementation measure shall be added to the Draft General Plan:*

*IM COS-4J At the County's discretion, development that is subject to a discretionary entitlement and subject to CEQA review shall be required to evaluate potential impacts to sensitive and significant communities using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*

- *Enlist the services of a qualified biologist or botanist to survey the property in question for sensitive and significant plant communities including riparian and Ione chaparral;*
- *If any sensitive or significant plant community is identified on the proposed property, the qualified biologist or botanist shall map the dripline (canopy) and/or extent of the rare plant community using global positioning system (GPS) technology;*
- *The dripline/canopy and/or sensitive plant communities that are to be preserved shall be shown on all site development plans, grading plans, and/or engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable. Riparian drip line impacts require additional scrutiny and may require additional permitting from the CDFW pursuant to Section 1602 of the Fish and Game Code.*
- *Mitigation for project impacts on the sensitive habitat can include onsite planting mitigation compensation, or offsite mitigation through preservation via recordation of a conservation easement that facilitates the perpetual protection of similar habitat types as those that are impacted, consistent with COS-3.6, as necessary to reduce impacts to a less-than-significant level.*

*4.4-2(b)* *The following new implementation measure shall be added to the Draft General Plan:*

*IM COS-4K* *Support efforts to eradicate invasive species and encourage practices that reduce their spread (IM COS-4G). This can be completed by:*

- *Require new developments to submit landscape plans that are comprised of mostly native California plant species and avoid landscaping with invasive plant species. Such plans would be subject to the review and approval of the County Planning Department.*
- *On properties proposed for development or redevelopment that have been identified by a qualified botanist to support those invasive plant species that are identified on the California Invasive Plant Council inventory as having a ranking of "high" invasiveness (or in the case of the plant, stinkwort, which has a "moderate" ranking), removal efforts should be undertaken. The best means to remove the invasive species (for example, hand-removal or the use of herbicides) would be determined on a property by property basis by the contracted botanist/qualified biologist/restoration ecologist.*
- *Use of herbicides must be undertaken by a licensed herbicide applicator.*

**4.4-3 Have a substantial adverse effect on oak woodlands. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Oak woodlands are scattered throughout the County; oak trees are part of the foothill woodland and valley oak woodland communities. Oak woodlands are considered by the State of California to be high quality wildlife habitats. PRC 21083.4 requires the protection of oak woodland and requires all 58 California counties to adopt oak woodlands management plans and ordinances that require a discretionary permit for oak woodland conversions and to establish a minimum mitigation standard.

Additionally, PRC 21083.4 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 shall require one or more oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. These mitigation alternatives can include recordation of conservation easements, implementation of oak tree planting plans, and/or contribution of funds to an Oak Woodlands Conservation Fund.

The General Plan background report identifies 121,080 acres of woodland communities, including foothill (blue and live oak), valley oak, and riparian. However, because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific number of acres that could be affected by development of the Draft General Plan is not possible at this time. Direct impacts to oak woodlands include removal of the habitat during development/construction of projects, or indirect impacts from adjacent development that affects the health and vigor of the oak woodland community. Indirect impacts to oak woodland also include habitat degradation caused by the introduction of invasive plant species. Invasive plants can be introduced incidentally from construction equipment carrying the invasive weed seeds on their tires into new areas and also through selection of invasive landscape plants, or by creating unvegetated/disturbed areas that are optimal for colonization by invasive weeds. Finally, erosion caused by land grading and manipulation that results in deposition of sediments under the oak tree canopy would be an indirect impact.

The Draft General Plan includes policies and associated programs that are intended to protect the County's biological resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals and policies intended to protect oak woodlands throughout the County.

Goal COS-3 A diversity of native plants, fish, and wildlife species and their habitats.

Policy COS 3.6 Conservation easements may be acceptable means to mitigate impacts to protect wildlife habitat, wetland areas, and oak woodlands from new development. (IM COS-4D and COS-4F)

In addition to the goals and policies presented above, the Draft General Plan includes the following implementation measure (IMs) related to the protection of oak woodlands.

IM COS-4D Oak Woodlands. Develop a mitigation program in addition to the mitigation measures provided in the Oak Woodlands Preservation Act of 2014,[18] where the County determines a project will have a significant effect on oak woodlands, to facilitate the environmental review process relative to mitigating significant direct and cumulative impacts to oak woodlands in conjunction with discretionary project approval and address pre-development removal of oaks.

The Draft General Plan includes IM COS-4D, which directs the County to apply the statewide regulations within the Oak Woodlands Preservation Act to new developments within the County. Where developments would impact oak woodlands, IM COS-4D requires that mitigation to reduce such impacts be required in compliance with the Oak Woodlands Preservation Act of 2014. Beyond the regulations contained within the Oak Woodlands Preservation Act of 2014, IM COS-4D directs the County to develop a mitigation program that encompasses the mitigation measures within the Oak Woodland

[18] California Department of Fish and Game. Code Section 1625 et seq.

Preservation Act of 2014 and helps facilitate environmental review of projects within the County with direct and cumulative impacts to oak woodlands in conjunction with pre-development approvals for proposed projects. Furthermore, Policy COS 3.6 notes that conservation easements may be used as mitigation for the protection of oak woodlands within the County. The requirement that developments mitigate impacts on oak woodlands, and the provision of an acceptable method of mitigation would ensure that development throughout the County would identify and reduce potential impacts to oak woodlands.

Despite the policy and IM discussed above, build-out of the Draft General Plan would continue to have the potential to impact oak woodlands within the County. Therefore, implementation of the Draft General Plan would result in a ***significant*** impact related to oak woodlands.

Mitigation Measure(s)

In order to minimize the potential for build-out of the Draft General Plan to impact oak woodlands, the following policy is to be incorporated into the Draft General Plan. However, beyond this additional policy and the goals, policies, and IMs in the Draft General Plan, other feasible measures are not available to reduce adverse effects to oak woodlands associated with buildout of the Draft General Plan. Therefore, the impact would remain *significant and unavoidable*.

*4.4-3(a) The following new policy shall be added to the Draft General Plan:*

*Policy COS 3.8 The County shall require development that is subject to a discretionary entitlement and subject to CEQA review to evaluate potential impacts to oak woodlands using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*

- *Enlist the services of a qualified biologist, botanist, Registered Professional Forester, or arborist to survey the property in question for oak woodlands;*
- *On properties with a development footprint smaller than 10 acres the oak trees shall be counted and their diameter at breast height (DBH) determined; the number that will be impacted shall be determined. On properties greater than 10 acres the acreage of oak woodland shall be calculated and the acreage of impact shall be quantified. Additionally, the qualified biologist or arborist shall map the dripline (canopy) of the oak woodland using global positioning system (GPS) technology.*
- *The dripline/canopy of the oak woodlands that are to be preserved shall be shown on all site development plans, grading plans, and/or*

*engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable.*

- *On properties less than 10 acres, oak trees to be removed shall be replaced at a mitigation ratio determined at the discretion of the County Planning Department. This ratio will be based on the species of oak removed. For example, for oak species that are common in the county, such as interior live oak (Quercus wislizenii), mitigation ratios may be lower than for less common oak species such as blue oaks (Quercus douglasii), valley oak (Quercus lobata) or black oaks (Quercus kelloggii). Ratios shall vary from 1:1 to as high as 3:1 at the discretion of the County Planning Department staff, and mitigation tree sizes shall vary between 5-gallon pots to 15-gallon box trees, depending on the size of the trees removed/impacted.*
- *On properties greater than 10 acres, a minimum of 30 percent of existing oak woodland canopy shall be preserved. Tree replacement mitigation shall be as prescribed above for project site's smaller than 10 acres in size or as recommended in the following bullet point at the discretion of Calaveras County.*
- *On parcels greater than 10 acres where on-site protection of 30 percent of existing oak woodland canopy and replacement are infeasible, mitigation for project impacts to oak woodlands can include: a monetary contribution to the State's Oak Woodlands Conservation Fund for the purpose of purchasing oak woodland conservation easements, onsite planting mitigation compensation, or a combination or onsite and offsite planting, or mitigation through oak woodland preservation via recordation of a conservation easement that facilitates the perpetual protection of oak woodland.*

**4.4-4 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) and/or on waters of the State defined pursuant to Section 401 of the Clean Water Act, or the Porter-Cologne Water Quality Control Act through direct removal, filling, hydrological interruption, indirect affects, or other means of impact. Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable*.**

At this time, the percentage of the General Plan buildout area that supports waters of the United States/State, which includes "federally protected wetlands as defined by Section 404 of the Clean Water Act," is unknown. Protected Waters represent significant and sensitive habitats that vary from streams, rivers, and tributaries, to ponds and seasonal wetlands and are scattered across the County. According to the USDA Forest Service vegetation map, there are approximately 87.1 acres of seasonal wetlands in U.S. Forests in Calaveras County (Figure 4.4-1 and Table 4.4-1). However, the USDA Forest Service map is a broad scale assessment and only includes U.S. Forest Service lands. Ground surveys of individual properties within the County would likely reveal that wetland acreages in the County are greater because seasonal wetlands, including vernal pools, are not easy to discern on aerial photographs, and must be ground-truthed to estimate their area. Other aquatic features in the County that are also subject to Clean Water Act regulation include "other waters" which are tributaries that support seasonal or perennial flows that do not otherwise support hydric soils or a dominance of hydrophytic vegetation as necessary to constitute a wetland. The extent of waters of the United States/State in the County cannot be quantified at a programmatic level. Because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of potential impacts to other waters/wetlands must be evaluated on a project by project basis.

Direct impacts to waters of the United States/State, including wetlands, includes the filling, removal or alteration of natural waterways including the rerouting or culverting of tributary flows to accommodate development. Indirect impacts include degradation of the waterways caused by incidental fill or erosion into waters as land is disturbed by grading and manipulation.

The Draft General Plan includes policies and associated programs that are intended to protect the County's biological resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals and policies intended to wetlands and waters of the United States/State throughout the County.

Goal COS-3 A diversity of native plants, fish, and wildlife species and their habitats.

Policy COS 3.2 Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies. (IM COS-3B, COS-4B, COS-4C and COS-4F).

Policy COS 3.3 Require new development and/or modified developments and infrastructure projects to include a Biology report that identifies and mitigates impacts to special-status wildlife habitat, rare plant habitats, wetlands and other jurisdictional waters of the U.S. and/or State, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C).

Policy COS 3.6 Conservation easements may be acceptable means to mitigate impacts to protect wildlife habitat, wetland areas, and oak woodlands from new development. (IM COS-4D and COS-4F)

In addition to the goals and policies presented above, the Draft General Plan includes the following IM related to the protection of wetland habitats and waters of the United States/State.

IM COS-3B Grading, Drainage and Erosion Control. Review planning and permitting processes to assess implementation of post-construction erosion control measures and best management practices. Where improvements are necessary amend the *Design Manual for Grading, Drainage and Erosion Control* and/or the County's Grading Ordinance to correct gaps impacting effective implementation.

The requirement that new projects include a biology report (Policy COS 3.3), would ensure that wetland habitats and waters of the United States/State are identified prior to development. Policy COS 3.2 and Policy COS 3.3 further require avoidance or mitigation to prevent impacts to wetland habitats and waters of the United States/State. Where mitigation is necessary, Policy COS 3.6 specifies conservation easements as an acceptable method of mitigation. Taken together, the above policies would help to identify wetland habitats and waters of the United States/State prior to development of project sites. Once identified, potential impacts to wetland habitats and waters of the United States/State related to new development would be reduced or avoided through the implementation of Policy COS 3.3 and Policy COS 3.6. Furthermore, IM COS-3B would ensure that indirect impacts to wetland habitats and waters of the United States/State would be minimized by proper grading and drainage practices that would reduce erosion.

The policies and IM presented above are generally consistent with the regulations within 40 CFR § 230.93, General compensatory mitigation requirements. In general, the objective of compensatory mitigation under the CFR is to offset losses from unavoidable impacts to waters of the U.S. Such losses include the fill, disturbance, or hydrologic disturbance of wetland areas considered to be waters of the U.S. Mitigating the loss of waters of the U.S. under the CFR allows for the application of uniform mitigation requirements and allows for an efficient allocation of mitigation resources across projects of varying size. While the CFR provides several avenues of mitigation, the mitigation is intended to prevent a net loss of wetlands by requiring the restoration, enhancement, establishment, and in certain circumstances preservation of waters of the U.S.

The foregoing policies and IM would require future development under the Draft General Plan to identify, protect, avoid, and, when needed, mitigate impacts to wetland habitats. Despite inclusion of the foregoing policies and IM, even with implementation of protection, avoidance, and mitigation measures to the maximum extent feasible, some future development within the County would be anticipated to result in ground disturbing activities or changes in drainage patterns that would result in the unavoidable loss of wetland habitat. Thus, the goals, policies, and IMs discussed above, would reduce the potential impacts to wetland habitats and waters of the United States/State related to buildout of the Draft General Plan. Nevertheless, buildout of the Draft General Plan is likely to result in fill, hydrologic disruption, or disturbance of wetlands, which would be considered substantial adverse effects on federally or state protected wetlands under the CWA or the Porter-Cologne Water Quality Control Act. Thus, the Draft General Plan would result in a ***significant*** impact to wetland habitats and waters of the United States/State.

Mitigation Measure(s)

Implementation of the following mitigation measures would minimize potential impacts of General Plan buildout by requiring the identification of wetland resources within areas subject to future development. Identification of wetland features would be followed by determination of potential impacts and requirement of compensatory mitigation in compliance with all applicable Corps, USFWS, and CDFW regulations and guidelines. Compensatory mitigation shall be implemented in compliance with 40 CFR § 230.93 and may include restoration, enhancement, establishment, and in certain circumstances preservation of wetland areas. However, beyond the goals, policies, and IMs in the Draft General Plan, other feasible measures are not available to reduce impacts related to fill, hydrologic disruption, or disturbance of wetlands, which would be considered substantial adverse effects on federally or state protected wetlands under the CWA or the Porter-Cologne Water Quality Control Act associated with buildout of the Draft General Plan. Therefore, the impact is considered *significant and unavoidable*.

*4.4-4(a)* *The following new implementation measure shall be added to the Draft General Plan:*

*IM COS 4K* *For any discretionary permit that will be required for a property that has been identified on any resource map as supporting waters (creeks, rivers, streams, tributaries) and/or wetlands (for example, ponds, marshes, vernal pools), or that constitutes an open space or natural lands conversion, the County will require the land owner/project applicant to contract with a qualified wetlands scientist or biologist to evaluate if the project could result in the fill or hydrologic disruption of waters of the U.S./State (which includes wetlands) onsite or offsite. If a preliminary evaluation determines that a proposed project could adversely affect waters of the U.S./State, then a qualified wetlands scientist or biologist should delineate the extent of*

*regulated waters in accordance with the federal and state policies.*

*In compliance with Section 404 of the Clean Water Act, jurisdictional waters of the U.S. shall be identified and mapped per the applicable regulations established by the Corps.*

*If project development plans include placement of a culvert, pipe, stormwater outfall, or earthen fill or rip-rap into any waters of the U.S./State, the County shall require the property owner/project applicant to apply to the Corps and the RWQCB for the appropriate permits prior to completing any action in the designated regulated waters. Proof of issuance of such permits shall be provided to the County prior to the commencement of such activities requiring permits from the Corps/RWQCB.*

*Similarly, if project plans call for impacting a stream channel (anything with a defined bed, bank or channel), or within the driplines of associated riparian canopy, the County shall require the project applicant to contact the CDFW to determine if the project requires a California Fish and Game Code Section 1602 permit (i.e., a "Streambed Alteration Agreement").*

*Should the County desire to obtain a Routine Maintenance Agreement with the CDFW, Corps, or RWQCB for maintenance of tributary flow capacities, and other modifications to stream channels necessary to prevent localized or regional flooding, the County shall apply for such an agreement from the appropriate state or federal agency listed above.*

*Any mitigation measures required by these resource agencies shall become conditions of project approval enforceable by Calaveras County.*

**4.4-5 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. Based on the analysis below and with the implementation of mitigation, the impact is *less than significant.***

The Draft General Plan focuses further development within existing communities and in adjacent lands. Such development would increase the density of existing communities and would restrict some of the disturbance related to development to areas that have previously

been urbanized. Although the Draft General Plan focuses future development within existing communities, some development will occur outside of urban areas.

Direct impacts to wildlife outside of urban infill and already urbanized areas include incremental fragmentation of the landscape, disturbance from increased noise and human presence/intrusion, predation by their pets, and increased trash which may attract predators and discourage wildlife use of surrounding natural habitat. Construction of new roadways will increase the likelihood of animal-car collisions. Development and/or roadway construction near Ebbetts' Pass Scenic Highway located at the southcentral part of the County, a known deer migration corridor, would greatly increase the likelihood of deer-car collisions. An increase in the population and development of new homes would likely result in the construction of walls and fences which would impede animal movements. Indirect impacts include invasion of natural habitats by non-native species and increased presence of humans and domestic animals over the long-term.

Because of the programmatic nature of the County Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on wildlife movement is not possible at this time. However, the Draft General Plan includes policies and associated programs that are intended to protect the County's biological resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals and policies intended to protect wildlife movement corridors and the use of native wildlife nursery sites.

Goal COS-3 A diversity of native plants, fish, and wildlife species and their habitats.

Policy COS 3.4 Identify and protect corridors important to wildlife movement and dispersal. (IM COS-4C and COS-4E)

In addition to the goals and policies presented above, the Draft General Plan includes the following IM related to the protection of wildlife movement corridors and the use of native wildlife nursery sites.

IM COS-4E Wildlife Corridors/Crossings. Consider California Department of Fish and Wildlife data for the purpose of establishing guidelines for protecting important wildlife movement corridors to be applied in conjunction with environmental reviews for discretionary projects.

Policy COS 3.4, of the Draft General Plan, instructs the County to identify and protect wildlife movement corridors. Identification of wildlife movement corridors would be facilitated by CDFW data, as discussed in IM COS-4E. Without proper identification of wildlife movement corridors, the County would be unable to direct resources to protection of such corridors. Therefore, identifying movement corridors represents a crucial first step to protecting such biological resources. Although the Draft General Plan policies and IMs would begin the process of protecting wildlife movement corridors, buildout of the Draft General Plan could result in the disruption of wildlife movement corridors and the use of native wildlife nursery sites. As a result, the Draft General Plan would have the potential

to result in ***significant*** impacts related to interfering with wildlife movement corridors and the use of native wildlife nursery sites.

Mitigation Measures(s)
Implementation of the following mitigation measures would reduce the above impact related to disruption of wildlife movement corridors and the use of native wildlife nursery sites. Due to the programmatic nature of the Draft General Plan, however, it cannot be stated with certainty that the mitigation measures will reduce impacts to a less than significant level. Because buildout of the Draft General Plan would continue to have the potential to result in impacts to such biological resources, the impact would remain *significant and unavoidable.*

*4.4-5(a)* *The following new policy shall be added to the Draft General Plan's Conservation and Open Space Element:*

*Policy COS 3.9 Encourage development to be compatible with wildlife movement.*

*4.4-5(b)* *The following new implementation measure shall be added to the Draft General Plan's Conservation and Open Space Element:*

*IM COS-4L The County shall work with applicants to encourage preservation or enhancement of upland habitat for wildlife species to the maximum extent feasible on parcels slated for development containing suitable habitat (e.g. areas used for foraging, breeding, dispersal, etc.). Habitat preservation and enhancement shall be encouraged throughout the County in a way that promotes regional connectivity of open space habitats. The County shall work with applicants to encourage development to be compatible with wildlife movement. Mitigation measures may include installing wildlife friendly fencing or lighting to minimize interference with wildlife movement. Creek corridors should be preserved in undeveloped open spaces or under conservation easements as creek corridors provide linear wildlife corridors through the County. Similarly, if open spaces are to be preserved within developed areas, they should have connectivity to/with other dedicated or undevelopable open space lands to the extent possible.*

**4.4-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Based on the analysis below, the impact is *less than significant.***

There are no adopted HCPs, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans within Calaveras County. Therefore, the

Draft General Plan would not conflict with any such plans. Nor would any future development facilitated under the Draft General Plan conflict with any such plans. However, the Draft General Plan does contain the following IM related to HCPs:

IM COS-4C Habitat Conservation Plan for Amphibians. Subject to available funding and in cooperation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, pursue a countywide habitat conservation plan to allow incidental take of California tiger salamander and California red-legged frog habitat. Consider expanding the plan to include special-status species occupying similar habitats. Consider coordinating the effort with neighboring counties to assist in sharing the costs of preparing the plan and to expand mitigation opportunities.

The above IM directs the County to prepare an HCP for special-status amphibian species. Such an HCP would allow for Countywide protection and management of special-status amphibians. Upon adoption of the Amphibian HCP, new developments would be required to prove consistency with the future HCP. However, because an HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan is not currently adopted within the County, the Draft General Plan would not have the potential to conflict with such plans. Therefore, build-out of the Draft General Plan would not conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

# 4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

## 4.5.1 INTRODUCTION

The Cultural Resources chapter of the EIR describes cultural resources, including prehistoric, historic, and paleontological resources, known to be located within Calaveras County. Prehistoric resources are those sites and artifacts associated with indigenous, non-Euro-American populations, generally prior to contact with people of European descent. Historical resources include structures, features, artifacts, and sites that date from Euro-American settlement of the region. Paleontological resources are the remains of life preserved in a geologic context, such as fossils. Fossils may consist of the physical remains of a biological organism (including human remains), such as teeth, bones, shells, leaves, seeds, or wood. The extent to which buildout of the Draft General Plan could potentially remove, damage, or destroy existing cultural resources within the County is evaluated below.

## 4.5.2 EXISTING ENVIRONMENTAL SETTING

The following discussion consists of the Calaveras County's historic, prehistoric, and ethnographic settings, as well as historic resources and historic and prehistoric archaeological resources known to exist within Calaveras County. The information below is derived from records maintained by the Calaveras Heritage Council as well as various other sources.[1]

### Historic Setting

Prior to the turn of the nineteenth century, most European involvement in California had been centered on the Spanish missions that lined the coastal area between San Francisco and San Diego. Travel beyond the coast was typically limited to recovery efforts to retrieve runaway neophytes back to the missions. Gabriel Moraga's campaigns into the Californian interior in 1806 through 1811 were scouting undertakings meant to protect the farms and pueblos that were developing in central California. During his journey, Moraga "discovered" and named many of the rivers in California, including the Mokelumne, Stanislaus, and Calaveras Rivers. Tradition states that Calaveras County derived its name from the river named by Gabriel Moraga in 1808 (Hoover 1966: 41). The name Calaveras, Spanish for "skulls," referenced the skulls and bones encountered by Moraga in the river during his encampment (Lewis Publishing Company 1891). It is also possible, however, that the name references the effect of the malarial epidemic of 1833 that wiped out thousands of Native Americans. (Mace 2002: 63).

For the following half century, non-native involvement in the area was dominated by fur trapping and military interests. After Mexico declared its independence in 1821, more land grants were

[1] Calaveras Heritage Council. *CalaverasHistory.org.* Available at: http://www.calaverashistory.org/. Accessed March 2, 2017.

distributed throughout California, drawing more permanent, non-native settlers into central California, which led to an increased Mexican military presence, such as the expeditions of General Mariano Vallejo against the Native population in 1829. An increased presence of American and European fur trappers throughout California occurred during the same time period. In 1826 Jedediah Strong Smith led a fur trapping company into California from Utah and became the first American to enter the region that would come to be referred to as the Mother Lode (Mace 2002: 2). Barring such expeditions, the presence of white settlers in the area of Calaveras County was relatively limited until the discovery of gold in 1848.

Calaveras County encompasses roughly one quarter of California's Southern mines and is one of the eight counties encompassed by the Mother Lode. In 1848 the area was thoroughly explored by Californians entering the area in search of gold (Wood 1955: 6). Mexicans Don Antonio Coronel and Benito Perez of Los Angeles were some of the earliest prospectors to enter Calaveras County, arriving in the spring of 1848. That summer, miners George and Henry Angel, John and Dan Murphy, and James Carson left Hangtown, now Placerville, and established the camps along streams that now bear their names (Mace 2002: 2). By 1849 the gold country was inundated with thousands of prospective miners and would continue to be so throughout the following decade. The prominence of mining accounted for the names and locations of many of the towns and communities that developed in Calaveras County. Large towns developed with large strikes or supply encampments. Towns were named after prominent miners, locations, events, or geographic features (Marvin 2007).

The Gold Rush drew people from across the globe to Calaveras County: Chile, Ireland, England, China, Australia, and Mexico, to name a few countries. Mokelumne Hill, during its tenure as county seat, had a sizable Chinatown located at its outskirts in Chinagulch. In 1860, the Chinese represented 23 percent of the area's population, as opposed to 16 percent represented in the State as a whole (Mace, 2002: 15). Campo Seco also had a considerable Chinatown during the 1850s (Mace 2002: 51). Chili Gulch derives its name from the sizable number of Chilean workers who occupied the space, and the Mexicans congregated in Campo Seco. Race relations were tense during the Gold Rush, with violent disputes occurring between groups regularly (Mace 2002: 51-53).

In 1850, California attained statehood and Calaveras County was among the 27 original counties established by the government. Calaveras was originally proposed to be a huge county, stretching from the coastal mountains outside of the San Francisco Bay to the Nevada border (Mace 2002: 5). Its final size was considerably smaller, but still included portions of present day Amador, Alpine, and Mono Counties. Pleasant Valley, a small mining camp near present day Jenny Lind, was designated by legislature as the first county seat in January 1850. Almost immediately, the county seat was moved to Double Springs in April 1850. The county seat was controversially moved to Jackson in 1851 when locals appropriated government records through subterfuge. Less than a year later, the State legislature moved the county seat to Mokelumne Hill. In 1854 the citizens of Jackson seceded, forming Amador County from the area north of the Mokelumne River. Finally, in 1866 the county seat was moved for the last time to its current location of San Andreas (Hoover 1966: 41).

During its more than 150 years of existence, the economy of Calaveras County has been driven by three major industries: mining, lumber, and agriculture. Pan (or placer) mining dominated the efforts of miners during the first few years of the Gold Rush. Within a decade, numerous new methods to increase efficiency in mining were introduced, changing the most prevalent demographic of the mining community from the individual miners to mining companies. By 1853 hydraulic mining, using high powered hoses to wash away mountains in search of gold, came into play in the gold fields. Chili Gulch, north of San Andreas, is the most obvious example of hydraulic mining in Calaveras County. Drift mining, digging a tunnel to reach the gold pocket itself, was introduced in Calaveras County in 1855. Quartz mining was introduced in the 1860s and developed with the advent of deep rock mining in the late 1880s. Drift tunnels and deep rock quartz mines represented more than half of the gold recovered in Calaveras County (Mace 2002: 74-75).

Minerals other than gold also had their place in the history of mining in Calaveras County. Campo Seco was a center for copper mining for over a century. Copper production in that area began in 1859 but was hit hard by the copper market glut of the late 1860s. The Penn Mining Company was established in the 1880s and continued on and off, supporting the community until the closing of the Penn Mine in 1959 (Mace, 2002: 51-53). Copperopolis has its roots in the Civil War era, when the community shipped more than $1,600,000 worth of copper east via Stockton (Lewis Publishing Company 1891). As a result of the boom caused by military demand, copper production briefly vitalized an area that had been left out of the Gold Rush (Mace 2002: 76). The Copperopolis Armory, constructed in 1864 for the Union Guard, was used by military men for training and storage. With the end of the war, demand for copper dropped and the prices plummeted. Interest in cheaper shipment of copper to Stockton instigated the construction of the Stockton-Copperopolis Railroad in the early 1870s. Milton was established a mile off the eastern terminus of the railroad and acted as a transportation center and the railhead into the County. In 1885 the Southern Pacific absorbed the Stockton-Copperopolis Railroad and it, along with two other short railroads in the County, supported local transportation until automobiles attained dominance in the 1930s (Mace, 2002:81-83).

Following the Gold Rush, settlers of Calaveras County turned to various other avenues of economic development. Agriculture flourished in many sections during the late nineteenth century, particularly in the western parts, around towns such as Milton. The 1880 Census shows 467 farms assessed at 10 times the value of the 1850 Census (Lewis Publishing Company 1891). Early agricultural efforts focused predominantly on fruit, grains, and mixed-use subsistence farming. Locals turned to ranching when farming failed to produce the desired economic revival for the region (Marvin 2007). Through the 1960s, agricultural activity focused predominantly on livestock, but also included crops such as hay, fruit, and nuts (Clark 1962; Lewis Publishing Company 1891). During the latter half of the twentieth century, commercial crops such as wine grapes and olives began to gain prominence along with the traditional livestock and timber interests.

Lumber has a long-standing history in Calaveras County reaching back prior to the Gold Rush. Communities in the eastern portion of the County, such as Arnold, Avery, and White Pines, have been involved in the logging industry since the 1850s. Sawmills were constructed to provide timber for the booming mining industry, and the demand for additional sawmills increased with the advent of drift mining in the late nineteenth century. Using first animal, then steam, and finally electric

power to run saw mills, the region supplied timber to consumers throughout the region, including Sacramento and Nevada. Mining interests provided the main source of demand until World War I. World War II led to increased demand, and the lumber industry in Calaveras County expanded in response (Sierra Nevada Logging Museum 2007a). The community of White Pines developed in the 1940s in response to the needs of the workers of the Blagen Mill. During the 1950s and 1960s, the timber industry focused on the areas surrounding West Point and Wilseyville. Due to the closure of various mills, such as Blagen Mill in 1963, Calaveras County's percentage of the State's production diminished in the 1960s, and recreational interests began to develop in the area.

The golden years of gold mining in Calaveras County were between the mid-1880s and the 1910s. During the 1910s, many of the big mines were finally exhausted or forced to shut down due to the labor shortages of World War I (Limbaugh 2004: 205). The needs of the war effort impacted what was mined, with gold mining being set aside in favor of necessary base metals like copper. While pre-war production experienced a brief revival following the end of the war, the predominance of Calaveras County's gold mining era had ended. The Calaveras Cement Company was established in San Andreas in 1924, with the company plant opening in 1926. The company thrived during World War II, expanding through the late 1950s (Limbaugh 2004: 290). Calaveras Cement was involved in various major projects throughout the western United States, such as the Pardee Dam and the construction of the San Francisco-Oakland Bay Bridge. The plant, located approximately 1.5 miles south of San Andreas, remained open until 1982 and was demolished in 2004.

**Prehistoric Setting**

California archaeology has been described as a series of patterns. Fredrickson (1973) defines pattern as an essentially non-temporal, integrative cultural unit–the general life way shared by people within a given geographic region. Until quite recently, archaeological researchers developed culture-histories for the Sierra foothill region based on the more studied areas of the western Great Basin and California Central Valley. A recent study for the East Sonora Bypass Project (Rosenthal 2006), however, has developed an entirely new chronology focusing on a synthesis of local data from more than 100 excavated sites in the watersheds of the Mokelumne, Calaveras, Stanislaus, and Tuolumne rivers. Based on spatial and stratigraphic analyses of more than 200 radiocarbon dates, more than 4,000 source-specific obsidian hydration readings, slightly more than 875 projectile points, and close to 600 shell beads, five major time periods are defined: Early Archaic, Middle Archaic, Late Archaic, Recent Prehistoric I, and Recent Prehistoric II.

<u>Early Archaic (11,500-7000 BP)</u>

Early Archaic deposits are relatively rare in the Sierra Nevada foothills, identified locally at two sites, both discovered in buried stratigraphic contexts. They include abundant Wide-Stem and Large Stemmed Dart points, hundreds of handstones and millingstones, as well as a variety of cobble-core tools, large percussion-flaked "greenstone" bifaces, and comparatively high frequencies of obsidian from the Bodie Hills source.

Middle Archaic (7,000 – 3,000 BP)

Middle Archaic sites, also often buried, are primarily distinguished by Corner-notched Dart points, an occasional mortar and pestle, and the earliest house structures in association with large subterranean storage pits. Soapstone "frying pans" and other vessels first appear in the local record during the Middle Archaic, along with various stone pendants, incised slate, and stone beads. The presence of atlatl weights and spurs in such deposits confirms that the dart and atlatl were the primary hunting implements.

Late Archaic (3,000-1,100 BP)

Late Archaic sites are among the most common on the western slope, again with many occurring in buried stratigraphic contexts. Late Archaic lifeways, technologies, and subsistence patterns were relatively similar to those of the previous time period, with the primary difference being an increase in the use of obsidian between about 3000 and 1100 BP. Chert, only available in the foothills of the western Sierra below about 3,000 feet, is common at Archaic sites in the lower Montane Forest up to about 6,000 feet. However, flaked stone assemblages on the western slope found above 6,000 feet are composed almost entirely of obsidian, suggesting that groups who utilized upper elevations of the western Sierra arrived from the east side where obsidian was the primary toolstone.

Recent Prehistoric I (1,100-610 BP)

The beginning of the Prehistoric Period coincides with a region-wide interval of reduced precipitation known as the Medieval Climatic Anomaly. Among the most important changes in the archaeological record of the western slope at the time was the introduction of the bow and arrow (about 1100 cal BP), an innovation apparently borrowed from neighboring groups to the north or east. The shift in technology is clearly reflected by the dominance of small stemmed and corner-notched arrow points in Recent Prehistoric I sites.

Recent Prehistoric II (610-100 BP)

The common occurrence of bedrock mortars at Recent Prehistoric II sites suggests that they became an important milling technology by 610 cal BP. Bedrock milling fixtures are established across the landscape, near well-developed residential middens and as isolated features. There also appears to have been greater settlement differentiation during the Recent Prehistoric II Period, with clear residential sites, often including house-depressions and other structural remains, but also special-use localities consisting simply of bedrock milling features. Many more specialized technologies are associated with the Recent Prehistoric II Period than were evident during the Archaic, including stone drills and the common occurrence of bone awls, suggesting that basketry and other composite implements may have taken on a new importance. The Desert Side-notched arrow point is first introduced on the western slope at about 610 cal BP, clearly adopted from Great Basin people to the east. Circular stone shaft-straighteners are also common in such sites, consistent with the use of the bow and arrow. Imported shell beads from coastal California first appear in appreciable amounts in Recent Prehistoric II village sites, as do other rare items such as shell ornaments and bone whistles.

**Ethnographic Setting**

The ethnographically known people (the Native American people occupying the Planning Area at the time of contact with non-Native American peoples such as explorers and settlers) are called Mi-Wuk (also spelled Miwok or Me-Wuk). The Mi-Wuk traditionally occupied a large portion of the central Sierra Nevada range, the adjacent foothills, and a portion of the adjacent Sacramento-San Joaquin River valley (Barrett and Gifford 1933; Kroeber 1925). Anthropologists and linguists are not certain when the Mi-Wuk arrived in central California, or from where; the native people themselves believe that they were created on this land and have always been here. Heizer and Elsasser (1980:37) list the Mi-Wuk as one of the "five Penutian nations;" that is, they all traditionally spoke languages of the Pen-Utian stock as first defined by Dixon and Kroeber (1913, 1919). Linguistic studies suggest that the ancestral Mi-Wuk occupied the Sacramento-San Joaquin Delta area about 2,500 years ago, but did not arrive in the Sierra foothills and mountains until approximately 800 years ago.

The Mi-Wuk was a well-established society of hunters, fishermen, and plant-food gatherers whose territory stretched from the edge of the San Joaquin Valley to the high elevations of the Sierra Nevada. This wide topographic and vegetative range provided the native people with all manner of foods: antelope, elk, rabbit, salmon, waterfowl, and valley-oak acorns in the lowest zone; deer, rabbit, salmon, valley quail, gray pine nuts, and blue- and live-oak acorns in the foothills; and, at higher elevations, deer, squirrel, trout, mountain quail, pigeons, sugar-pine nuts, and black-oak acorns (Heizer and Elsasser 1980:10). Acorns were particularly important and, according to Heizer and Elsasser, "the [ethnographic-period] Sierra Mi-Wuk carefully preserved the oak trees from which they annually gathered their staple food" (1980:23).

In Calaveras County, the old Mi-Wuk villages that are known to anthropologists were clustered along the Mokelumne, Calaveras, and Stanislaus River drainages. Traditional Mi-Wuk houses reportedly were made of thatching, tule matting, or slabs of bark over a conical framework of poles (Levy 1978:408). Other important structure types were the sweat lodge and the dance house, both of which are still in use today. Sweathouses are used mainly by men for health and purification, while the semi-subterranean dance houses were used as an assembly hall and for important ceremonies. Remains of some of the large structures have been found at archaeological sites in the central Sierra foothills.

The archaeological record also contains remnants of a rich material culture, including: flaked stone hunting and butchering tools; plant-processing implements; cooking, eating, and storage vessels (including beautifully made stone bowls); and beads and ornaments made of shell, animal bone, and stone. A great many other items made of basketry, cordage, or wood have not survived. Like other northern and central California groups, the Mi-Wuk made (and still make) excellent baskets, but as far as is known they did not traditionally make or use pottery. Small lumps and objects of baked clay have been found at several sites in the valley and lower foothills (e.g., Johnson 1990), but no pots or dishes. The foothill groups did make vessels from soapstone, and many such vessels also have been found in archaeological deposits.

**Existing Historic Resources**

Many historic properties in the County have been identified through historic building surveys and previous cultural resource studies. Table 4.5-1 shows information on select cultural resources located in Calaveras County. A complete list of properties either listed on or found eligible for listing in the National Register of Historic Places (NRHP) is presented in Appendix E of this Draft EIR. Appendix E contains properties listed under either the NRHP or California Register, as Calaveras County does not currently have a County register of historical properties. The appendix also includes information on properties that have not yet been evaluated for significance.

**Table 4.5-1**
**Select Historic Properties within Calaveras County**

| Site/Building | Location | Year Constructed | Historic Landmark Designation | Description |
|---|---|---|---|---|
| Dorrington Hotel and Restaurant | 3431 SR 4, Dorrington | 1852 | SPHI | The Dorrington Hotel is listed by the Office of Historic Preservation as dating to 1852. The property was purchased by John and Rebecca Gardner in 1868. The Dorrington Hotel was originally the stage coach stop on what was called The Big Tree-Carson Valley toll road. |
| Sperry-Perry; Mitchler; Murphys Hotel | 457 Main Street, Murphys | 1856 | NR; SHL 267 | One of the oldest operating hotels in California, James L. Sperry and John Perry opened the Sperry and Perry Hotel August 20, 1856 to accommodate travelers on their way to view the Giant Sequoia Redwoods. |
| Europa, De France, Leger Hotel | Main Street, Mokelumne Hill | 1854 | SHL 663 | A portion of this building served as the Calaveras County courthouse from 1852 to 1866, when the county seat was removed to San Andreas. George W. Leger then acquired the court building and made the building a part of his adjoining hotel, which has been operated since early gold mining days |
| Avery Hotel-Halfway House | Moran Road, Avery | 1853 | SPHI | Built in 1853, the Avery Hotel is the oldest continually operating hotel in Calaveras. The original four-room Avery home was expanded and converted into a hotel in 1886. The building was known as the "Half Way House" because of its location between the gold fields of Murphys and the giant Sequoia groves now known as Calaveras Big Trees State Park. |

*Sources: Directory of Properties in the Historic Property Data File for Calaveras County; Office of Historic Preservation.*

NRHP

According to the California Environmental Resources Evaluation System (CERES), the following Calaveras County location is listed on the National Park Service NRHP:

- Angels Hotel, Main Street and Bird Way, City of Angels Camp (NPS-72000220) -The canvas hotel that C. C. Lake erected here in 1851 was replaced by a one-story wooden structure, and then in 1855 by one of stone - a second story was added in 1857. It was here that Samuel Clemens first heard the yarn that was later to bring him fame as Mark Twain, author of The Jumping Frog of Calaveras County.

California Historical Landmarks

According to the California State Parks Office of Historic Information, the following are sites that have been determined to be California Historical Landmarks (CHLs), which are buildings, structures, sites, or places that have been determined to have statewide historical significance by meeting at least one of the criteria listed below:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

*Big Bar:* Big Bar is located on SR 49, four miles south of Jackson. The Mokelumne River was mined at this point in 1848. Established in 1840, the Whale Boat Ferry operated until the first bridge was built in approximately 1852.

*Valley Springs:* Valley Springs is located at the intersection of SRs 12 and 26. In 1885, the San Joaquin and Sierra Nevada Railroad Company completed a narrow-gauge railroad from Brack's Landing to Valley Springs. The line eventually became the property of Southern Pacific Company, and a standard-gauge line into Valley Springs was substituted.

*San Andreas:* San Andreas is located at the northwest corner of SR 49 and Main Street. Settled by Mexicans in 1848 and named after the Catholic parish St. Andres, San Andreas has been a noted mining camp since early days. Gold from the surrounding ancient river channels and placer mines contributed greatly to the success of the Union during the Civil War. The first newspaper was published here on September 24, 1846. Destroyed by fire June 4, 1858, and in 1863, San Andreas became the seat of Calaveras County in 1866. San Andreas was said to be a rendezvous for Joaquin Murieta - notorious stage robber Black Bart was tried here and sent to prison.

*Sandy Gulch:* Sandy Gulch is located on SR 26, approximately two miles west of West Point. This monument was erected to the memory of pioneers of Sandy Gulch, 1849 trading center for miners of northeastern Calaveras County. The settlement, in an area that was home to many Mi-Wuk

Indians, was named after the gulch where William and Dan Carsner found large nuggets of gold embedded in the coarse sands. Water for mining was brought from the middle fork of the Mokelumne River through Sandy Gulch and Kadish Ditches – quartz mining began in the early 1850s, and the first custom stamp mill in the district was located at the head of Sandy Gulch. School and election precincts were established early, and one of California's many Hangman's Trees stood near the center of town.

*Camanche:* Once called Limerick, the town became Camanche (after Camanche, Iowa) in 1849. Rich mining at nearby Cat Camp, Poverty Bar, and Sand Hill brought its population to a peak of 1,500. Mokelumne River water was brought in by Lancha Plana and Poverty Bar Ditch. A fire on June 21, 1873 destroyed Camanche's large Chinatown. Buhach, an insect powder made from a plant, was manufactured on the nearby Hill Ranch. Camanche is now inundated by Camanche Reservoir.

*Calaveritas:* Calaveritas, located 4.5 miles southeast of San Andreas, was a flourishing mining town complete with stores, saloons, gambling houses, and fandango halls, the latter two said to be frequented by Joaquin Murieta. The town was destroyed by fire in 1858.

*I.O.O.F. Hall, Mokelumne Hill:* The I.O.O.F. Hall is located at the northeast corner of Main and Center Streets in Mokelumne. This is said to be California's first three-story building to be constructed outside the coastal towns. The original building was constructed in 1854 as a two-story building – a third story to be used for lodge purposes was added later.

*Campo Seco:* Campo Seco was settled in 1849 by Mexicans who worked placers in Oregon Gulch. The largest living cork oak tree in California was planted here in 1858. The iron doors of the ruined Adams Express Building were still standing in 1950.

*Fourth Crossing:* Fourth Crossing is located on the Stockton-Murphys Road at a crossing of the Calaveras River. Fourth Crossing was an early mining settlement, once called Foremans, that was famous in the 1850s for its rich placer ores. Later, as an important stage and freighting depot, the settlement served the southern mines until after the turn of the century.

*Congregational Church:* The Congregational Church is located at the northeast corner of Main and Church Streets in Mokelumne Hill. The church building, erected in 1856, is the oldest Congregational Church building in the state.

*Milton:* Completion of the Southern Pacific Railroad in 1871 marked the birth of the town of Milton. Named after Milton Latham, one of the railroad construction engineers, this town was the first in Calaveras County to have a railroad. Freight and passengers continued their journeys to other parts of Calaveras County by wagon and stagecoach.

*Stone Corral:* Stone Corral is located on SR 26, 9.5 miles southwest of Valley Springs. Stone Corral consisted of a hotel, barns, and the large corrals for which the location was named, and was one of the stopping places on the road from the mines to Stockton.

*Double Springs:* Founded February 18, 1850, Double Springs was once the seat of Calaveras County. The old courthouse, said to be constructed of lumber brought from China, is still standing, but not on its original site.

*Chili Gulch:* Chili Gulch, which is located on SR 49, 1.4 miles south of Mokelumne Hill, was the richest placer mining section in Calaveras County. The gulch received its name from Chileans who worked the gulch in 1848 and 1849, and was the scene of the so-called Chilean War. The largest known quartz crystals were recovered from a mine on the south side of the gulch.

*Jenny Lind:* Jenny Lind, located on the north bank of the Calaveras River, was a placer mining town as early as 1849. Most of the placer mining was done along the hillsides above the river - later the river was mined with dredgers.

*Mitchler Hotel:* The Mitchler Hotel is located at 457 Main Street in Murphys. The hotel is one of the oldest hotels still operating in California. First called the Sperry and Perry Hotel, the hotel was opened by James L. Sperry and John Perry on August 20, 1856. Henry Atwood was its proprietor in 1881; later, ownership passed to Harvey Blood. Renamed the Mitchler Hotel in 1882, and the Murphys Hotel in 1945 by the McKimins family, the hotel was bought by a College of the Pacific group in 1963.

*West Point:* West Point, which is located at the intersection of SR 26 and Main Street, was named by scout Kit Carson, who was searching for a pass over the Sierra. One emigrant road forked by Big Meadows – its north branch came directly to West Point, which was a thriving trading post prior to the gold discovery.

*Mokelumne Hill:* Mokelumne is an Indian word, first applied to the nearby river. Earliest settlement was at Happy Valley by French trappers. Gold was discovered by discharged members of Stevenson's Regiment in 1848. Mokelumne Hill was the center of the richest placer mining section of Calaveras County and one of the principal mining towns of California. Corral Flat produced over thirty millions in gold. Sixteen feet square constituted a claim. The so-called “French War” for possession of gold mines occurred in 1851. The town was destroyed by fires in 1854, 1864, and 1874. Mokelumne Hill was the county seat of Calaveras County from 1853 to 1866.

*Pioneer Cemetery:* Pioneer Cemetery, which is located on SR 12, 1.8 miles west of San Andreas, was said to have been established in 1851. Most of the graves are unmarked – stones appeared over only three of them in 1936. This cemetery is located almost opposite where the town of North Branch originally stood, before the site was mined for gold.

*Douglas Flat:* Douglas Flat, located on SR 4, was a roaring mining camp of the early 1850s. In 1857 the Harper and Lone Star Claims produced $130,000 worth of gold. The so-called Central Hill Channel, an ancient river deposit from which vast quantities of gold have been taken, is located here.

*Vallecito:* Vallecito, which is located on SR 4, was a mining camp of the early 1850s that was almost totally destroyed by fire on August 28, 1859. Nearby is Moaning Cave, which the Indians used as a burial ground.

*Carson Hill:* Gold was discovered in the creek just below Carson Hill in 1848 by James H. Carson, whose name was given to the creek, hill, and town. In November 1854, the largest gold nugget in California, weighing 195 pounds troy, was found. The nugget was worth $43,000 at that time. Carson Hill is located on SR 4, approximately four miles south of Angels Camp.

*Murphys:* One of the principal mining communities in Calaveras County, Murphys was named for the discoverer of gold on the flat in 1849. A suspension flume conveying water across Murphys Creek and drainage race draining the flat were two outstanding accomplishments of early day miners. The business portion of town was destroyed by fire August 20, 1859.

*Robinson's Ferry:* In 1848, John W. Robinson and Stephen Mead established ferry transport for freight, animals and persons across the river. In 1856, Harvey Wood purchased interest and later acquired property which was maintained by Wood Family until 1911. Robinson's Ferry is located on SR 49, approximately five miles south of Angels Camp.

*Glencoe:* Glencoe, which is located on SR 26, was formerly called Mosquito Gulch. The business portion of the town was on the north side of Mosquito Gulch, but not one of the old buildings remains. The mines were first worked in the early 1850s – quartz mining predominated but there was some placer mining.

*O'Byrne Ferry:* O'Byrne Ferry was located on O'Byrnes Ferry Road approximately 7.1 miles southeast of Copperopolis. In 1852, a chain cable bridge replaced the ferries that once crossed here, to be supplanted in its turn by a covered truss structure in 1862. Some writers claimed this was the locale of Bret Harte's Poker Flat. In late 1849, a large camp was located here, with miners washing gold out on both banks of the Stanislaus River.

*El Dorado:* Patented as a townsite in 1872, El Dorado derived its name from a sawmill located here. Mountain Ranch, the post office established in 1856, was moved to El Dorado in 1868, so El Dorado became known as Mountain Ranch. The bell was used in the local school from 1885 to 1953. Established as Cave City School District in 1855, this school joined with the Banner District in 1946 to become the El Dorado Union Elementary School District.

*Jesus Maria:* Jesus Maria, which is located on County Road 27 approximately five miles southeast of Mokelumne Hill, was the center of a large placer mining section and was named for a Mexican who raised vegetables and melons for the miners. Jesus Maria was settled in the early 1850s with a large population of Mexicans, French, Chileans, and Italians.

*Rail Road Flat:* Rail Road Flat was named after primitive mule-drawn ore cars used here. Rail Road Flat was the site of an Indian council as well as the center of rich placer and quartz mining. Its largest producer was the Petticoat Mine. The post office was established in 1857, and the Edwin Taylor store built in 1867. The town's population was decimated in 1880 by black fever.

*Angels Camp:* Angels Camp was founded in 1849 by George Angel, who established a mining camp and trading store. Angels Camp was in a rich gravel mining area that was also one of the richest quartz mining sections of the Mother Lode – production records reached over $100 million for Angels Camp and its vicinity. Prominent in early-day California history, Angels Camp was said to be frequented by Joaquin Murieta, Black Bart, and other early-day bandits, and was the locale of Mark Twain's famous story, The Jumping Frog of Calaveras County.

*Altaville:* The history of Altaville is closely identified with that of Angels Camp. Altaville has been the foundry town of Calaveras County since D. D. Demerest established a foundry there in 1854. Most of the stamp mills and a large part of the mining machinery erected in Calaveras and Tuolumne Counties were built at the Altaville Foundry. A brick schoolhouse was built at Altaville in 1858 and the townsite was established in 1873.

*Paloma:* Gwin Mine, Paloma, and Lower Rich Gulch (located approximately five miles southwest of Mokelumne Hill) were mined for placer gold in 1849, and quartz was discovered by J. Alexander in 1851. Property here was acquired by Wm. M. Gwin, California's first U.S. Senator, in 1851. After yielding millions of dollars in gold, the Gwin Mine closed in 1908.

*Copperopolis:* W. K. Reed and Thomas McCarty discovered copper in Copperopolis in 1860. The mines were utilized during the Civil War, when they were the principal copper producing section of the United States, and World Wars I and II.

*Vallecito Bell Monument:* Named “Little Valley” by Mexicans, Vallecito was one of California's important early-day mining towns. Gold was discovered in Vallecito by the Murphy brothers in 1849, and the town was originally called “Murphy's old diggings.” The Vallecito Bell, which is located at the intersection of Church Street and Cemetery Lane, was cast at Troy, New York in 1853. The bell was purchased from the ship with funds contributed by early-day residents and brought to Vallecito to be erected in a large oak tree in 1854.

*Old Mining Camp of Brownsville:* A thriving mining camp on rich Pennsylvania Gulch in the 1850s and 1860s, the Old Mining Camp of Brownsville was named for Alfred Brown, former owner of Table Mountain Ranch. Laws of the Brownsville mining district provided that each miner could own one wet and one dry claim, not to exceed 150 square feet each.

*Peter L. Traver Building:* Constructed by Peter L. Traver in 1856, this is the oldest stone building in Murphys. The building’s iron shutters and sand on the roof protected it from the fires of 1859, 1874, and 1893. The Peter L. Traver Building served as a general store, a Wells Fargo office, and, later, a garage.

*Red Brick Grammar School:* The Red Brick Grammar School is located at 125 N. Main Street in Altaville. This brick building, constructed in 1848 with funds raised by a dance in the Billiard Saloon of the N.R. Prince Building, is one of the oldest schools of California. The school was in use until 1950, when it was replaced by the Mark Twain Elementary School in Altaville.

*Courthouse of Calaveras County and Leger Hotel:* A portion of this building served as the Calaveras County Courthouse from 1852 to 1866, when the county seat was moved to San

Andreas. George W. Leger then acquired the court building and made it a part of his adjoining hotel, which has been in operation since early gold mining days – the building was known as the Grand Hotel in 1874 when fire damaged it and destroyed its dance hall. Restored in 1879, the building has since been known as the Leger Hotel.

*Angels Hotel:* Angels Hotel is located at the northeast corner of Main Street and Bird Way in Angels Camp. The canvas hotel that C. C. Lake erected here in 1851 was replaced by a one-story wooden structure, and then in 1855 by one of stone – a second story was added in 1857. It was here that Samuel Clemens first heard the yarn that was later to bring him fame as Mark Twain, author of The Jumping Frog of Calaveras County. Angels Hotel is listed on the NRHP (NPS-72000220).

*Prince-Garibardi Building:* The Prince-Garibardi Building is located at 298 S. Main Street in Altaville. The structure was constructed in 1852 by B. R. Prince and G. Garibardi for a general merchandise business. Improved in 1857 with living quarters on the second floor, the building is still used for living and warehouse purposes.

*Birthplace of Archie Stevenot:* The Birthplace of Archie Stevenot is located on SR 4 approximately four miles south of Angels Camp. The Stevenot family established the borax industry in California – Archie Stevenot was proclaimed "Mr. Mother Lode" by resolution of the 1961 session of the State Legislature. He, his father, and his grandfather lent fame to the Carson Hill region of California.

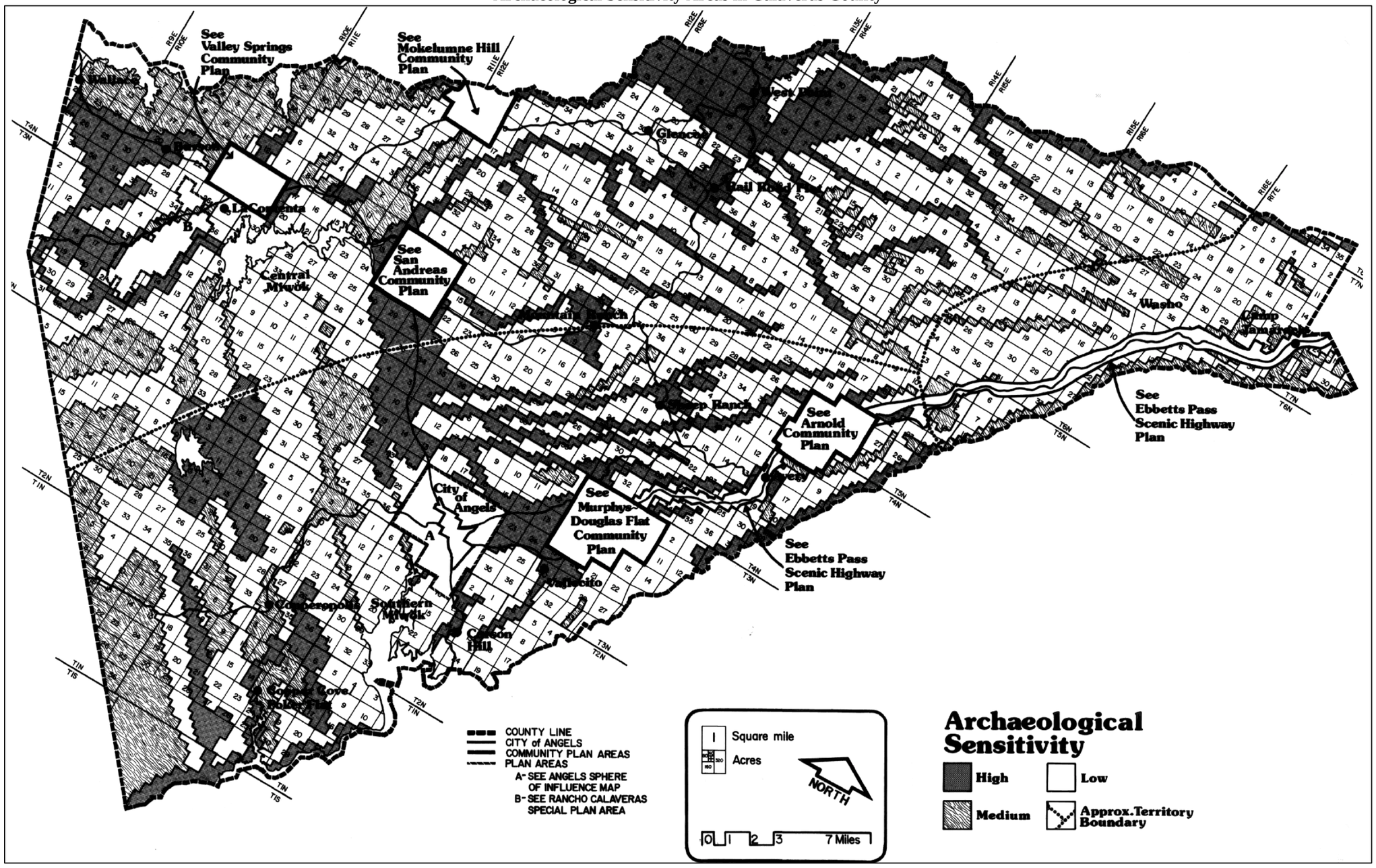
*California Caverns at Cave City:* The historical significance of California Caverns is well established as a major cavern system and as one of the earliest officially recorded caves (1850) in the Mother Lode region of California. The early commercial enterprise associated with California Caverns is evidenced by the historical documents verifying organized tourist activities as early as 1854. Although one of numerous caves in the Mother Lode region, California Caverns claims the distinction of having the most extensive system of caverns and passageways. The California Caverns at Cave City are located on Cave City Road, approximately four miles from Mountain Ranch Road, 11 miles east of SR 49 in San Andreas.

**Existing Prehistoric and Historic Archaeological Resources**

The 1996 Calaveras General Plan contains a map defining the archaeological sensitivity of various areas throughout the County (see Figure 4.5-1 below). The map is intended to serve as a guide in determining which future development projects have the potential to impact cultural resources. The three sensitivity levels described in the map are based on the probability of finding significant archaeological sites, and are defined in the 1996 General Plan as the following:

- High Sensitivity Zones are the courses of streams and major tributaries. Such areas probably contain many sites, including large villages with evidence of long-term occupation.
- Moderate Sensitivity Zones are tributary streams, springs and small valleys. Such areas were probably used intermittently, making the discovery of major population centers unlikely.

**Figure 4.5-1**
**Archaeological Sensitivity Areas in Calaveras County**



- Low Sensitivity Zones cover the remaining areas of the County. Although some sites probably exist in such areas, the discovery of significant sites is unlikely.

Prehistoric Archaeological Resources

Based on previous survey work and site investigations within the County, prehistoric site types that may be encountered throughout unsurveyed portions of the County could include the following:

- Surface scatters of lithic artifacts associated with or without associated midden accumulations, resulting from short-term occupation, and/or specialized economic activities, or long-term occupation.
- Bedrock milling stations, including mortar holes and metate slicks, in areas where suitable bedrock outcrops are present;
- Petroglyphs and/or pictographs;
- Isolated finds of cultural origin, such as lithic flakes and projectile points;
- Deeply buried sites dating to Archaic periods;
- Ceremonial sites and site of cultural significance; and/or
- Traditional resource gathering sites.

The New Melones Dam and Reservoir is the site of a particularly significant prehistoric site. During the course of the environmental work conducted in association with construction of the New Melones Dam and Reservoir, archaeologists identified prehistoric occupation in the region dating back 10,000 years. The New Melones archaeological record includes evidence from the entire Holocene epoch, as well as approximately 700 archaeological sites within the County. The site contains information on diverse, prehistoric Native groups, as well as the Gold Rush and ranching eras of the nineteenth century.

Historic Archaeological Resources

Based on previous survey work and site investigations within the County, historic archaeological site types that may be encountered throughout unsurveyed portions of the County could include the following:

- Historic artifact features and buried deposits of historic debris and artifacts;
- Building foundations and associated deposits (homes, businesses, barns, mines, mills, etc.);
- Mining remains (shafts, adits, waste rock, tailings);
- Water related (ditches, dams, reservoirs, penstocks);
- Transportation (roads, trails, railways); and/or
- Ranching and Agriculture (terracing, fences, corrals, water troughs).

## 4.5.3 REGULATORY CONTEXT

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The

National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA) are the basic federal and state laws governing preservation of historic and archaeological resources of national, regional, State, and local significance.

**Federal Regulations**

The following are the federal environmental laws and policies relevant to the CEQA review process.

Section 106 for the National Historical Preservation Act (NHPA) of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the NHPA of 1966. Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining National Register eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal funding.

**State Regulations**

The following are the State environmental laws and policies relevant to the CEQA review process for cultural resources.

CEQA

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code Sections 21083.2 and 21084.1 and Sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that 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:

1) The resource is associated with events that have made a significant contribution to the broad patterns of California history;
2) The resource is associated with the lives of important persons from our past;

3) The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR).[2] The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.[3]

California Historic Register

The State Historic Preservation Office (SHPO) also maintains the California State Register of Historic Resources (CRHR). Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Senate Bill 297

Senate Bill (SB) 297 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction; and establishes the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. SB 297 has been incorporated into Section 15064.5(e) of the CEQA Guidelines.

Senate Bill 18

Senate Bill (SB) 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

[2] State of California, Governor's Office of Planning and Research. *CEQA and Archaeological Resources*. 1994.
[3] California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94, *et seq.*

Assembly Bill 52

Assembly Bill (AB) 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined under Public Resources Code section 21074 as either:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).
    (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

**Local Regulations**

The following are the local government environmental goals and policies relevant to the CEQA review process.

Calaveras County Code of Ordinances

Chapter 15, Section 15.06.062 of the Calaveras County Code of Ordinances allows for the issuance of variances for the repair or rehabilitation of historic structures, under the condition that the proposed repair or rehabilitation would not result in adverse effects to the historic status of the structure.

## 4.5.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to aesthetic resources.

**Standards of Significance**

The standards of significance for a project's impact on cultural resources include standards related to historical, archaeological, and tribal resources.

Historical Resources

Section 15065 of the *CEQA Guidelines* mandates a finding of significance if a project would eliminate important examples of major periods of California history or pre-history.

In addition, pursuant to Section 15064.5 of the *CEQA Guidelines*, a historical resource (including both built environment and prehistoric archaeological resources) shall be considered by the lead agency to be historically significant if the project site is listed in the CRHR or has been determined to be eligible for listing by the State Historical Resources Commission. A historical resource may also be considered significant if the lead agency determines, based on substantial evidence, that the resource meets the criteria for inclusion in the CRHR. Any resource that is listed on or considered eligible for inclusion on the NRHP is automatically considered eligible for the CRHR.

Under the NHPA, the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, handiwork, feeling and association and:

- That are associated with events that have made a significant contribution to the broad patterns of our history;
- That are associated with the lives of persons significant in our past;
- That embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- That have yielded or may be likely to yield, information important in prehistory or history.

The NRHP requires consideration of significance of any structure over 45 years old.

Archaeological Resources

Buildout of the Draft General Plan would result in a significant impact to archaeological resources if ground disturbance activities cause a substantial adverse change in the historic significance of an archaeological resource or disturb any human remains. Pursuant to Section 15064.5 of the *CEQA Guidelines,* archaeological resources not otherwise determined to be historical resources may be significant if they are unique. Pursuant to Public Resources Code (PRC) Section 21083.2, a unique archaeological resource is defined as an archaeological artifact, object, or site about which

it can be clearly demonstrated that, without merely adding to the current body of knowledge, a high probability exists that it meets one of the following criteria:

- Contains information needed to answer important scientific questions and a demonstrable public interest exists in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

According to Section 15064.5 of the *CEQA Guidelines*, all human remains are significant.

A non-unique archaeological resource means an archaeological artifact, object, or site that does not meet the above criteria. Further consideration of non-unique archaeological resources is not required under CEQA, unless the resource is a tribal cultural resource. (See Pub. Resources Code, § 21074, subd. [c].)

Tribal Resources

Public Resources Code section 21074 defines a tribal cultural resource as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe. Buildout of the Draft General Plan would result in a potentially significant impact if development would cause a substantial adverse change in in the significance of tribal cultural resource that is either of the following:

- Listed or eligible for listing in the California Register of Historical Resources, or in a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution; or
- A resource determined by the County, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

**Method of Analysis**

Potential impacts to cultural resources associated with implementation of the Draft General Plan are addressed below. The following analysis relies on information from relevant federal, State, and local agencies, as well as various other sources. In particular, current information from the Calaveras Heritage Council, the NAHC, and the Draft General Plan was analyzed. Such information was considered in the context of the goals, policies and implementation measures (IMs) contained in the Draft General Plan. Based on the existing conditions in the County and the standards of significance presented above, the Cultural Resources chapter identifies any impacts that could occur as a result of buildout of the Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts related to cultural resources is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.5-1 Cause a substantial adverse change in the significance of a historical resource. Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable*.**

Calaveras County contains a variety of historical resources, including resources that are recognized at the federal, State, and local level, as described above. Buildout of the Draft General Plan could potentially result in development in areas containing historical resources, including, but not limited to, historic properties identified by the NRHP, features identified by the California State Parks Office of Historic Information as NHLs, and locally-recognized historical resources.

Buildout of the Draft General Plan could potentially result in new development occurring adjacent to existing historic structures. For example, the Dorrington Hotel, located along SR 4, is situated in a rural area and is bordered to the west by undeveloped land. Per the Draft General Plan Land Use Map, the site of the hotel and the immediate vicinity is designated as Commercial, and, thus, buildout of the undeveloped land could potentially occur under the Draft General Plan. Throughout the unincorporated County, similar development adjacent to historic properties and features could potentially result in adverse changes to the historical significance of the historical resources, either through direct modification or alteration of the resources, or through changes in the surrounding landscape which could alter the historical context of the resources. A portion of the historic resources identified above, such as the Congregational Church in Mokelumne Hill and the Murphys Hotel are located in urban areas and surrounded by existing development. As such, new development would not be anticipated to occur adjacent to such structures under buildout of the Draft General Plan. However, restoration, modification, or redevelopment of the structures could still occur.

Furthermore, as noted above, the NRHP requires consideration of significance of any structure over 45 years old. While existing historic structures currently over 45 years old have been identified in this EIR, other structures within the County will likely age into historical significance by the horizon year (2035) of the Draft General Plan.

The Draft General Plan includes policies and associated programs that are intended to protect the County's cultural resources from the impacts of future development. The Conservation and Open Space (COS) Element of the Draft General Plan includes the following goals, policies, and implementation measures (IMs) intended to protect historical resources:

Goal COS-7 Preserve prehistoric, archaeological, cultural, historical, and paleontological resources.

Policy COS 7.1 New development shall be designed to avoid significant cultural and paleontological resources to the maximum extent feasible. (IM COS-8A, COS-8B, COS-8C, COS-8D, COS-8F and COS-8G)

IM COS-8B Central California Information Center – Consider establishing a Memorandum of Agreement (MOA) with the Central California Information Center (CCIC) at California State University, Stanislaus, to allow staff to directly request cultural resource data from the CCIC in conjunction with discretionary project reviews at the applicant's expense. Evaluate the feasibility of including CCIC records search costs in application fees.

IM COS-8C Professional Qualification Standards for Cultural Resource Investigations – Adopt standards for and require that cultural resource studies be conducted by qualified professionals with experience appropriate to the study being conducted. Establish and maintain a Calaveras County Consultants list with only certified professionals meeting these qualifications. The Secretary of the Interior Qualifications Standards shall provide the primary guidance for establishing qualifications.

IM COS-8D Subsurface/Unanticipated Cultural Resources – Adopt standardized language for, and apply as a condition of discretionary entitlements, provisions for addressing the discovery of "accidental," subsurface, and/or "unanticipated" cultural resources encountered during the construction process.

IM COS-8E Support Cultural Resource Education and Stewardship – Support efforts to improve recognition of the County's cultural and historic heritage and promote community appreciation for Calaveras County's cultural resources through education, events, and activities that promote public and private stewardship of cultural resources.

IM COS-8G Register of Historic Resources – Establish a County register of historic resources.

The above goals, policies, and IMs would reduce the potential for impacts to historic resources occurring as a result of new development within the County. Specifically, IM COS-8B would provide County staff with cultural resource data to assist in review of future discretionary projects. IM COS-8C would provide specific standards to ensure that cultural resource studies prepared for future projects developed under the Draft General Plan would be conducted by qualified professionals. IM COS-8D would apply, as a condition of discretionary entitlements, provisions to protect previously unknown cultural resources encountered during construction activities occurring as part of future development under the Draft General Plan. IM COS-8G would establish a County register of historic resources,

which would help the County to protect existing historic resources not currently identified by the NRHP or the California State Parks Office of Historic Information.

Nevertheless, in the absence of specific guidelines and standards related to preservation of historic resources, development could have direct or indirect adverse effects on known historic resources and previously unidentified sites that may be eligible for historic designation. Therefore, buildout of the Draft General Plan could result in a ***significant*** impact.

Mitigation Measure(s)
Implementation of the following mitigation measures would help to minimize the above impact. However, beyond the goals, policies, and IMs in the Draft General Plan, other feasible measures are not available to reduce the impact to a *less-than-significant* level. Thus, the impact would remain *significant and unavoidable.*

*4.5-1(a) Policy COS 7.1 in the Draft General Plan shall be revised as follows:*

*Policy COS 7.1 New development shall be designed to avoid significant cultural and paleontological resources to the maximum extent feasible. (IM COS-8A, COS-8B, COS-8C, COS-8D, COS-8F, ~~and~~ COS-8G, and COS-8H)*

*4.5-1(b) The following new implementation measure shall be added to the Conservation and Open Space Element of the Draft General Plan.*

*IM COS-8H Preservation of Historic Resources – Require use of the Secretary of the Interior's Standards for Treatment of Historic Properties (1992) as a guide for evaluating development proposals involving cultural resources, such as restoration, alteration of, and additions to existing historic structures.*

**4.5-2 Cause a substantial adverse change in the historic significance of an archaeological resource, or destroy a unique paleontological resource, including human remains, or a unique geologic feature within the County. Based on the analysis below, even with implementation of mitigation, the impact would remain *significant and unavoidable*.**

As discussed above, Calaveras County has a rich paleontological history, particularly as a result of the Mi-Wuk occupation of the area prior to later settlement by non-Native American peoples. Mi-Wuk villages that are known to anthropologists were clustered along the Mokelumne, Calaveras, and Stanislaus River drainages. Figure 4.5-1 above identifies areas within the County where archaeological resources are likely to exist.

Many yet-undiscovered archeological, paleontological, and geologic features likely exist throughout the County. Buildout of the Draft General Plan could facilitate development in areas of the County that are classified as having a high likelihood for occurrence of

prehistoric resources, and have not been subject to previous cultural resource studies. Resources within such areas may be obscured by surface vegetation or overlying undisturbed soils, and may not be manifested on the ground surface. Thus, grading activities during construction of future projects could disturb archaeological resources and human remains from prehistoric or historic populations, in addition to paleontological resources (i.e., fossils). The COS Element of the Draft General Plan includes the following goals, policies, and IMs that address potential impacts to archaeological and paleontological resources.

IM COS-8F Treatment of Archaeological Resources – Adopt, apply and incorporate in the Calaveras County Code standards for the treatment of archaeological resources.

IM COS-8A Identify Native American Resource Sensitivity Areas – Update the County's Archaeological Sensitivity Map in cooperation with local Native American archaeology and history representatives to assist planners in determining when cultural resource surveys shall be required in conjunction with the environmental review process.

Goal COS-7 (discussed above)

Policy COS 7.1 (discussed above)

IMs COS-8B, COS-8C, and COS-8D (discussed above)

Draft General Plan IM COS-8A would update the aforementioned Archaeological Sensitivity Map (see Figure 4.5-1). Such an update would greatly improve the map's use as a tool to guide discretionary approval of future development projects in the County. In addition, IM COS-8D would provide protections for previously unknown cultural resources discovered during construction activities.

In the event that human remains are unearthed during construction of any project occurring under buildout of the Draft General Plan, State Health and Safety Code Section 7050.5 would prevent further disturbance from occurring until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner would have 24 hours to notify the NAHC. The NAHC would identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American, who would then help determine what course of action should be taken in dealing with the remains. Continued compliance with State regulations would minimize potential impacts to human remains.

Impacts to archaeological and paleontological resources are often difficult to fully anticipate, and the known existence of such resources in any particular area is often precluded by a lack of available information. The Draft General Plan would substantially improve the existing framework for identifying areas where potential impacts are likely by

updating the County's Archaeological Sensitivity Map, and existing State regulations would minimize impacts associated with management of uncovered human remains. However, in the absence of specific guidelines regarding preparation of cultural resource surveys, particularly in areas shown to be of high archaeological sensitivity per updated Archaeological Sensitivity Map, development occurring under the Draft General Plan could result in a ***significant*** impact with regard to causing a substantial adverse change in the significance of an archeological or paleontological resource.

Mitigation Measure(s)

Implementation of the following mitigation measure would ensure that site-specific cultural resource studies are prepared for all discretionary projects located within areas where cultural resources, including archaeological or paleontological resources, are likely to occur. Any resources identified by a cultural resource study would be subject to applicable sections of the Calaveras County Code related to treatment of archaeological resources. However, future development may not be able to avoid an impact and thus, the above impact would remain *significant and unavoidable*.

*4.5-2 Implementation Measure IM COS-8A of the Draft General Plan shall be revised as follows:*

*IM COS-8A Identify Native American Resource Sensitivity Areas – Update the County's Archaeological Sensitivity Map in cooperation with local Native American archaeology and history representatives ~~to assist planners in determining when cultural resource surveys shall be required in conjunction with the environmental review process~~. The County shall consult the updated Archaeological Sensitivity Map, in addition to other existing cultural resources information (e.g. pre- 1950 USGS topographic quadrangle maps, official townsite maps, Sanborn Insurance Maps, GIS database) in conjunction with the environmental review process for all discretionary approvals to identify sensitive areas and resources. If such cultural resources information indicates that sensitive areas and/or resources are likely to occur within the subject area, site-specific cultural resources shall be required, at the applicant's expense.*

**4.5-3 Result in an adverse effect to tribal cultural resources. Based on the analysis below, the impact would remain *significant and unavoidable*.**

The NAHC maintains a Sacred Lands File that includes an inventory of important tribal resources within the Calaveras County; however, the specific locations of such resources are kept confidential per California Government Code § 6254.10. The File is not comprehensive, and it is likely that more places of traditional significance exist but are not recorded in an inventory. While such cultural places may or may not qualify as historical resources under CEQA, they are nevertheless regarded as culturally significant by

descendant communities. As such, properties identified in the Sacred Lands File possess qualities that could be affected by development allowed under the Draft General Plan. Such effects may occur as a result of direct impacts, such as physical damage to a particular location, or indirect impacts, such as visual or auditory intrusions.

The following Draft General Plan policies and IMs discussed below address tribal cultural resources.

Policy COS 7.2 Develop and maintain strong working relationships and effective intergovernmental review procedures with local Native American tribes and representatives to identify, evaluate, and, where necessary, preserve unique Native American archaeological and significant Native American historical resources, including significant tribal cultural resources. (COS-8A, COS-8D, COS-8E and COS-8F)

IM COS-8A (discussed above)

Policy COS 7.2 in the Draft General Plan emphasizes the importance of tribal participation in the treatment of sites with cultural or traditional value to Native Americans in Calaveras County, while IM COS-8A would update the County's Archaeological Sensitivity Map. As discussed above, updating the map would allow the County to make informed decisions regarding preparation of cultural resource studies for future development in areas of high archaeological sensitivity.

Furthermore, pursuant to pursuant to Public Resources Code § 21080.3.1, Calaveras County has provided formal notification to tribes requesting consultation under AB 52, including the Buena Vista Rancheria of Me-Wuk Indians, the Calaveras Band of Mi-Wuk Indians, and the Ione Band of Miwok. Responses requesting consultation were not received within the 30-day response period, which ended June 1, 2017.

As part of the environmental review process, future development occurring under buildout of the Draft General Plan which is subject to CEQA would also be subject State laws related to tribal cultural resources, including AB 52 and SB 18. For example, through AB 52, the California Legislature added several sections to the Public Resources Code that provide additional requirements related to "tribal cultural resources" as defined by Section 21074. Under Section 21084.2, a project that "may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." Sections 21080.3.1 and 21080.3.2 require lead agencies to follow a specific consultation process. Section 21084.3, subdivision b, provides some examples of mitigation measures that, if feasible, may be considered to avoid or minimize the significant adverse impacts:

(1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open

space, to incorporate the resources with culturally appropriate protection and management criteria.

(2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

(A) Protecting the cultural character and integrity of the resource.
(B) Protecting the traditional use of the resource.
(C) Protecting the confidentiality of the resource.

(3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

(4) Protecting the resource.

In addition, such projects would be covered by SB 297, which protects Native American remains from disturbance, vandalism, or inadvertent destruction. Furthermore, IM COS-8D would provide protections for previously unknown cultural resources, including tribal cultural resources, discovered during construction activities occurring under buildout of the Draft General Plan. However, because tribal cultural resources exist throughout the County and the exact extent of disturbance from future development cannot be known at this time, buildout of the Draft General Plan could result in a ***significant*** impact.

Mitigation Measure(s)

Additional mitigation beyond the requirements identified above are not feasible to require at this point in the planning process. Therefore, the above impact would remain *significant and unavoidable.*

# 4.6 GEOLOGY, SOILS, AND SEISMICITY

## 4.6.1 Introduction

The Geology, Soils, and Seismicity chapter of the EIR describes the geologic and soil characteristics of the proposed project site and evaluates the extent to which implementation of the project could be affected by seismic-related ground failure, including liquefaction, and soil stability, including landslides, loss of top soil, and expansive soil. Information sources for this evaluation include the *Mines and Mineral Resources of Calaveras County, California*,[1] and the United States Department of Agriculture (USDA) National Resource Conservation Service (NRCS). Impacts related to soil erosion are discussed in further detail in Chapter 4.8, Hydrology and Water Quality, of this EIR.

## 4.6.2 Existing Environmental Setting

The following discussion describes the geologic setting, seismicity, and fault zones that characterize Calaveras County and the surrounding region.

### Geologic Setting

Calaveras County is located within the Sierra Nevada foothills. The terrain ranges from low rolling foothills in the western portion of the County to rugged high mountains, with elevations over 8,000 feet, in the east. The planning area lies within the geologic region of California referred to as the Sierra Nevada geomorphic province. The Sierra Nevada geomorphic province is a tilted fault block approximately 400 miles long that extends from the eastern slope to the western slope of the Sierra Nevada. The Sierra Nevada geomorphic province overlies metamorphic bedrock that contains gold-bearing veins in the northwest trending Mother Lode. The Mother Lode region in the Sierra Nevada extends through Calaveras County and ends in Mariposa County.

Rock Types

The rock types in Calaveras County are divided into the following two major groups:

- Bedrock series – consisting of steeply dipping metamorphic rocks of Paleozoic and Mesozoic age, and intrusive rocks of Mesozoic age; and
- Superjacent series – the overlying nearly flat beds of sedimentary and volcanic rocks of Tertiary age.

[1] California Division of Mines and Geology. *Mines and Mineral Resources of Calaveras County, California*. 1962.

The metamorphic rocks occupy broad belts trending north-northwestward in the central and western portions of the County and are by far the most abundant rocks in the County, covering slightly more than two-thirds of the total area. Metamorphic rocks in the County consist of the following: schist, slate, and limestone of the Calaveras formation (Carboniferous and Permian); schist, greenstone, and slate of the Amador group (Middle or Upper Jurassic); slate of the Mariposa formation (Upper Jurassic); and amphibolites and chloritic schist, greenstone, and phyllite of undetermined age. Granitic rocks of the Sierra Nevada Batholith, exposed primarily in the narrow eastern portion of the County, range in composition from granite to gabbro, granodiorite being the most abundant type. Smaller amounts of basic and ultrabasic intrusive rocks, largely altered to serpentine, are found in narrow, northwestward-trending lenses in the west-central portion of the County.

The Tertiary rocks in Calaveras County consist of the following: quartz sand, clay, and coal of the Ione Formation and auriferous quartzose gravel (Eocene); rhyolitic ash and tuff of the Valley Springs Formation (Miocene); and andesitic lahars and detritus of the Mehrten Formation (Mio-Pliocene). Small patches of basalt of Quaternary age are found in the eastern portion of the County. Sand and gravel lie in and adjacent to existing stream beds. Small glacial moraines are found in the eastern part of the County.

Soils

Soils information is described in the *Calaveras County Soil-Vegetation* handbook published by the Calaveras County Farm Advisor's Office in 1982. The NRCS does not currently have soil survey data for much of Calaveras County. The closest NRCS survey area is the Stanislaus National Forest soil survey, which overlaps with the eastern portion of the County.

Geologic Hazards

Geologic hazards, including soil erosion, expansive soils, and landslides, are discussed in detail below.

*Soil Erosion*

Soil erosion occurs when soil materials are worn away and transported to another area either by wind or water. Rates of erosion can vary depending on the soil material, structure placement, and the general level of human activity. Soil containing high amounts of sand and silt could be easily eroded while clay soils are less susceptible. Calaveras County contains a wide range of soils that have varying levels of susceptibility to erosion, ranging from slight to extremely high (NRCS 2007; Calaveras County Farm Advisor's Office 1982). As stated previously, potential impacts related to soil erosion are discussed in further detail in Chapter 4.8, Hydrology and Water Quality, of this EIR.

*Expansive Soils*

Expansive soils possess a shrink-swell characteristic. Structural damage could result over a long period of time, usually resulting from inadequate soil and foundation engineering or the placement

of structures directly on expansive soils. Expansive soils are largely comprised of clay, which expand in volume when water is absorbed and shrink when dried. Several of the soil types located within the County are comprised of potentially expansive materials. Such areas would be considered more likely to contain expansive clays. Minerals in certain clays swell with increased moisture content and then contract during dry periods. The volume changes associated with seasonal variations in moisture content (called shrink-swell characteristics) can damage shallow building foundations and pavement. On slopes, the continuous shrinking and swelling of expansive soils can cause soils to migrate down slope, which can also disrupt foundations and bury utility lines.

*Landslides*

Ground failure including landslides is dependent on slope and geology as well as the amount of rainfall, excavation, or seismic activities. A landslide is a mass of rock, soil, and debris displaced down a slope by sliding, flowing, or falling. Steep slopes and downslope creep of surface materials characterize landslide-susceptible areas. Debris flows consist of a loose mass of rocks and other granular material that, if present on a steep slope and saturated, can move down slope. The rate of rock and soil movements can vary from a slow creep over many years to sudden mass movements. Landslides occur throughout the State of California, but the density of incidents increases in zones of active faulting. Because Calaveras County is not located in a seismic hazard zone, as discussed in further detail below, the County is not considered to be at risk from landslides as a result of active faulting. However, areas of the County that contain slopes of 20 percent or greater have a higher potential for the occurrence of landslides in the event of high amounts of rainfall or snowmelt.

**Seismicity and Fault Zones**

A fault is defined as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a zone of related faults that commonly are braided and subparallel, but may be branching or divergent. Most faults are the result of repeated displacements over a long period of time. Movement within a fault causes an earthquake. When movement occurs along a fault, the energy generated is released as waves that cause ground shaking. Ground shaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment through which the seismic waves move.

Major faulting along the east flank of the Sierra Nevada has had a profound influence on the geologic history of Calaveras County. Faulting occurred on the east flank during the end of the Pliocene epoch and at the beginning of the Pleistocene epoch, creating the elevation of the Sierra Nevada, which became asymmetrical in form, with a broad, gently dipping western slope and short, steeply dipping eastern slope.

According to the California Department of Conservation, the nearest potentially active faults (Quaternary and Late Quaternary) are the Bear Mountains Fault Zone and the Melones Fault Zone,

which generally frame the Foothills Fault System.[2] The Fault Zones pass through the western portion of the County and are identified near Valley Springs, Mokelumne Hill, south of Melones near Jamestown, and south of Copperopolis (see Figure 4.6-1). Faults located near Valley Springs and Mokelumne Hill include the Poorman Gulch, Youngs Creek, Waters Peak, and Ione Faults. Rawhide Flat East Fault is the fault located south of Melones near Jamestown, and the Bowie Flat, Rawhide Flat West, and Negro Jackpoint Faults are located south of Copperopolis.

Seismic-Related Hazards

The following section describes seismic-related hazards within Calaveras County, including surface fault rupture, ground shaking, and liquefaction.

*Surface Fault Rupture*

The 1972 Alquist-Priolo Earthquake Fault Zoning Act required the State Geologist to establish regulatory "Earthquake Fault Zones" around the surface traces of active faults, in order to mitigate the hazard of surface fault rupture to structures for human occupancy. For the purposes of the Act, an active fault is one that has ruptured in the last 11,000 years. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Calaveras County is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone.

Surface fault rupture is associated with being located on or within close proximity of an active fault. Rupture could occur vertically, horizontally, or both and can be devastating to structures and infrastructure. Because the County is not within, and does not cross, an Alquist-Priolo Earthquake Fault Zone, the risk of surface fault rupture within the County is considered low.

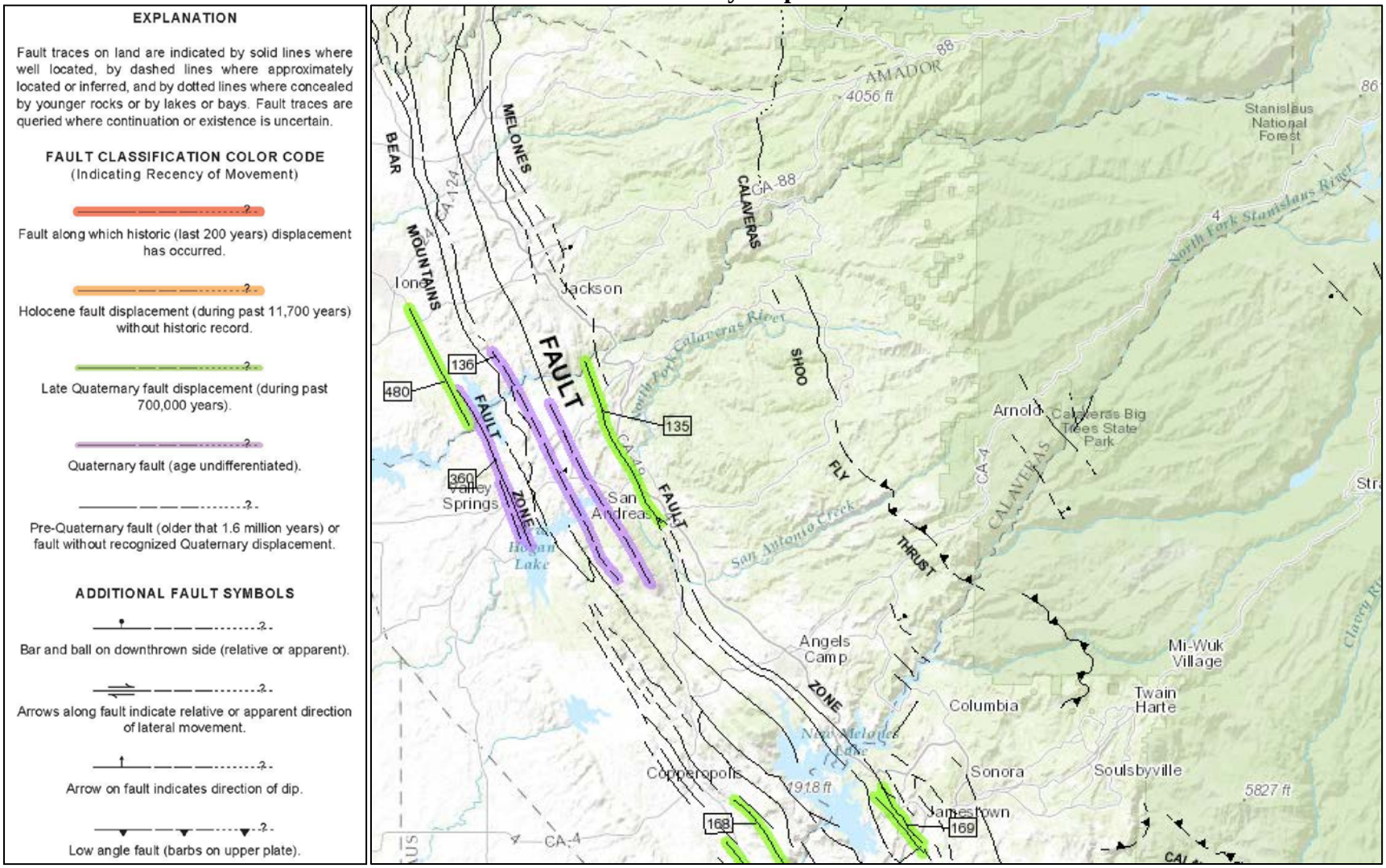
*Ground Shaking*

Ground shaking is described as strong ground motion of sufficient strength to affect people and their environment or ground movement recorded on a strong-motion instrument or seismograph. Ground shaking intensity is partly related to the size of an earthquake, distance to a site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of ground shaking. Violent ground shaking is generally expected at and near the epicenter of a large earthquake; however, different types of geologic materials respond differently to earthquake waves. For example, deep unconsolidated materials can amplify earthquake waves and cause longer periods of ground shaking. In addition, some structures experience substantially more damage than others. The age, material, type, method of construction, size, and shape of a structure are all factors that contribute to how a structure performs during an earthquake.

While magnitude is a measure of the energy released in an earthquake, intensity is a measure of the observed ground shaking effects at a particular location. The Modified Mercalli (MM) scale is commonly used to measure earthquake intensity due to ground shaking. Table 4.6-1 below presents a description of the MM scale.

[2] California Department of Conservation. *Fault Activity Map of California, 2010.* 2010.

**Figure 4.6-1**
**Fault Activity Map**




*Source: California Department of Conservation, 2010.*

**Table 4.6-1**
**Modified Mercalli Scale of Earthquake Intensity**

| Scale | Effects | Average PGA |
|---|---|---|
| I | Not felt except by a very few persons under especially favorable circumstances. | < 0. 17 |
| II | Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing. | 0.17–1.4 |
| III | Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. | 0.17–1.4 |
| IV | During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. | 1.4–3.9 |
| V | Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop. | 3.9–9.2 |
| VI | Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight. | 9.2–18 |
| VII | Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving. | 18–34 |
| VIII | Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed. | 34–65 |
| IX | Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked. Underground pipes broken. | 65–124 |
| X | Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed over banks. | > 124 |
| XI | Few, if any, masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly. | > 124 |
| XII | Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air. | > 124 |

*Sources: USGS, March 2017.*

The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total). MM intensities ranging from IV to X can cause moderate to significant structural damage.

The common way to describe ground motion during an earthquake is with the motion parameters of acceleration and velocity, as well as the duration of the shaking. A common measure of ground motion is the peak ground acceleration (PGA), which is the largest value of horizontal acceleration

obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile accelerations, one "g" of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum peak acceleration value recorded during the Loma Prieta earthquake of 1989 in the vicinity of the epicenter, near Santa Cruz, was 0.64 g. The lowest values recorded were 0.06 g in the bedrock on Yerba Buena Island. A Probabilistic Seismic Hazard Assessment for California was completed by the California Geological Survey to describe the statewide distribution of estimated ground motion throughout the state. The assessment provides a conservative estimate, through probabilistic analysis, of the PGA for all regions of California. Based on the estimates of the assessment, PGA in Calaveras County has the potential to reach or exceed less than 0.1 to 0.2 g, which equates to one chance in 475 of being exceeded each year). See Table 4.6-1 above for a general comparison between the potential ground shaking in Calaveras County and the MM scale. As shown in the table, Calaveras County could result in an intensity value of I, II, or III, which few people recognize as earthquakes when felt.

*Liquefaction*

Liquefaction is the sudden temporary loss of shear strength in saturated, loose to medium-dense, granular sediments subjected to ground shaking. Liquefaction generally occurs when seismically-induced ground shaking causes soil pore water pressure to increase to a point equal to the overburden pressure.

Liquefaction causes foundation failure of buildings and other structures due to the reduction of foundation bearing strength. The potential for liquefaction depends on the duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil, and elevation of the groundwater. Areas at risk due to the effects of liquefaction are typically those with a high groundwater table and underlying loose to medium-dense, granular sediments, particularly younger alluvium and artificial fill. Because Calaveras County is not located in a seismic hazard zone, the County is not considered to be at risk from liquefaction hazards.

## 4.6.3 Regulatory Context

The following discussion contains a summary review of regulatory controls pertaining to geology, soils, and seismicity, including State and local laws and ordinances.

**Federal Regulations**

The following are federal environmental laws and policies that are relevant to geology and soils.

Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the

knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

Uniform Building Code

The Uniform Building Code (UBC) was first published in 1927 by the International Council of Building Officials and is intended to promote public safety and provide standardized requirements for safe construction. The UBC was replaced in 2000 by the new International Building Code (IBC), published by the International Code Council (ICC), which is a merger of the International Council of Building Officials' UBC, Building Officials and Code Administrators International's National Building Code, and the Southern Building Code Congress International's Standard Building Code. The intention of the IBC is to provide more consistent standards for safe construction and eliminate any differences between the three preceding codes. All State building standard codes are based on the federal building codes.

**State Regulations**

The following are State environmental laws and policies that are relevant to geology, soils, and seismicity.

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 AP Zone Act was passed to prevent the new development of buildings and structures for human occupancy on the surface of active faults. The Act is directed at the hazards of surface fault rupture and does not address other forms of earthquake hazards. The locations of active faults are established into fault zones by the AP Zone Act. Local agencies regulate any new developments within the appropriate zones in their jurisdiction.

The AP Zone Act regulates development near active faults so as to mitigate the hazard of surface fault rupture. The AP Zone Act requires that the State Geologist (Chief of the California Department of Mines and Geology [CDMG]) delineate "special study zones" along known active faults in California. Cities and counties affected by these zones must regulate certain development projects within these zones. The AP Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Zone Act, active faults have experienced surface displacement during the last 11,000 years. Potentially active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Section 1690-2699.6) addresses non-surface rupture earthquake hazards, including liquefaction, induced landslides, and subsidence. A mapping program is also established by this Act, which identifies areas within California that have the potential to be affected by such non-surface rupture hazards. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold

development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

California Building Standards Code

The State of California regulates development within the State through a variety of tools that reduce or mitigate potential hazards from earthquakes or other geologic hazards. The 2013 California Building Code (CBC) California Code of Regulations (CCR), Title 24 governs the design and construction of all building occupancies and associated facilities and equipment throughout California. In addition, the CBC governs development in potentially seismically active areas and contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The California building standards include building standards in the IBC, building standards adapted from the IBC to meet California conditions, and building standards adopted to address particular California concerns.

**Local Regulations**

The following are the local government's environmental policies relevant to geology, soils, and seismicity.

Calaveras County Code of Ordinances

The Calaveras County Code of Ordinances consists of all the regulatory and penal ordinances and a portion of the administrative ordinances of Calaveras County, codified pursuant to Government Code Sections 50022.1 through 50022.8 and 50022.10.

Chapter 15.04, Uniform Codes, provides the exclusive source of regulations for all new construction and repair or modification of existing structures within the County. Section 3403.5.1.1.1 of the Code provides specific procedures for seismic evaluation and design, and incorporates the regulations of the CBC related to seismic hazards. Chapter 15.05 of the Code includes the County's Grading and Drainage Ordinance. The Grading and Drainage Ordinance supplements the regulations from the California Building Standards Code, which addresses standards for all grading construction. The Ordinance helps to maintain safe grading conditions and erosion control in order to avoid potentially harmful impacts related to property, the public, and environmental health.

The provisions of Title 15 of the Code of Ordinances are implemented and enforced by the Directors of the Calaveras County Department of Public Works and Building Department.

## 4.6.4 Impacts and Mitigation Measures

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to geology, soils, and seismicity.

**Standards of Significance**

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the proposed project would result in the following:

- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; and
  - Landslides.
- Result in substantial soil erosion or 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 landslides, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 118-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and/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.

Impacts associated with substantial soil erosion or loss of topsoil are addressed in Chapter 4.8, Hydrology and Water Quality, of this EIR.

**Method of Analysis**

Risks related to geology, soils, and seismicity that could result from implementation of the Draft General Plan are addressed below. The following analysis relies on information from relevant agencies within the County and State. In particular, current information from the *Mines and Mineral Resources of Calaveras County, California*,[3] the NRCS, and the Calaveras County Draft General Plan was analyzed. Such information was considered in the context of the goals, policies and implementation measures (IMs) contained in the Draft General Plan. Based on the existing conditions in the County and the standards of significance presented above, the Geology, Soils, and Seismicity chapter identifies any impacts that could occur as a result of buildout of the Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts related to geology, soils, and seismicity is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

[3] California Division of Mines and Geology. *Mines and Mineral Resources of Calaveras County, California*. 1962

**4.6-1 Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and/or landslides. Based on the analysis below, the impact would be *less than significant*.**

As discussed previously, Calaveras County is not located within a delineated Alquist-Priolo Earthquake Fault Zone, and is not located within the vicinity of an active fault. Based on estimates of the Probabilistic Seismic Hazard Assessment for California completed by the California Geological Survey, PGA in Calaveras County could reach or exceed less than 0.1 to 0.2 g (1 chance in 475 of being exceeded each year). As shown in Table 4.6-1, such levels of ground shaking would equate to an intensity value of I, II, or III, which few people recognize as earthquakes when felt. Therefore, fault rupture and seismic ground shaking would not pose a risk to new development or new populations occurring in the County as a result of buildout of the Draft General Plan.

Per the Seismic Hazards Mapping Program, Calaveras County is not located in a Seismic Hazard Zone, and, thus, the County is not considered to be at risk from seismic-related ground failure hazards, including liquefaction, or landslides. However, landslides can still pose a hazard to structures located on steep slopes (20 percent grade or higher), as well as slopes recently affected by wildfires, even in the absence of seismic events. Therefore, new development occurring on such slopes under buildout of the Draft General Plan could potentially be at risk for landslide hazards, especially during periods of high rainfall or snowmelt.

The Safety Element of the Draft General Plan includes the following goals, policies, and IMs related to geotechnical hazards:

| | |
|---|---|
| Goal S-4 | Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from geotechnical hazards including seismic hazards, unstable slopes and soil-related hazards. |
| Policy S 4.2 | Require new development on land with grades of 20% or steeper to demonstrate during the discretionary review process that the project can adequately control surface water runoff, erosion, and other potential geologic hazards. (IM S-4B, S-4C and S-4D) |
| IM S-4D | Development on 20% Slopes – Development applications on slopes of 20% or greater shall be required to include geotechnical and engineering data to identify what improvements will be necessary to control erosion and surface water runoff and address the potential for landslides, mudslides, and other geologic hazards. |

Policy S 4.2 and IM S-4D above would ensure that new development occurring under the Draft General Plan on slopes of 20 percent or greater would be required to include geotechnical and engineering data addressing the potential for landslides, as well mudslides

and other geologic hazards. Inclusion of such data would be required as part of the County's discretionary review process. Thus, impacts related to landslides would be less than significant.

Based on the above, fault rupture, strong seismic ground shaking, and seismic-related ground failure do not currently pose a hazard to persons or structures in Calaveras County, and would not pose a substantial hazard to new development occurring under buildout of the Draft General Plan. Furthermore, the Draft General Plan includes goals, policies, and IMs that would minimize risks associated with landslides. Therefore, a ***less-than-significant*** impact would occur with regard to exposing people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and/or landslides.

Mitigation Measures(s)
*None required.*

**4.6-2 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in lateral spreading, subsidence, liquefaction or collapse. Based on the analysis below, the impact would be *less than significant*.**

Unstable geologic units are those that lack the integrity to support human-made improvements such as buildings and roadways. Major problems associated with such units include settlement, lurch cracking, differential settlement, and expansion.

Without site-specific information related to the geological stability of an area, new development occurring under buildout of the Draft General Plan could potentially be located on unstable geologic units or soils, resulting in lateral spreading, subsidence, or collapse. The Safety Element of the Draft General Plan includes the following policies and IMs related to geological stability:

Policy S 4.1 Require new development to demonstrate that the project will neither create nor significantly contribute to geological instability and will not unreasonably expose people or property to geological hazards. (IM S-4A and S-4B)

Policy S 4.3 Locate high occupancy structures and essential public facilities outside of identified geological hazard zones unless they can meet design standards eliminating or minimizing risks associated with geological hazards to a level of less-than-significant. (IM S-4E)

Policy S 4.4 Require site-specific geological studies, where warranted, to verify the presence or absence and extent of geological hazards on properties proposed for new development and to identify measures to reduce those hazards to an acceptable level in conjunction with the review of

discretionary entitlements and as part of review of ministerial permits in accordance with California Building Code. (IM S-4E)

IM SA-4A New Soils Information -- Update the County's soils data when the United States Department of Agriculture Natural Resources Conservation Service completes the updated County soil survey. When available, incorporate hazardous soil locations on the County's GIS maps, if feasible.

IM S-4B Grading, Drainage and Erosion Control Manual and Grading Ordinance – Review the County's Grading, Drainage and Erosion Control Manual and grading standards in Chapter 15.05 of the County Code to address: procedures, standards, and requirements necessary to safeguard public health, safety, and welfare from geotechnical related hazards; implementing and maintaining erosion and sediment control measures to reduce offsite sediment discharge; grading on slopes; controlling drainage and runoff; standards for consultants qualified to prepare geological and soils related technical studies and testing; and the required contents of geological and soils related technical studies. Update and revise these documents as may be necessary to provide effective implementation.

IM S-4C Geological Hazards Risks – Update the County's *Grading, Drainage and Erosion Control Manual* to:

- Include provisions for when or if geotechnical evaluations of potential geological hazards will be required in conjunction with the environmental review process
- Require geological evaluations for critical use and high occupancy structures (e.g., schools, hospitals, dams)
- Illustrate best management practices (e.g., erosion and sediment control methods)

Policy S 4.4 would require site-specific geological studies for new projects in the event that such projects are deemed by the County to be potentially at risk for geologic hazards. The studies would be required to include measures that would reduce identified hazards to acceptable levels in accordance with the CBC. IM S-4C would provide specific guidelines for identifying when geological/geotechnical studies would be required. IS S-4B would update and revise the County's Grading, Drainage, and Erosion Control Manual, as well as Chapter 15.05 of the County's Code of Ordinances, to address: procedures, standards, and requirements necessary to safeguard public health, safety, and welfare from geotechnical related hazards. When updated soil survey data is available from the NRCS, including data related to the location of hazardous soils, IM S-4A would require an update of the County's soils data.

The proposed policies and IMs, in conjunction with existing regulations contained in the County's Code of Ordinances, would ensure that future development occurring under the Draft General Plan would not be subject to hazards associated with being located on geologic units or soils that are unstable, or that would become unstable as a result of development. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.6-3 Be located on expansive soil, as defined in Table 118-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. Based on the analysis below and with implementation of mitigation, the impact would be *less than significant.***

New development occurring under the Draft General Plan could result in construction of structures on expansive soils. Foundations of structures placed on expansive soils may swell during the wet season and shrink during the succeeding dry season, potentially resulting in foundation damage, and compromising the integrity of the structures. In addition, expansive soils are often prone to erosion. Several of the soil types located within the County are composed of potentially expansive materials such as clay. However, the NRCS has not completed a soil survey of the County. Thus, accurate soil survey data is not currently available, and the location and extent of expansive soils is not known for much of the County.

As discussed in Impact 4.6-3 above, Policy S 4.4 and IMs S-4A through S-4C included in the Draft General Plan would ensure that new development occurring in areas potentially at risk for geologic hazards would be subject to geological/geotechnical studies, and that the County's soils data would be updated once soil survey data is available from the NRCS. In addition, Section 1808.6 of the CBC requires design features for foundations of buildings and structures in areas subject to expansive soils. For buildings and structures in areas with expansive soils and subject to the CRC, Section R403.1.7.2 also refers to Section 1808.6 of the CBC for foundation design requirements. However, should the aforementioned geological studies fail to include site-specific information regarding expansive soils, the CBC-mandated requirements may not necessarily be implemented.

Consequently, in the absence of specific Draft General Plan policies or IMs related to expansive soils, a ***significant*** impact related to future development being located on expansive soils, as defined in Table 118-1-B of the Uniform Building Code, creating substantial risks to life or property.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*4.6-3 Policy S 4.4 in the Draft General Plan shall be revised as follows:*

*Policy S 4.4* *Require site-specific geological studies, where warranted, to verify the presence or absence and extent of geological hazards, including expansive soils, on properties proposed for new development and to identify measures to reduce those hazards to an acceptable level in conjunction with the review of discretionary entitlements and as part of review of ministerial permits in accordance with California Building Code. (IM S-4E)*

By requiring site-specific geological studies to verify the presence or absence and extent of expansive soils and to identify measures to reduce those hazards to an acceptable level (i.e., no substantial risks to life or property), Policy S 4.4, as amended by Mitigation Measure 4.6-3, would ensure that future development projects facilitated by the Draft General Plan would not create substantial risks to life or property due to their location on expansive soil. Therefore, impacts would be less than significant.

**4.6-4 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. Based on the analysis below, the impact would be *less than significant*.**

New development occurring under buildout of the Draft General Plan could potentially require the use of septic tanks or alternative waste disposal systems, especially in rural areas of the County where wastewater collection and treatment systems do not currently exist. If septic tanks or similar systems are constructed on soils incapable or adequately supporting such systems, surface water and/or groundwater contamination could potentially occur.

However, most Draft General Plan development is not anticipated to use septic systems, as population growth and new development would likely be focused in existing community areas of the County, where existing wastewater infrastructure exists. Furthermore, all development occurring under the Draft General Plan would be subject to the rules and regulations in the County's Code of Ordinances related to septic systems. Per Section 13.12.060 of the Code, a sewage disposal permit is required prior to construction or operation of any septic tank, sewage treatment works, sewer pipes or conduits, drainage systems, or other means for the disposal, treatment or discharge of sewage. Section 13.12.070 of the Code requires applications for septic tanks and other subsurface drainage systems to set forth the type and depth of soils in the vicinity of the proposed system. Per Section 13.12.080 of the Code, the agency administrator is prohibited from approving or issuing a sewage disposal permit unless adequate soil conditions are provided such that the proposed septic system would not result in the escape of any noxious odors vapors or gases or allow for sewage to pollute local water resources which may be used for domestic or agricultural purposes. The means or proposed means for the disposal, treatment, or discharge of sewage may not be offensive, injurious, or dangerous to human health and must conform to all applicable County rules and regulations for the disposal and treatment of sewage.

Therefore, impacts related to soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems would be ***less-than-significant***.

Mitigation Measure(s)
*None required.*

# 4.7 HAZARDS AND HAZARDOUS MATERIALS

## 4.7.1 INTRODUCTION

The Hazards and Hazardous Materials chapter of the EIR describes existing and potentially occurring hazards and hazardous materials within the planning area, and discusses potential impacts posed by those hazards to the environment, as well as to workers, visitors, and residents within and adjacent to the planning area. Specifically, the chapter describes potential effects on human health that could result from soil contamination stemming from past uses, or from exposure to hazardous materials related to future development activity and industrial activity within the planning area.

## 4.7.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section includes discussions regarding existing hazards within Calaveras County, including airport hazards, fire hazards, and human-made hazards. Natural hazards related to geologic and seismic hazards are discussed in further depth in Chapter 4.6, Geology, Soils, and Seismicity, while hazards related to flood risk are discussed in Chapter 4.8, Hydrology and Water Quality, and hazards related to naturally occurring asbestos are discussed in Chapter 4.3, Air Quality and Greenhouse Gas Emissions.

### Airport Hazards

Airport Hazards consist of physical flight hazards (e.g., structures or power transmission lines obstructing air space) as well as hazards associated with airport operations; including aircraft accidents during takeoff and landing due to light and glare, electronic interference, and wildlife hazards.

Calaveras County Airport/Maury Rasmussen Field is currently the only public use, general aviation airport in the County. The Airport is located off of State Route 49, just south of the town of San Andreas. The airport was constructed in the 1980's and currently consists of 93 acres with a single 3,602-foot runway, 65 hangar spaces, 7 maintenance hangars and 64 tiedowns. The Calaveras County Airport Land Use Compatibility Plan (ALUCP) was updated June 2, 2010. Annual flight operations as of 2011 totaled approximately 32,000. Approximately 60 aircraft are based at the airport, consisting mainly of single-engine aircraft (approximately 90 percent). Multi-engine piston aircraft, transient jets, experimental aircraft, ultralights and helicopters utilize the airport on a limited basis. Four Aviation Maintenance FBOs (Fixed Base Operators) exist in the County. The County of Calaveras is the FBO operating the fuel facility. An FAA designated flight examiner is located at the airport which generates a notable amount of air traffic.

**Fire Hazards**

Urban and wildland fire is a constant threat within the County that poses a risk of injury, loss of life, and property damage. Urban fires primarily involve either the intentional or accidental burning of homes, businesses, and other structures. Wildland fires can be caused either by human activities or natural forces, such as lightning strikes. As of 2010, over 590,000 (89 percent) acres in the County are classified as having either High or Very High fire risk. The remaining 73,000 acres (11 percent) in the County are classified as Little, No Threat, or Moderate Threat. See Figure 4.7-1 for a map of Fire Hazard Severity Zones.

Factors that increase urban fire hazards include substandard building construction, the type of building materials (e.g., highly flammable materials), insufficient fire protection services, and response time delays. Factors that increase wildland fire hazards include climate, topography, presence of highly combustible vegetation, and human hazards (e.g. camp fires, debris burning, smoking, etc.).

**Human-Made Hazards**

Human-made hazards within the County include Hazardous Materials Transport, Storage and Handling of Hazardous Materials and Hazardous Waste, Leaking Underground Storage Tanks (LUST), Landfills, Railroads, Mining, Utility Corridors, and Cleanup Sites (including those classified as "Superfund Sites" and "Spills, Leaks, Investigations, and Cleanups (SLIC) Program Sites").

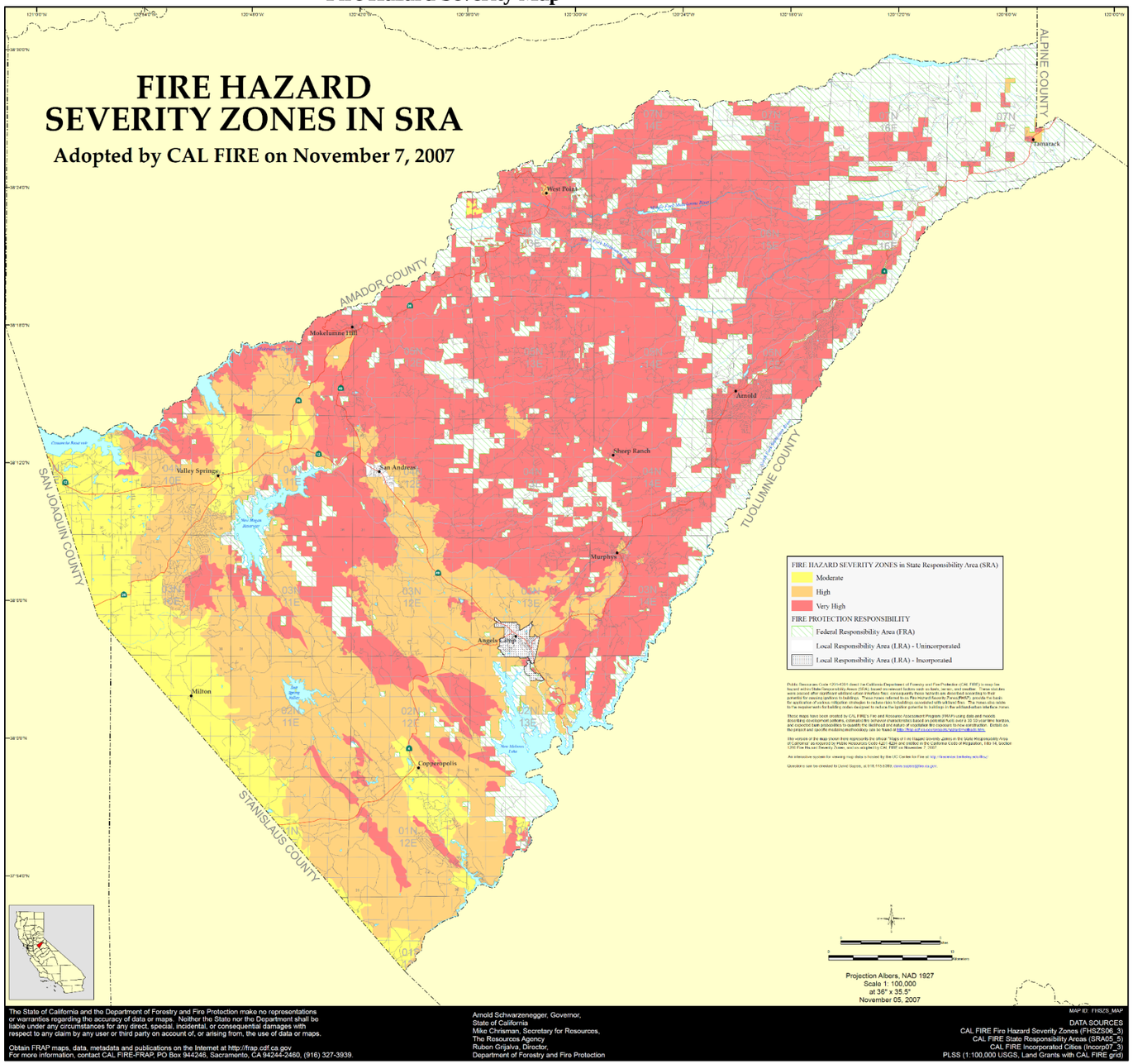
Hazardous Materials Transport

The interstate transportation of hazardous materials is regulated by the U.S. Department of Transportation (USDOT) regulations, which are enforced by the USDOT Federal Railroad Administration (FRA). According to the regulations, transporters and shippers of hazardous materials must maintain and adhere to security plans as well as train all employees involved in offering, accepting, or transporting hazardous materials on both safety and security matters. Hazardous materials commonly transported within the County include petroleum products, agricultural chemicals, and industrial chemicals.

Storage and Handling of Hazardous Materials and Hazardous Wastes

Facilities that store and/or handle hazardous material and hazardous waste must comply with Local, State and Federal laws and regulations. The Calaveras County Environmental Health Department regulates establishments which use hazardous materials, dispose of hazardous wastes, and have underground storage tanks and/or aboveground ground storage tanks. The primary purpose for these regulations is to protect the health and safety of Calaveras County citizens and emergency response personnel. Currently, approximately 217 businesses are permitted to use hazardous materials within the County.

**Figure 4.7-1**
**Fire Hazard Severity Map**



Leaking Underground Storage Tanks (LUST)

According to the State Water Resources Control Board (SWRCB) online GeoTracker Database, 17 LUST sites currently exist within the County undergoing the various stages of remediation. In addition to these sites, 113 closed sites have completed remediation and 33 USTs are currently permitted within the County.

Landfills

Calaveras County has nine permitted solid waste facilities. Eight of the facilities are owned and operated by the County and one is privately owned. The facilities are utilized by Calaveras County and western Alpine County residents. The Rock Creek Solid Waste Facility, which is a Class II Landfill, consists of a Landfill and Transfer Station. The Rock Creek Transfer Station building is a Waste Recovery and Transfer Center with a permanent household hazardous waste facility. Six other transfer stations, San Andreas, Wilseyville, Paloma, Copperopolis, Red Hill and Avery, are situated less than two miles distance from 92 percent of the County residents. The California Asbestos Monofill (CAM) is located in Copperopolis and permitted to landfill asbestos containing waste and accept/store used tires. The CAM accepts waste generated from inside and outside the County.

Railroad

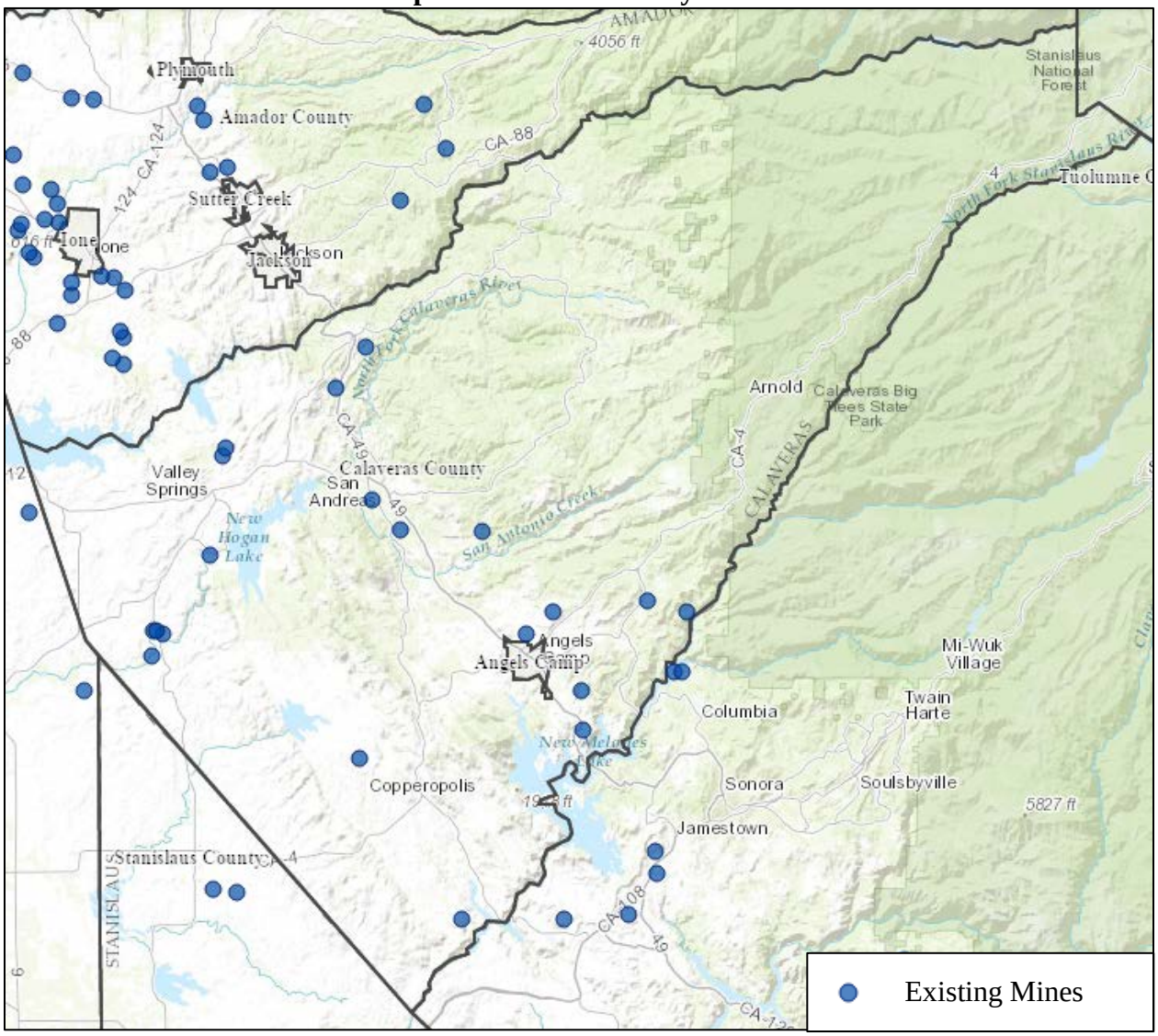
Potential hazards associated with railroads include collisions and train derailment. Either of these can lead to human injury or death as well as various environmental impacts. According to the 2007 Calaveras County Regional Transportation Plan, the only branch of railroad line within the County, which formerly extended from Lodi to the Calaveras Cement Plan (near San Andreas), was closed in 1984. Union Pacific Rail Authority sold the right-of-way after abandoning the line in 1999. Therefore, rail service through the County is not anticipated in the near future, and hazards related to railroad operations do not exist within the County.

Mining

Mining hazards include both environmental hazards, such as impacts to surface water and ground water from mining activities, and physical safety hazards from mine features such as shafts and adits, tailings piles, and deteriorated machinery and facilities associated with abandoned mines. Ten active mines are located in Calaveras County, as shown on the Division of Mine Reclamation's Assembly Bill (AB) 3098 List (see Table 4.7-1 below). A number of additional mines are inactive and undergoing reclamation (see Figure 4.7-2 for a map of existing mines within the County).

Active mines operate in compliance with Waste Discharge Requirements imposed by the Regional Water Quality Control Board to minimize adverse impact to water quality. The Carson Hill Gold Mine, Royal Mountain King Mine, Red Hill Mine, Alto Gold Mine, Penn Mine, and Copperopolis Mining District are among the historic mines continually being monitored for water contamination.

**Figure 4.7-2**
**Map of Calaveras County Mines**




*Source: Division of Mine Reclamation, 2017.*

| Table 4.7-1<br>AB 3098 List of Mines in Calaveras County | | |
|---|---|---|
| **Mine ID** | **Mine Name** | **Operator** |
| 91-05-0001 | Snyder Clay Pit | Snyder Clay Pit |
| 91-05-0005 | John Hertzig Sand and Gravel | John W. Hertzig |
| 91-05-0006 | Robie Ranch Gravel | 7/11 Materials, Inc. |
| 91-05-0008 | Valley Springs Clay Pit | Valley Springs Clay Pit, LLC |
| 91-05-00012 | Cataract Limestone Quarry | Lehigh Southwest Cement Company |
| 91-05-00013 | Chili Gulch Quarry | Charles Larson Construction |
| 91-05-00014 | Hogan Quarry | Ford Construction Company, Inc. |
| 91-05-0016 | McCarty Pit | Ford Construction Company, Inc. |
| 91-05-0020 | Jenny Lind Aggregate Quarry | 7/11 Materials, Inc. |
| 91-05-0021 | Jenny Lind Tailing Pile Removal | Sean W. Smith, Inc. |
| *Source: Division of Mine Reclamation, 2017.* | | |

A number of abandoned mines are located within Calaveras County, which may present physical and environmental hazards. The Department of Conservation Office of Mine Reclamation 2002 California Abandoned Mines Report lists two mines in Calaveras County on a list of 100 "High Risk" Abandoned Mines. Mines are ranked on a scale of 1 to 5 with 5 being the greatest hazard, exposure, and risk. The Detert Deposit Mine, located northwest of Valley Springs, has a chemical risk rating of 1 and a physical risk rating of 5 due to the presence of over a dozen openings in a steep ravine enclosed by vegetation. The Penn Mine, located just east of the Camanche Reservoir, has a chemical risk rating of 5 due to persistent acid rock drainage (ARD) and heavy metal contamination of the Reservoir and Mokelumne River. In addition to the "High Risk" mines, the Wet Gulch Mine, located near the northwest corner of the Community of Mountain Ranch, is listed in the California Abandoned Mines Report under mines with a physical risk of 4 or greater due to the presence of dangerous openings.

The exact number of abandoned mines within the County is unknown as the Division of Mine Reclamation does not maintain lists of historic and/or closed mines. The Surface Mining and Reclamation Act (SMARA) defines an Abandoned Mine as a surface mining operation that remains idle for one year after becoming idle without obtaining approval of an interim management plan [Section 2770 (6)(h)].

Utility Corridors

Hazards associated with Utility Corridors consist of damage to pipelines from construction and/or excavating activities (which can lead to hazardous health and safety conditions due to leaks or ruptures) as well as potential hazards associated with electromagnetic fields from electric transmission lines.

According to the California Energy Commission's Map of Natural Gas and Pipeline Storage Facilities, PG&E natural gas pipelines are located in the north-western portion of the County Planning Area. Furthermore, major PG&E electric transmission lines run through the

northernwestern portion of the County. Additional electrical infrastructure distributes electricity throughout the County to end-users.

Cleanup Sites

Hazardous materials and waste are a reality for any community and can pose a significant public health and safety issue. In addition to the LUSTs discussed above, a number of sites within the County are classified as "Superfund Sites" or "SLIC Program Sites". According to the SWRCB online GeoTracker Database, five open SLIC cleanup sites exist within the County; including the Angels Camp Gun Club, Calaveras Tool Rental (former), Pesticide Dump Site on Gregory Road, Save Mart No. 46, and Wells Fargo Bank San Andreas. Three completed SLIC cases exist within the County; including the PG&E Angels Camp Service Center, S.O.B. Restorations, and Snyder Lumber.

## 4.7.3 Regulatory Context

Many agencies regulate hazardous substances. The following discussion contains a summary review of regulatory controls pertaining to hazardous substances, including federal, State, and local laws and ordinances.

**Federal Regulations**

Federal agencies that regulate hazardous materials include the EPA, the Occupational Safety and Health Administration (OSHA), the USDOT, and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials:

- Federal Water Pollution Control;
- Clean Air Act;
- Occupational Safety and Health Act;
- Federal Insecticide, Fungicide, and Rodenticide Act;
- Comprehensive Environmental Response, Compensation, and Liability Act;
- Guidelines for Carcinogens and Biohazards;
- Superfund Amendments and Reauthorization Act Title III;
- Resource Conservation and Recovery Act;
- Safe Drinking Water Act; and
- Toxic Substances Control Act.

Prior to August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California Department of Toxic Substance Control (DTSC) was authorized to implement the State's hazardous waste management program for the EPA. The federal EPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. The CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.[1] Subsection 101(40) of CERCLA defines "bona fide prospective purchaser" (BFPP) as a person, or tenant of that person, who acquires ownership of a facility after the date of enactment of the Brownfields Amendments, January 11, 2002. A BFPP may be subject to a "windfall lien" under the newly added CERCLA Section 107(r), up to the amount of unrecovered response costs incurred by the United States at a facility for which the owner is not liable as a BFPP, and where the response action increases the fair market value of the facility. As to the amount and duration of any windfall lien, the Brownfields Amendments state that the amount is not to exceed the increase in fair market value attributable to the response action at the time of sale or other disposition of the property. The windfall lien arises at the time response costs at the facility are incurred by the United States, and shall continue until the earlier of satisfaction of the lien by sale or other means, or, notwithstanding any statute of limitations under CERCLA Section 113, recovery of all response costs incurred at the facility.

Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. §136 et seq. [1996])

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by EPA. Before EPA may register a pesticide under FIFRA, the applicant must demonstrate that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA defines the term "unreasonable adverse effects on the environment" to mean: "(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act."

Superfund Amendments and Reauthorization Act of 1986, Title III; Section 305(a)

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. In addition, Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). SARA, Title III provides funding for training in emergency planning, preparedness, mitigation, response, and recovery capabilities associated with hazardous chemicals Title III of SARA addresses concerns about emergency preparedness for hazardous chemicals, and emphasizes helping communities meet their responsibilities in preparing

[1] U.S. Environmental Protection Agency. *The Superfund Amendments and Reauthorization Act (SARA).* Available at: https://www.epa.gov/superfund/superfund-amendments-and-reauthorization-act-sara. Accessed May 2018.

to handle chemical emergencies and increasing public knowledge and access to information on hazardous chemicals present in their communities.

Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq. [1976])

The RCRA gives EPA the authority to control hazardous waste from the "cradle-to-grave," which includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Toxic Substances Control Act (15 U.S.C. §2601 et seq. [1976])

The Toxic Substances Control Act (TSCA) of 1976 provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from the TSCA, including, among others, food, drugs, cosmetics and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs),[2] asbestos,[3] radon, and lead-based paint.[4]

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the USDOT's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles

[2] U.S. Environmental Protection Agency. *Polychlorinated Biphenyls (PCBs).* Available at: https://www.epa.gov/pcbs. Accessed May 2018.

[3] U.S. Environmental Protection Agency. *Asbestos.* Available at: https://www.epa.gov/asbestos. Accessed May 2018.

[4] U.S. Environmental Protection Agency. *Lead.* Available at: https://www.epa.gov/lead. Accessed May 2018.

transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

**State Regulations**

The Cal-EPA and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes;
- Hazardous Waste Control Law;
- Hazardous Substances Information and Training Act;
- Air Toxics Hot Spots and Emissions Inventory Law;
- Underground Storage of Hazardous Substances Act; and
- Porter-Cologne Water Quality Control Act.

Within Cal-EPA, the Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

AB 387 and Senate Bill (SB) 162

AB 387 and SB 162 provide a comprehensive program to ensure that hazardous material contamination issues are adequately addressed prior to school development. The program involves the preparation of a Phase I Environmental Site Assessment to determine whether a release of a hazardous material has occurred on-site in the past or if there may be a naturally occurring hazardous material present at the site. Based on the information gathered, the Phase I should conclude that either 1) recognized environmental conditions were not identified, or 2) a Preliminary Endangerment Assessment (PEA) is necessary.

Unified Program

The Cal-EPA protects citizens of the State from hazardous waste and hazardous material through a Unified Program. The Unified Program provides consistent administrative requirements, permits, inspections, and enforcement throughout the State. Cal-EPA oversees the 81 certified local government agencies, which are known as Certified Unified Program Agencies (CUPAs), which apply regulatory standards established by Cal-EPA. Calaveras County is a CUPA, which was assessed by Cal-EPA as having “No deficiencies observed.”

Public Safety (California Code of Regulations - Title 19)

Title 19 - Public Safety of the California Code of Regulations includes regulations related to fire safety, emergency services, and seismic safety. Division One of Title 19 is known as the Regulations of the State Fire Marshal, which constitutes the basic building design and construction standards of the State Fire Marshal. The Regulations of the State Fire Marshal have been prepared and adopted for the purpose of establishing minimum standards for the prevention of fire and for the protection of life and property against fire, explosion, and panic.

California Fire Code (California Code of Regulations - Title 24, Part 9)

The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

California Public Resources Code (Section 4290)

Public Resources Code Section 4290 recommends that minimum fire safety standards related to defensible space be adopted by the State. Such standards shall include road standards for fire equipment access, standards for road signs, minimum private water supply reserve requirements for emergency fire use, as well as standards relating to fuel breaks and greenbelts. Regulations enacted pursuant to 4290 shall not superseded local regulations which equal or exceed minimum regulations adopted by the state.

California Public Resources Code (Section 4291)

Public Resources Code Section 4291 establishes maintenance requirements for "any person that owns, leases, controls, operates, or maintains any buildings or structures in, upon, or adjoining any mountainous or forest-covered lands, brush-covered lands, or grass-covered lands, or any land covered with flammable material." The property owner is required to maintain a defensible space of 100 feet from each side of the structure but not beyond the property line unless additional clearing is necessary to significantly reduce the risk of igniting the structure and clearing on the adjacent property is approved in writing by the adjacent landowner.

California Building Code (California Code of Regulations - Title 24, Part 2)

The purpose of the California Building Code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.

California Building Code (Chapter 7A)

California Building Code (Chapter 7A), *Materials and Construction Methods for Exterior Wildfire Exposure*, applies to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area (defined in the Code as Fire Hazard Severity Zones, which are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189). The purpose of Chapter 7A is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flames or burning embers projected by a vegetation fire and contribute to a systematic reduction in conflagration losses. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after December 1, 2005, are required to comply with California Building Code, Chapter 7A.

Hazardous Substances Information and Training Act (Labor Code - Section 6360-6363)

The Hazardous Substances Information and Training Act apply to hazardous substances which are present in the workplace as a result of workplace operations in such a manner that employees may be exposed under normal conditions of work or in a reasonably foreseeable emergency resulting from workplace operations. An emergency includes, but is not limited to, equipment failure, rupture of containers, or failure of control equipment, which may or do result in a release of a hazardous substance into the workplace. Hazardous substances in the workplace in some forms and concentrations pose potential acute and chronic health hazards to employees who are exposed to these substances. Employers and employees have a right and a need to know the properties and potential hazards of substances to which they may be exposed, and such knowledge is essential to reducing the incidence and cost of occupational disease.

Cortese List: Government Code Section 65962.5(a)

The DTSC shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all of the following:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
2. All land designated as hazardous waste property or border zone property pursuant to former Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
3. All information received by the DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.
4. All sites listed pursuant to Section 25356 of the Health and Safety Code.

California Vehicle Code Section 31303

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. California Vehicle Code Section 31303 regulates the transport of hazardous materials.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the Governor's OES, which coordinates the responses of other agencies, including CalEPA, CHP, California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control boards.

California Health and Safety Code

The handling and storage of hazardous materials is regulated on the federal level by the U.S. EPA under CERCLA as amended by the SARA. Under SARA Title III, a nationwide emergency planning and response program was established that imposed reporting requirements for businesses which store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

Ammonia is an example of an acutely hazardous material (AHM) that is regulated by the California Office of Emergency Services under the California Accidental Release Program (CalARP), the U.S. EPA under the Risk Management Program (40 CFR 68), and the OSHA under the Process Safety Management Program (OSHA 1910.119). The California Accidental Release Program and Risk Management Program require that all facilities that store, handle, or use AHMs above a minimum quantity, known as the threshold planning quantity, are required to develop a plan and prepare supporting documentation that summarizes the facility's potential risk to the local community and identifies safety measures to reduce potential risks to the public.

The California HWCL, Chapter 6.5 of the California Health and Safety Code, is administered by CalEPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

In California, the underground storage of hazardous materials is regulated by Chapter 6.7 of the California Health and Safety Code, per the Underground Storage of Hazardous Substances Act. Under section 25280, the underground tanks used for the storage of substances hazardous to the

public health and safety and to the environment are stored prior to use or disposal in thousands of underground locations in the State, which are potential sources of contamination of the ground and underlying aquifers, and may pose other dangers to public health and the environment. Chapter 6.7 establishes orderly procedures that will ensure that newly constructed underground storage tanks meet appropriate standards and that existing tanks be properly maintained, inspected, tested, and upgraded so that the health, property, and resources of the people of the state will be protected.

The handling and storage of hazardous materials is regulated by Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan. The plan provides information to the local emergency response agency regarding the types and quantities of hazardous materials stored at a facility, and provides detailed emergency planning and response procedures in the event of a hazardous materials release. In the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by the California code, facilities are also required to prepare a Risk Management Plan and California Accidental Release Plan, which provides information on the potential impact zone of a worst-case release, and requires plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Department of Public Health – Medical Waste Management Program

To protect the public and the environment from potentially infectious disease causing agents, the Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities and medical waste transfer stations. In addition to the treatment methods specifically allowed in the MWMA, there are alternative medical waste treatment technologies approved for use in California. Additionally, the MWMP acts as the local enforcement agency in a number of local jurisdictions that elected to have the State implement the large quantity generator inspection program for medical waste management.

**Local Regulations**

The following section describes some Calaveras County's existing regulations that pertain to hazards and hazardous materials.

Calaveras County Code Chapter 8.08 – Hazardous Fire Areas

Calaveras County identifies that some uses of grass, grain, brush, or forest-covered lands can cause fire hazards, which pose a threat to life and property from fire and resulting erosion. As such, Chapter 8.08 of the County's Code of Ordinances establishes safeguards and regulations related to recreational, residential, commercial, industrial, and other activities, which could increase the threat of fire hazard. For instance, Chapter 8.08 prohibits smoking, open flames, and outdoor fires in certain situations, and allows the County fire warden to prohibit entry into hazardous fire areas. Penalty for violations of such regulations are considered misdemeanors, which are punishable by fine, imprisonment, or both.

Calaveras County Code Chapter 8.10 – Fire and Life Safety

Chapter 8.10 of the County's Code of Ordinances addresses minimum wild fire protection standards and building construction standards for developments within the unincorporated areas of the County. The chapter applies to various permitting activities, such as the approval of new parcels or lot line adjustments, construction permit applications, use permit applications, the siting of manufactured homes, and road construction. Guidelines included in Chapter 8.10 relate to the design and construction of new structures and roadways, as well as the maintenance of defensible space, location of greenbelts, and the disposal of waste material. Additionally, the Fire and Life Safety chapter allows for the County to require new developments to prepare a fire management plan, if the development would have a significant effect on the provision of fire protection services.

Calaveras County Code Chapter 12.02 – Road Construction Standards

Chapter 12.02 of the County's Code of Ordinances establishes standards for the construction of new roads within the County. Specifically, Chapter 12.02. includes provisions related to road construction for emergency and fire access.

Calaveras County Code Section 8.12.240 – Hazardous Waste

Section 8.12.240 of the County's Code of Ordinances regulates the disposal of hazardous wastes throughout the County by prohibiting the disposal of hazardous wastes except in compliance with the CUPA requirements and other land use regulations.

Calaveras County Code Chapter 8.18 – Storage in Underground Tanks

Chapter 8.18 of the County's Code of Ordinances implements regulations from the California Health and Safety Code, as well as the California Code of Regulations, related to underground storage of hazardous substances. The County Health Department's Environmental Health Section is charged as the implementing and enforcing agency of Chapter 8.18, and the relevant State regulations. Regulations within the chapter include requirements for permitting, testing, and reporting as well as penalties for violations of such requirements.

## 4.7.4 Impacts and Mitigation Measures

The Impacts and Mitigation Measures section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to hazards and hazardous materials. In addition, a discussion of the potential impacts related to buildout of the Draft General Plan, as well as mitigation measures where necessary, is also presented.

### Standards of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The

criteria, or standards, used to determine the significance of impacts may vary depending on the nature of the project. For the purposes of this EIR, an impact is considered significant if the proposed project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, 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 a 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.

**Method of Analysis**

Sources of and risks related to hazards and hazardous materials that could result from implementation of the Draft General Plan are addressed below. The following analysis relies on information from relevant agencies within the County and State. In particular, current information regarding hazardous material use, transport and disposal within the County was analyzed. Such information was considered in the context of the goals, policies and implementation measures (IMs) contained in the Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts is based on buildout of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.7-1 Development associated with the proposed Draft General Plan would create potential hazards related to the public or the environment through the routine transport, use, or disposal of hazardous materials. Based on the analysis below, the impact is *less than significant.***

Implementation of the Draft General Plan would result in further development within the County. Such development would involve residential, commercial, industrial, agricultural, and mining activities. Hazardous materials associated with each type of development are discussed in further detail below.

Construction Activity

Construction activities often involves the use, transport, and foreseeable upset of hazardous materials related to construction equipment. However, construction activities are limited to the project site being developed, and typically occur over limited timeframes. Given the limited temporal and spatial scale of construction activities, the relatively small amounts of hazardous materials used during construction are not typically considered to pose a significant hazard during transport, use, or upset conditions.

Residential Development

Operation of residential developments, such as the residential developments anticipated for buildout within the Draft General Plan, often involve limited use of hazardous materials. Such materials would include landscaping chemicals, automobile fluids, pool chemicals, and other similar hazardous materials. However, operation of residential developments typically involves the use of small amounts of such materials, and residential developments are not typically considered to pose a significant hazard during transportation, use, or upset conditions.

Commercial and Industrial Development

Commercial and industrial activities and/or developments can involve use, storage, transport, and reasonable foreseeable upset of substantial amounts of hazardous materials. For instance, operations of commercial developments including gas stations, automotive repair shops, dry cleaners, medical offices, and hardware stores can all involve the use, transport, and foreseeable upset of substantial amounts hazardous materials. Industrial developments and activities often involve the use, manufacture, distribution and/or storage of hazardous materials. Of particular concern is the storage of hazardous materials, which can result in leaks, spills, or release of hazardous materials. Currently 217 businesses within the County are permitted to handle hazardous materials; buildout of the General Plan is anticipated to increase the number of businesses handling hazardous materials within Calaveras County.

Agricultural Activities

Calaveras County's General Plan also includes areas designated as working lands, resource management, and resource production. Agriculture is an allowable use in such areas, and the County currently contains lands used for vineyards, orchards, row crops, and pastureland. Past and present agricultural practices within the County may have resulted in soil contamination, especially in areas of pesticide storage and crop dusting strips. Agricultural uses may have included the use of fungicides, pesticides, and pre-emergent

chemicals. The fungicides and pesticides/insecticides would have been applied to orchard trees and vines, while the pre-emergents are applied to grasses and weeds prior to their spread. The chemicals typically used over the last 15 to 20 years break down shortly after application. However, long-term use of the areas in the county for similar agricultural purposes could leave residue chemicals in the soil.

Toxicological studies indicate that persistent pesticides/herbicides have long half-lives in soil. However, the soil must be ingested to significantly expose an individual to the associated chemical hazards. Although the chemicals are considered persistent over long periods of time, their concentrations degrade over time, rendering them less hazardous.

Preliminary site assessments, appropriate clean-up action, and remediation measures would help prevent any risk if previously contaminated agricultural lands were designated for urban uses.

Mining Activity

In addition to the ten active mines in the County, numerous abandoned and reclaimed mining areas exist throughout the County as well. Active and abandoned mines may present physical as well as chemical hazards. In particular, the abandoned Detert Deposit Mine and the abandoned Wet Gulch Mine have been rated by the Department of Conservation Office of Mine Reclamation as having high physical risks. Furthermore, the Office of Mine Reclamation identified the abandoned Penn Mine as having a high risk from persistent ARD and potential heavy metal contamination of the Camanche Reservoir and Mokelumne River.

General Plan Discussion

The proposed General Plan includes the following goals, policies, and IMs applicable to hazards and hazardous materials issues:

Policy S 5.2 Work cooperatively with local, state and federal agencies to manage the use, transport, treatment and disposal of hazardous materials. (IM s-5A, S-5B, S-5D and S-5E)

Policy S 5.3 Strive to maintain the County's Certified Unified Program Agency (CUPA) "No deficiencies observed" status. (IM S-5C)

IM S-5C Certified Unified Program Agency (CUPA). Continue to maintain the County's status as a CALEPA-CUPA as implemented through the Calaveras County Environmental Health Department.

IM S-5D Local, State, and Federal Hazardous Materials Management Regulations. Continue to monitor changes in state and federal regulations and enforce local, state and federal regulations governing land uses involving the use or production of hazardous materials including, but not limited to, the Surface

Mining and Reclamation Act (SMARA) as it pertains to the use and clean-up of hazardous materials associated with mining.

Consolidation of information related to hazardous material use, transport, and contamination would allow emergency responders to properly prepare for situations involving the foreseeable upset of such materials (IM S-5A), which would reduce the potential threat posed by upset of hazardous materials. Moreover, the County would maintain up-to-date regulations and enforcement based on existing local, State, and federal legislation and regulation (IM S-5D, Policy S 5.2, and Policy S 5.3). For example, California Vehicle Code Section 31303 regulates the transport of hazardous materials. In addition, the RCRA gives EPA the authority to control hazardous waste from the "cradle-to-grave," which includes the generation, transportation, treatment, storage, and disposal of hazardous waste. Furthermore, the County's Code of Ordinances seeks to reduce future contamination of sites and potential exposure to hazardous materials through County Code 8.12.240, which prohibits the disposal of hazardous materials except where such disposal is conducted in compliance with the County's CUPA regulations.

Implementation of the goals, policies, and IMs above would address potential risks to sensitive receptors, associated with the routine use, transport, and disposal of hazardous materials. This would be accomplished through the control of hazardous material use and disposal within the County (County Code 8.12.240) and the on-going maintenance of regulations and enforcement procedures (IM S-5D, Policy S 5.2, and Policy S 5.3). Therefore, the Draft General Plan would result in a ***less-than-significant*** impact.

Mitigation Measure(s)
*None required.*

**4.7-2 Development associated with the Draft General Plan could 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. Based on the analysis below, the impact would be *less than significant*.**

The effects of hazardous materials handling and storage associated with buildout of the Draft General Plan would generally be greatest in the immediate areas where the materials would be located. Exposure at more distant locations would require some mechanism to transport the material to a more distant location. For this reason, the land uses that would be more at risk are the ones closer to the sources of hazardous materials and wastes. The pathways through which the community or the environment could be exposed to hazardous materials include breathing, ingestion, and dermal contact.

A substantial number of state and federal regulations exist that control and prevent risks to the environment due to hazardous wastes and materials. Within the Cal-EPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport and disposal of hazardous waste under the authority of the

HWCL. In addition, the Calaveras County Environmental Management Agency is the responsible agency for enforcing proper identification and disposal of hazardous products.

Accidents during hazardous waste transport to and from a site could expose individuals and the environment to risks at some distance from the project site. However, the USDOT and the U.S. Postal Service specify packaging requirements for hazardous materials and wastes that limit the potential for packages to fail on impact, thus reducing the likelihood of hazardous material exposure due to transportation incidents. These requirements reduce the potential for hazardous materials releases to occur in the unlikely event of an accident.

General Plan Discussion

The proposed General Plan includes the following goals, policies, and IMs applicable to hazards and hazardous materials issues:

Goal S-1 People, property, economy, and natural resources safe from the risks of natural and manmade hazards.

Policy S 1.2 Require new development to incorporate design features that minimize vulnerability to natural and man-made hazards. (IM S-1A)

Policy S 1.4 Prior to approving new development in identified hazardous areas, evaluate the public costs that would be incurred if emergency or remedial actions become necessary. (IM S-1B)

Policy S 1.7 Locate new essential public facilities, utilities, and services away from identified hazard areas.

Goal S-5 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from the use, transport, treatment and disposal of hazardous materials and wastes.

Policy S 5.1 Evaluate proposed new development for potential long-term risks related to hazardous materials to people, property, existing and planned land uses in the vicinity of the proposed use. (IM S-5B)

Policy S 5.4 Require new development to incorporate adequate separation between areas using or storing hazardous materials and sensitive land uses.[5] (IM S-5F)

Goal RP-5 Mined lands reclaimed to a useable condition readily adaptable for subsequent land uses.

[5] The following land uses are considered sensitive receptors for the purpose of exposure to hazardous materials: residentially designated land uses; hospitals, nursing/convalescent homes and similar board and care facilities; hotels and lodging; schools and day care centers; and neighborhood parks. Home occupations (i.e., Rural home industries) are excluded.

Policy RP 5.1 Require reclamation of mined lands to a usable condition readily adaptable for subsequent land uses in conjunction with discretionary reviews of proposed surface and subsurface mining operations; consider recreational, watershed, wildlife, range and forage, and aesthetic values; prevent or minimize adverse environmental effects; and eliminate residual hazards to the public health and safety. (IM RP-4H)

Policy RP 5.2 Implement reclamation planning in a manner that acknowledges the potential for ongoing and/or future mining activities while providing for the subsequent beneficial use of the mined land, providing flexibility in the post-mining uses. (IM RP-4H)

Policy RP 5.4 When reviewing proposed mining applications consider recreational, watershed, wildlife, range and forage, and aesthetic values; prevent or minimize adverse environmental effects; eliminate residual hazards to the public health and safety; and reclaim mined lands to a usable condition readily adaptable for subsequent land uses. (IM RP-4A)

IM S-5A Hazardous Material Data Consolidation. Initiate a program consolidating hazardous materials information from multiple agencies in a single location (e.g., local hazardous materials business plans, historic mine locations, state and federal sources). Ensure that emergency response agencies and planners have access to this data to facilitate emergency response, facilitate environmental review, and guide decisions on future development.

IM S-5B Developing and Remediating Contaminated Sites. Review development projects proposed on sites known or likely to be contaminated by hazardous materials and/or that are identified in local, state or federal databases as likely to contain hazardous materials, for assessment and, if necessary, remediation of the site to a level appropriate for the proposed land use in accordance with all local, state, and federal regulations prior to development.

IM S-5F Land Use Compatibility. Review Chapter 17.49 (Specified Hazardous Waste Facilities Combining Zone) and, if necessary, identify best management practices that may be implemented to address compatibility between hazardous materials and sensitive land uses.

IM RP-4E Abandoned/Historic Mines – Use guidelines from the Abandoned Mine Lands Unit of the Department of Conservation and reference this agency as a source of funding for remediating abandoned/historic mines.

IM RP- 4H Reclamation – Continue to require a reclamation plan and financial assurances, consistent with state law including SMARA and adopted rules and regulations for the implementation of SMARA (California Code of Regulations California Code of Regulations, Title 14, Division 2, Chapter

8, Subchapter 1, and as may be amended), and other applicable state and federal standards, for all mining operations that are not otherwise expressly exempted by state law. In addition to State-mandated requirements, reclamation plans shall:

- When creating or restoring plant or wildlife habitats, aesthetically blend the reclaimed site into the surrounding area or provide an acceptable alternative so far as is reasonably practical.
- Provide for the utilization of existing facilities and/or infrastructure for compatible uses other than those associated with mining or mineral extraction upon the cessation of the mining operation.

The above goals, policies, and IMs, would ensure that development resulting from the Draft General Plan would occur with due consideration of manmade hazards (Goal S-1), such as hazardous materials (Goal S-5). Such consideration would be simplified through the consolidation of hazardous material data (IM S-5A). Once consolidated, hazardous material data for the County would then use the hazardous material data to assess the compatibility of proposed land uses (IM S-5B, IM S-5F, Policy S 5.1, and Policy S 5.4). Assessment of compatibility between proposed land uses and information related to hazardous materials would ensure that development related to buildout of the Draft General Plan would be properly analyzed. Policy S 1.2 would require new development to incorporate design features to minimize vulnerability to natural and man-made hazards. For development projects proposed on sites known or likely to be contaminated by hazardous materials and/or that are identified in local, state or federal databases as likely to contain hazardous materials, IM S-5B would require, if necessary, remediation of the site to a level appropriate for the proposed land use in accordance with all local, state, and federal regulations prior to development. Therefore, future development occurring under the Draft General Plan would not be exposed to substantial risks related to hazards and hazardous materials.

A central concern of the Draft General Plan, in regards to mining, is the proper reclamation of mined lands (Goal RP-5). Various policies and IMs require that reclamation of mined lands be integrated into the planning of new mines (Policy RP 5.1, Policy RP 5.2, Policy RP 5.4, IM RP-4H). Furthermore, remediation of abandoned mines is conditioned to follow the guidelines of the Department of Conservation by IM RP-4E, and any updated regulations as specified in IM S-5D. Properly planning for mine remediation, and remediation of existing abandoned mines would effectively reduce the chemical and physical hazards presented by mines in the County. Additionally, the County's Code of Ordinances, Chapter 17.56, adopts all relevant regulations of SMARA, including comprehensive regulations for active mines and mine reclamation. Chapter 17.56 of the County's Code prohibits surface mining operations from being conducted unless a permit, reclamation plan, and financial assurances for reclamation have first been approved by the County. The County's requirement for financial assurances to be established prior to permitting would ensure that proper reclamation of any permitted mining activity would occur. Additionally, Chapter 17.56 affirms the applicability of CEQA to proposed surface mining and reclamation activity within the County. Because future mining and reclamation

activity would be subject to CEQA, potential environmental impacts, such as impacts related to hazardous materials, would be analyzed and mitigated to the maximum extent possible. By requiring proper permitting and review of mining activity, the County's Code ensures that future mining activity would not result in hazardous conditions during operation of the mining activity and during reclamation of the mine. Thus, the County's General Plan policies and County Code would provide protection from hazardous chemicals and safety hazards related to past, present, and future mining activity within the County.

Implementation of the goals, policies, and IMs above would ensure that buildout of the Draft General Plan would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, including hazards from mining activity. This would be accomplished through the compilation of available data on hazardous materials (IM S-5A) and the proposed assessment of compatibility between new development and existing hazards (IM S-5B, IM S-5F, Policy S 5.1, and Policy S 5.4). Therefore, the Draft General Plan would result in a ***less-than-significant*** impact.

Mitigation Measure(s)
*None required.*

**4.7-3 Development associated with the Draft General Plan could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Based on the analysis below, the impact would be *less than significant.***

Employment areas, which include industrial and commercial uses, are proposed in the General Plan Land Use Map within one quarter of a mile of residential and Public/Institutional. Schools are acceptable uses within lands designated Public/Institutional; therefore, schools may currently exist or be developed within one quarter of a mile of existing industrial and commercial uses. However, the specific sites of and need for new schools will depend upon decisions by the School Boards of the districts within the County, and the availability of appropriate land. Additionally, CEQA Guidelines Section 15186 include specific regulations pertaining to developments in proximity to existing schools and development of schools within proximity to existing developments using hazardous materials. Compliance with CEQA Guidelines Section 15186, as well as the Draft General Plan goal, policies, and IMs discussed above would ensure that development in proximity to schools and development of schools would not result in significant impacts related to the use, transport, or emission of hazardous materials within one quarter of a mile of schools. Therefore, the Draft General Plan would result in a ***less-than-significant*** impact.

Mitigation Measure(s)
*None required.*

**4.7-4 Development associated with the Draft General Plan could occur on sites included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Based on the analysis below, the impact would be *less than significant.***

Government Code section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is a planning document that provides information about the location of hazardous materials release sites. As discussed in the Environmental Setting of this section, various hazardous waste clean-up sites exist within the County. Such sites include sites listed on the DTSC's EnviroStor system,[6] and SLIC sites.

The proposed Draft General Plan includes the following goals, policies, and IMs applicable to development on or near hazardous materials sites:

Goal S-1 People, property, economy, and natural resources safe from the risks of natural and manmade hazards.

Policy S 1.4 Prior to approving new development in identified hazardous areas, evaluate the public costs that would be incurred if emergency or remedial actions become necessary. (IM S-1B)

Policy S 1.7 Locate new essential public facilities, utilities, and services away from identified hazard areas.

Goal S-5 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from the use, transport, treatment and disposal of hazardous materials and wastes.

Policy S 5.1 Evaluate proposed new development for potential long-term risks related to hazardous materials to people, property, existing and planned land uses in the vicinity of the proposed use. (IM S-5B)

Policy S 5.2 Work cooperatively with local, state and federal agencies to manage the use, transport, treatment and disposal of hazardous materials. (IM s-5A, S-5B, S-5D and S-5E)

Policy S 5.3 Strive to maintain the County's Certified Unified Program Agency (CUPA) "No deficiencies observed" status. (IM S-5C)

IM S-5A Hazardous Material Data Consolidation. Initiate a program consolidating hazardous materials information from multiple agencies in a single location (e.g., local hazardous materials business plans, historic mine locations, state and federal sources). Ensure that emergency response agencies and planners

[6] California Department of Toxic Substances Control. *EnviroStor*. Available at: http://www.envirostor.dtsc.ca.gov/public/. Accessed March 2017.

have access to this data to facilitate emergency response, facilitate environmental review, and guide decisions on future development.

IM S-5B Developing and Remediating Contaminated Sites. Review development projects proposed on sites known or likely to be contaminated by hazardous materials and/or that are identified in local, state or federal databases as likely to contain hazardous materials, for assessment and, if necessary, remediation of the site to a level appropriate for the proposed land use in accordance with all local, state, and federal regulations prior to development.

IM S-5C Certified Unified Program Agency (CUPA). Continue to maintain the County's status as a CALEPA-CUPA as implemented through the Calaveras County Environmental Health Department.

IM S-5D Local, State, and Federal Hazardous Materials Management Regulations. Continue to monitor changes in state and federal regulations and enforce local, state and federal regulations governing land uses involving the use or production of hazardous materials including, but not limited to, the Surface Mining and Reclamation Act (SMARA) as it pertains to the use and clean-up of hazardous materials associated with mining.

IM S-5F Land Use Compatibility. Review Chapter 17.49 (Specified Hazardous Waste Facilities Combining Zone) and, if necessary, identify best management practices that may be implemented to address compatibility between hazardous materials and sensitive land uses.

The aforementioned goals, policies and implementation measures would regulate future development on identified hazardous materials sites. The Draft General Plan would require the County to fully analyze projects involving proposed developments on sites within the County that are identified pursuant to Government Code 65962.5 (Goal S-1, Policy S 1.4, Policy S 1.7, and IM S-5B). Review of such development would occur in compliance with the most up-to-date applicable local, state, and federal regulations, and would ensure that remediation needed to reduce the potential hazards related to development of the contaminated site was required and completed (IM S-5B, IM S-5C, IM S-5D, Policy S 1.7, and Policy S 5.1). Such review would be aided through the compilation of hazardous materials data required by IM S-5A. Moreover, existing regulations within the County's Code of Ordinances would prevent the contamination of new sites, by requiring proper disposal of hazardous materials (County Code 8.12.240).

Many of the identified hazardous materials sites are located within developed areas of the County, such as school cleanup sites or sites related to previous mining activities near Copperopolis and elsewhere. Development associated with the Draft General Plan could occur in the previously developed areas affected by existing hazardous material conditions. Therefore, while buildout of the proposed Draft General Plan could involve development on sites containing hazardous materials, such development projects would be subject to

review, and remediation of any existing hazardous conditions would be required by the County prior to development (IM S-5B). Review and remediation would not halt development on hazardous material sites, but would ensure that development on such site would not result in significant impacts related to exposure to hazardous materials. Thus, development related to the Draft General Plan would result in a ***less-than-significant*** impact related to development of sites on a list of hazardous materials sites.

Mitigation Measure(s)
*None required.*

**4.7-5 Development associated with the proposed Draft General Plan would be located within an airport land use plan or within two-miles of a private airstrip, and may create potential safety hazards for people residing or working in the project area. Based on the analysis below, the impact is *less than significant.***

One public airport, the Calaveras County Airport/Maury Rasmussen Field, exists in Calaveras County. Safety hazards associated with the operation of the Calaveras County Airport includes hazards related to physical flight interference and interference from surrounding land uses. The Calaveras County Airport Land Use Compatibility Plan (ALUCP) was adopted June 2, 2010 by the Calaveras County Airport Land Use Commission. State law requires that the County modify the General Plan and any other affected specific plans to be consistent with the ALUCP. In addition to the Calaveras County Airport/Maury Rasmussen Field, numerous private air strips also exist throughout the County. As such, the following goals and policies have been incorporated into the Draft General Plan related to airport land use associated hazards.

Goal LU-3 A pattern of growth and development that effectively utilizes the planned provision of infrastructure, facilities, and public services.

Policy LU 3.2 Maintain the compatibility of surrounding land uses and development so as not to impede the existing and planned operation of public airports, landfills, sewage treatment and related community service facilities. (IM LU-3A and LU-3B)

Policy LU 3.3 Implement the provisions of the Calaveras Airport ALUCP to protect the ongoing operations of the airport and safety of the public. (IM LU-3A)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to airport land uses.

IM LU-3A Airport. On an on-going basis, review the general plan, including land use designations surrounding the airport for consistency with the Airport Land Use Compatibility Plan.

As shown in Figure 3-3, General Plan Land Use Map, of the Project Description chapter of this EIR, development is planned within the ALUCP plan area. However, Policy LU

3.2, and Policy LU 3.3 require such development to occur in compliance with the ALUCP. Moreover, Calaveras County Code 17.04.020 requires that all structures within the Airport Height Limitation combining district respect maximum height limitations without exception. Because Policy LU 3.2 and IM LU-3A would require future development to maintain consistency with the ALUCP, development associated with the Draft General Plan would not involve incompatible land uses or development that could result in flight interference. Additionally, development in proximity to private airstrips associated with buildout of the Draft General Plan would be generally rural in nature. Such rural development would not involve the siting of high numbers of residents or employees within two-miles of a private airstrip, or within areas of particularly elevated crash risk.

As such, while the Draft General Plan would result in development within an airport land use plan, the goals, policies, and IMs contained within the Draft General Plan would ensure that development related to the Draft General Plan would not create a safety hazard, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.7-6 Development associated with the proposed Draft General Plan would not interfere with an adopted emergency response plan or emergency evacuation plan. Based on the analysis below, the impact is *less than significant*.**

The most recent Calaveras County Local Hazard Mitigation Plan (LHMP) was adopted by the County in 2015. The LHMP identifies hazards and methods to reduce threats and/or eliminate long-term risks to people and property from multiple hazards. The plan contains an initial earthquake performance evaluation of public facilities providing essential services, shelter and critical governmental functions; an inventory of private facilities that are potentially hazardous; and a plan to reduce the potential risk to private and governmental facilities in the event of a disaster. The Draft General Plan seeks to protect the community from injury and damage resulting from natural catastrophes and hazardous conditions by incorporating the current LHMP and requiring County involvement in future planning activity related to the preparation of LHMPs. The Draft General Plan includes the following goals and policies related to emergency response and evacuation plans.

Goal S-1 People, property, economy, and natural resources safe from the risks of natural and manmade hazards.

Policy S 1.1 Ensure that discretionary actions involving new development will not interfere with the implementation of emergency response plans or the viability of evacuation routes established by local, state or federal agencies. (IM S-1A, S-3V and S-5E)

Policy S 1.6 Enhance communications systems to facilitate emergency response and for post-disaster recovery. (IM S-1H and S-3U)

Policy S 1.9 The County adopts, by reference, the 2015 Local Hazard Mitigation Plan, or any update thereto, as a part of this General Plan.

Goal S-3 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from fires.

Policy S 3.4 All new development shall meet any applicable standards for access by emergency vehicles and egress by residents. (IM S-3A, S-3B, S-3C, S-3D and S-3W)

Goal PF 5 Prepared for and be able to respond to and recover from the effects of natural and manmade disasters and other emergencies.

Policy PF 5.1 Support and encourage interagency coordination and cooperation to prepare for and in response to disaster and emergency situations. (IM PF-5A and PF-5B)

Goal C-1 A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character.

Policy C 1.13 Strive to increase roadway connectivity, particularly in Community Areas, to reduce trip lengths, enhance emergency response, encourage opportunities for trips to be made by walking and bicycling.

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to emergency response and emergency evacuation plans.

IM S-1A Local Hazard Mitigation Plan. Include Planning Department and/or Public Works representation in the LHMP planning process to ensure that LHMP safety criteria applicable to the design of new development are fashioned in a manner that facilitates incorporation into County codes and conditions of project approval.

IM S-1C Evacuation Routes, Sites and Centers. Identify evacuation routes included in adopted emergency response plans on the County GIS or equivalent, to assist planners in evaluating if a new development will impair or physically interfere with an adopted emergency evacuation plan.

IM S-1E Current Information. Continue to monitor, maintain and update natural hazard information as it becomes available. Monitor flood mapping activities undertaken by state and federal agencies and provide comments on draft maps to ensure accuracy. Continue to monitor the California Department of Conservation, California Geological Survey website and related seismic and geological information centers for release of updated ground shaking maps, geotechnical data and soils information for Calaveras

County. Update emergency plans, the general plan and the County Code, as necessary, in response to the release of new data.

IM S-1F Public Safety Information. Provide for and expand the availability of safety hazard reduction information on the County website and via handouts available at the Building Department (e.g., flood hazard prevention information, links on the County's website to other sites, fire-resistant building materials and best practices in building a fire safe zone around homes and buildings, fire-resistant plants and vegetation clearing methods, emergency response preparedness for residents including emergency evacuation plans, and the identification, reduction, recycling and proper disposal of hazardous materials).

IM S-1G Communication Facilities. Streamline the permitting process for the provision of communications systems to enhance emergency response and for post-disaster recovery.

IM S-3G Coordinated Fire Prevention and Response Planning Efforts. Continue to participate in and support coordinated fire prevention and response planning efforts. Improve interdepartmental communications to enhance coordinated fire emergency response and planning between the Calaveras County Sheriff's Office of Emergency Services, the County's multiple fire districts, CalFire, the U.S. Forest Service, Planning, Public Works, the Calaveras Council of Governments and other affected agencies. Keep apprised of recommendations contained in the CalFire, Tuolumne/Calaveras Unit Strategic Fire Plan and Calaveras County Community Wildfire Protection Plan. Coordination efforts should include evaluations of proposed road improvements in the County's Circulation Element and Regional Transportation Plan that may improve emergency evacuation routes. Support may be in the form of hosting a strategic planning session for emergency response personnel and planners. Coordination may also be achieved in the form of sharing GIS database layers and fire modeling data.

IM S-3R Intermittent/Non-Permanent/Visitor High Occupancy Uses. In cooperation with local, state and federal agencies and in conjunction with Measure S-1C, inventory and identify campgrounds and high occupancy recreation facilities (including the County Fairground, Big Trees State Park, RV parks, and private campgrounds) in conjunction with the next update of the Calaveras County Community Wildfire Protection Plan and incorporate evacuation plans and emergency response plans to address emergency response for these intermittent high-occupancy uses into any future evacuation plans.

IM S-3U Emergency and Temporary Communication Systems. Adopt a telecommunications ordinance, or equivalent provisions, that allow for the installation of temporary communication facilities during and after

emergency situations. The County shall allow for over-the-counter issuance of permits for temporary communications facilities allowing restoration of communications during emergency recovery. Temporary facilities may be allowed to remain until applications are received, evaluated and processed and, if approved, built for permanent facilities restoring communications. Temporary post-emergency recovery periods shall be of a length as specified by the Calaveras County Board of Supervisors and may be extended, as necessary to ensure adequate communications for affected communities.

IM S-3V Evacuation Routes. Prepare a consolidated map of identified evacuation routes adopted in emergency response plans for reference at the Planning Department. Keep apprised of recommendations for emergency access/egress routes included in the Calaveras County Community Wildfire Protection Plan and facilitate incorporating proposed new evacuation routes into the County's regional transportation plan. If a Battalion Evacuation Plan is prepared as recommended in the Calaveras County Community Wildfire Protection Plan, coordinate with the emergency response agencies preparing the plan to ensure that such roadways are clearly identified and shared with the County Planning Department to adequately evaluate potential impacts of new development with respect to their potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as required pursuant to CEQA.

IM PF 5B Emergency Operations Plan (EOP). Update the Emergency Operations Plan on a regular basis to maintain preparedness for large scale emergencies (i.e. wildfires, flooding, hazardous materials incidents), consistent with the provisions of state law and the National Incident Management System.

As discussed above, the Draft General Plan incorporates the County's LHMP, which is the relevant emergency response plan for the County. The goals, policies, and IMs within the Draft General Plan provide extensive regulations and guidelines which would ensure that new developments do not interfere with emergency response plans, while also requiring further emergency response planning and preparation. For instance, the Draft General Plan requires that new developments throughout the County do not create conflicts with existing emergency plans, and such developments must create or maintain adequate emergency access (Policy S 1.1, Policy S 3.4, Goal PF 5, and IM S-1C). The Draft General Plan also stresses the need for continued improvements of emergency access and evacuation routes related to the County's circulation network (Goal C-1 and Policy C 1.13). The County's Code of Ordinance includes similar regulations focused on the maintenance of emergency access, and the provision of new emergency access in proposed developments in County Code Chapter 12.02 and 8.10. By requiring adequate emergency access, defensible space, and adequate emergency design, the County's Code of Ordinances would ensure that new development related to buildout of the General Plan would not conflict with existing emergency response or evacuation plans. Finally, the County's General Plan includes IMs

related to the maintenance of emergency response and evacuation plans as well as the need for further public outreach and education related to emergency response and evacuation plans (IM S-1E, IM S-1F, and IM S-3G). Included in such evacuation plans is the requirement that a consolidated map of evacuation routes be prepared and provided to the Calaveras County Planning Department (IM S-3V). The preparation of a consolidated evacuation route map would enable the County Planning Department to ensure new developments would not interfere with evacuation routes.

Thus, the Draft General Plan includes goals, policies, and IMs to ensure that build out of the Draft General Plan would not conflict with the LHMP. The goals, policies, and IMs of the Draft General Plan would also ensure that new developments would be adequately served by emergency services, and developments would be designed to accommodate emergency response and activity. Therefore, implementation of the goals and policies above would reduce impacts to a ***less-than-significant*** level.

Mitigation Measure(s)
*None required.*

**4.7-7 Development associated with the proposed Draft General Plan would expose people or structures to a significant risk or loss, injury or death involving wildland fires. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Given the rural nature of the County, residential, commercial, recreational, and industrial development within the County often occurs in areas near or in forests, grasslands, shrub lands, and other natural areas considered wildlands. Such areas where urban and wildland areas mix are known as a Wildland Urban Interface (WUI). As of 2015, over 89 percent of the County was classified as being in a high or very high fire risk zone, and as of 2010, over 15,000 improved parcels with $2.2 billion in improvements were located in very high fire hazard zones. The County has identified the potential risk from continued development in areas with high and very high risk, and has incorporated the following goals and policies related to risks from wildland fires and protection from such risks.

Goal S-1 People, property, economy, and natural resources safe from the risks of natural and manmade hazards.

Policy S 1.2 Require new development to incorporate design features that minimize vulnerability to natural and man-made hazards. (IM S-1A)

Policy S 1.4 Prior to approving new development in identified hazardous areas, evaluate the public costs that would be incurred if emergency or remedial actions become necessary. (IM S-1B)

Policy S 1.7 Locate new essential public facilities, utilities, and services away from identified hazard areas.

Goal S-3 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from fires.

Policy S 3.1 Apply consistent standards for new development commensurate with the severity of the fire hazard as reflected in designated fire hazard zones and as necessary to reduce potentially significant adverse impacts related to structural (urban) and wildland fires. (IM S-3A, S-3B and S-3W)

Policy S 3.2 Ensure that new development, including essential public facilities, complies with adopted fire codes and standards for fire protection. (IM S-3A)

Policy S 3.3 Review new development proposals in coordination with CalFire and individual fire districts to ensure that impacts to fire protection districts are identified and, where necessary, require new development to mitigate those impacts consistent with state law. (IM S-3C, S-3D and S-3W)

Policy S 3.4 All new development shall meet any applicable standards for access by emergency vehicles and egress by residents. (IM S-3A, S-3B, S-3C, S-3D and S-3W)

Policy S 3.5 Include professional fire planning experts in the planning review process for projects located in High and Very High Fire Hazard Areas to consistently evaluate fire safe design, potential impacts related to fire safety, and to identify effective measures to minimize potential impacts related to wildland fire. (IM S-3A and S-3S)

Policy S 3.9 Require property owners to maintain wildlands in a fire resistant manner consistent with Section 4291 of the Public Resources Code in conjunction with new development and including ongoing maintenance after project construction. Assist fire protection agencies in their efforts to enforce PRC 4291. (IM S-3E, S-3G, S-3I, S-3O, S-3Q and S-3S)

Policy S 3.10 Coordinate with local, state and other fire agencies to improve community fire safety to the extent that such actions may fall within the County's legislative authority. (IM S-3G, S-3I, S-3P, S-3R and S-3T)

Policy S 3.11 Facilitate the education of landowners, residents, visitors and business owners about the risks of living in the wildland urban interface including applicable regulations, prevention measures and pre-planning activities. (IM S-3I, S-3O and S-3Q)

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other

public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.4 Coordinate with LAFCo and special districts to ensure annexations to service districts will be consistent with the General Plan policies prior to project approvals and/or annexations to special districts. Establish clearly defined service areas and spheres of influence to identify where service providers will and can provide future service. (IM PF-1C, PF-1E, PF-1F, PF-1G, PF-1H, FP-2A and PF-2G)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 5 Prepared for and be able to respond to and recover from the effects of natural and manmade disasters and other emergencies.

Policy PF 5.1 Support and encourage interagency coordination and cooperation to prepare for and in response to disaster and emergency situations. (IM PF-5A and PF-5B)

Policy PF 7.6 Support collocation of communication system to facilitate private cellular service and emergency communications. (IM PF-7E)

In addition to the goals and policies presented above, the General Plan includes the following IMs related to fire protection.

IM S-1D Public Safety Information. Provide for and expand the availability of safety hazard reduction information on the County website and via handouts available at the Building Department (e.g., flood hazard prevention information, links on the County's website to other sites, fire-resistant building materials and best practices in building a fire safe zone around homes and buildings, fire-resistant plants and vegetation clearing methods, emergency response preparedness for residents including emergency evacuation plans, and the identification, reduction, recycling and proper disposal of hazardous materials.)

IM S-3A Calaveras Code Consistency with State Fire Safety Standards. Review the County Code and Highway Design Manual for consistency with state fire safety regulations. Amend the Code and design manual as may be necessary

to conform to state law, which may include provisions for defensible space exceptions, maintenance, reduced fuel zones, and establishing building setbacks or easements for all new construction to allow for adequate defensible space. Continue to update Title 15 of County Code to incorporate fire protection measures required by the current editions of the California Building Code and the California Fire Code for new construction.

IM S-3B Local Fire Safety Standards. Review applicable fire safety standards adopted by local fire districts and assess their consistency with adopted County fire safety regulations.

IM S-3C Comprehensive Fire Safety Standards. Create a comprehensive fire safety standard(s) reference for use by planners and applicants to facilitate incorporating these standards in new development, including new essential public facilities, to the extent feasible. References shall include, at a minimum: the current versions of the Tuolumne-Calaveras Unit Strategic Fire Plan and Calaveras County Community Wildfire Protection Plan.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-4C Funding Law Enforcement and Emergency Services. Establish a development impact fee to fund capital costs and operations of law enforcement, communications, and emergency services to serve new development and maintain existing levels of service.

Implementation of the Draft General Plan would lead to construction and operation of new residential, commercial, industrial, and recreational facilities. Such development would occur within WUI areas, which would place more structures in high or very high fire hazard zones. However, as shown above, new developments would be subject to various

requirements of the goals, policies, and IMs of the Draft General Plan. Included in such regulations are the requirements that all new development within the County meet the most up-to-date local and state building fire protection standards (Goal S-1, Policy S 1.2, Policy S 3.1, and IM S-3A). New development that meets the local and state building fire protection standards would be less likely to suffer damage or loss due to hazards. The Draft General Plan would further require developments meeting the fire protections standards to adhere to fuel management and property management guidelines and regulations (Policy S 3.3 and IM S-3S). Fuel management would reduce hazards related to transferring fire from wildland to urban structures, and allow for easier control of fires near structures, when such fires occur. However, fuel management practices, such as the development of roads, fuel breaks, and emergency water sources, would have the potential to result in on-going disturbance of natural areas surrounding future development, which may result in temporary or ongoing impacts to the environment.

Additionally, new developments would be required to provide appropriate emergency access (Policy S 3.4), which would reduce the danger associated with fire hazards. Requirements regarding emergency access are also included in the Calaveras County Code of Ordinances as sections 8.08, 8.10, and 12.02, and new development would be subject to such regulations. Taken together, the above goals, policies, IMs and County Codes would act to reduce the potential for damage or loss of new development due to fires.

Compliance with the Draft General Plan and the County Code of Ordinances would be assured through review of development applications. Development review would be conducted by CalFire, the appropriate fire district, and/or a fire planning professional as deemed reasonable given a project's location and fire hazard severity (Policy S 1.4, Policy S 3.3, Policy S 1.4, and IM S-3W). Review of development projects would focus on reducing the potential hazards related to development within the WUI and assessing impact mitigation where necessary.

Despite the aforementioned regulations, the Draft General Plan would result in continued development within high and very high fire hazard severity zones. In addition to certain future development areas within the County being within designated high and very high fire hazard severity zones, areas within the County that could be developed under the Draft General Plan may be located in areas with steep slopes or prevailing wind patterns that could result in higher fire risks locally. Steep slopes and local prevailing wind patterns within the County would have the potential to exacerbate risks from wildland fires by allowing for the rapid spread of wildland fires into development areas, or the exposure of future residents to pollutants from wildfires. While active wildfires would pose immediate threats to developments, in the aftermath of such wildfires, developments in areas with steep slopes or variable terrain could further be exposed to risks from flooding or landslides as a result of runoff or post-fire slope instability. Review of development plans by CalFire, the appropriate fire district, and adherence to County regulations regarding to fire safety, would serve to identify site specific concerns regarding slope, prevailing winds, and post-fire slope instability; however, development under the Draft General Plan may still occur in such areas.

Considering the above discussion, development associated with buildout of the Draft General Plan would expose people or structures to significant risk involving wildland fires, and a ***significant*** impact would result.

Mitigation Measure(s)

Buildout of the Draft General Plan would involve construction of new developments, which could expose new structures to moderate, high and very high fire hazards. The following mitigation measure would alleviate, but not eliminate the impacts due to such development. Other feasible measures are not available to reduce impacts associated with the construction of new developments in moderate, high and very high fire hazard severity zones to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

*4.7-7 Policy S 3.2 of the Draft General Plan shall be revised as follows:*

*Policy S 3.2* ~~*Ensure that*~~ *The County shall review applications for new development, including essential public facilities, to ensure that new development complies with adopted fire codes and standards for fire protection. Application review for new developments which would be located in moderate, high, and very high fire hazard severity zones shall include a consistency check to ensure that the proposed project conforms with the standards of Title 24, Wildland Urban Interface Building Codes, and Title 14 of the California Code of Regulations 1270, as well as assessing potential hazards related to slope, prevailing wind patterns, and the potential for post-fire hazards. (IM S-3A)*

# 4.8 HYDROLOGY AND WATER QUALITY

## 4.8.1 INTRODUCTION

The Hydrology and Water Quality chapter of the EIR describes existing drainage patterns and water resources for the project area and the region, and evaluates potential impacts of the project with respect to drainage and water quality concerns. The hydrology and water quality impact analysis is primarily based on information from the Calaveras County Local Agency Groundwater Protection Program, the *Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan Update,*[1] and the Calaveras County Water District's *2015 Urban Water Management Plan Update*. [2] Water supply (including groundwater supply), wastewater systems, and storm drainage are addressed in Chapter 4.12, Public Services and Utilities, of this EIR.

## 4.8.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing precipitation, surface water, groundwater, and flooding conditions in Calaveras County.

### Precipitation

The topography in Calaveras County varies greatly, from near sea level in the Central Valley (western portion of the County) to elevations around 8,100 feet in the mountainous Sierra Nevada (eastern portion of the County). Due to the pronounced difference in elevation from west to east, levels of precipitation vary widely throughout the County. Average annual precipitation is 20 inches in the western region and 60 inches in the northeastern region. Precipitation increases with altitude, and includes both snow and rain. Snow accounts for much of the precipitation in the higher elevations (up to 300 inches per year), while snowfall is rare in the lower-elevation foothills. The rainy season generally lasts from October 1 to May 1.

### Surface Water

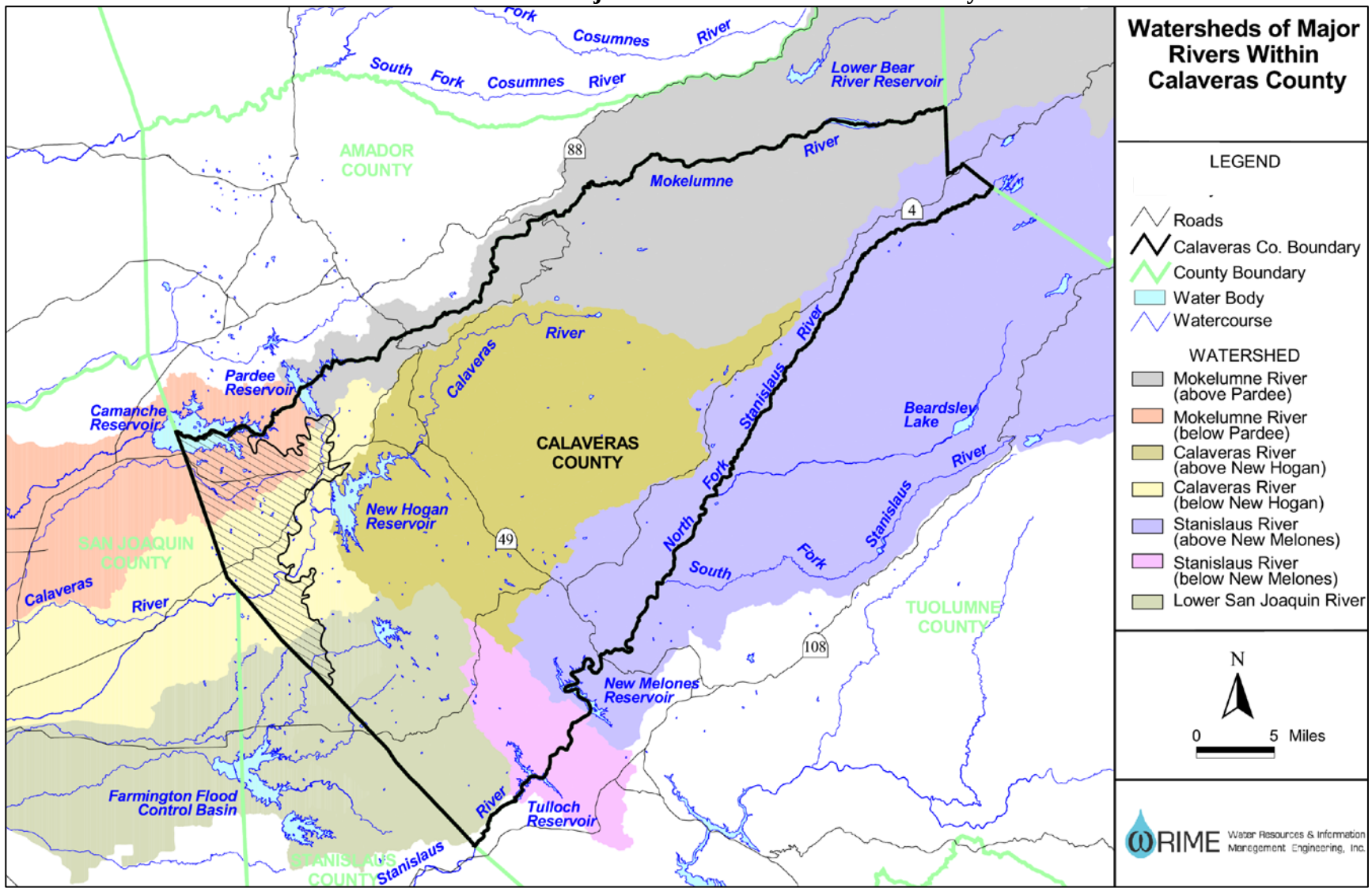
Calaveras County contains three major rivers – Mokelumne, Calaveras, and Stanislaus. The rivers carry runoff from the western slopes of the Sierra Nevada westward across Calaveras County, and into the Central Valley. All three rivers are dammed at one or more locations. The lower stretches of the rivers provide irrigation water for valley agriculture and are used for municipal water supply within the County and the surrounding areas. Figure 4.8-1 shows the location of the Mokelumne, Calaveras, and Stanislaus rivers and their associated watersheds.

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1 Upper Mokelumne River Watershed Authority. *Mokelumne/Amador/Calaveras Integrated Regional Water Quality Management Plan Update.* January 2013

2 Calaveras County Water District. *2015 Urban Water Management Plan Update.* June 2016.

**Figure 4.8-1**
**Watersheds of Major Rivers within Calaveras County**




*Source: Calaveras County Water District, 2003.*

Watersheds within Calaveras County include the following:

- Upper and Lower Mokelumne;
- Upper and Lower Calaveras;
- Upper and Lower Stanislaus; and
- Lower San Joaquin River.

The watersheds listed above represent all or part of a surface water drainage basin or distinct hydrologic features. Boundaries of the watersheds are not coterminous with the boundaries of the County. The watersheds primarily consist of a major river system (the Mokelumne, Calaveras, Stanislaus, or San Joaquin), together with the tributaries of the river systems. Each of the aforementioned river systems are discussed below in further detail.

Mokelumne River

The Mokelumne River runs in three forks (North, Middle, and South) from the Sierra Nevada Mountains in Alpine County. Snowmelt serves as the primary source of water for the Mokelumne River. An area of approximately 660 square miles is drained by the Mokelumne River, which flows southwest, with the forks all joining near Lodi, then turns northwest to end in the Sacramento River delta lands, and finally empties into the San Joaquin River approximately 20 miles north of Stockton. The Mokelumne River forms the County's northern boundary with neighboring Amador County, and was considered the division between the southern and northern mining districts during the Gold Rush. The river passes through several reservoirs in the County, including Salt Springs Reservoir, Pardee Reservoir, and Camanche Reservoir.[3]

Calaveras River

The Calaveras River originates in the Sierra Nevada Mountains, extends west-southwest approximately 60 miles toward and through the Stockton metropolitan area, and terminates at the San Joaquin River, outside of Calaveras County. Within the County, the Calaveras River runs in two forks (North and South). The river is fed almost entirely by rainfall and encompasses approximately 550 square miles. In the Upper Calaveras watershed, above New Hogan Dam and within the County, the primary tributaries are Esperanza, Jesus Maria, Calaveritas, San Antonio, and San Domingo Creeks. Below New Hogan Dam, in the Lower Calaveras watershed, the main tributaries conveying runoff in the County are the Cosgrove, Indian, and South Gulch Creeks.

Stanislaus River

The Stanislaus River drains a narrow basin of approximately 980 square miles above the foothills on the western slope of the San Joaquin River, forming the southern boundary of the County. Elevations along the river range from 15 feet above sea level at the river mouth to 10,000 feet at the crest of the drainage area. The three tributary forks (North, Middle, and South) of the Stanislaus

[3] RMC. *Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan: Public Draft*. December 14, 2006.

join above New Melones Lake, approximately three miles north of Parrots Ferry. The North Fork is located within Calaveras County while the Middle and South Forks are in Tuolumne County.

San Joaquin River

The San Joaquin River starts in the Sierra Nevada and flows southwest to the San Joaquin Valley. As noted above, the San Joaquin River receives flows from the Mokelumne, Calaveras, and Stanislaus Rivers. Some of the primary tributaries to the San Joaquin River include Bear Creek, Calaveras River, Mormon Slough, Mosher Slough, Stockton Diverting Canal, and the French Camp Slough.

Lakes and Reservoirs

Naturally-occurring lakes of notable size do not exist in the County; however, some smaller mountain lakes are found within the Sierra Nevada. Several reservoirs are located within the County and are described in detail below.

*Pardee Reservoir*

Pardee Reservoir is owned and operated by the East Bay Municipal Utility District (EBMUD), was completed in 1929, receives water from the Mokelumne River, and provides municipal and industrial water, flood control, and hydroelectric power. The reservoir straddles the Mokelumne River above Camanche Reservoir, with a capacity of 198,000 acre-feet (af). Water in the Pardee Reservoir is an important source of domestic drinking water. As such, the water is subject to strict water quality standards and is not used as intensively for recreational uses as other reservoirs within the County.

*Camanche Reservoir*

Camanche Reservoir is owned and operated by the EBMUD, is located downstream of Pardee Reservoir within the Mokelumne River watershed, and was completed in 1963 with additional recreational and power uses added in 1983. Capacity of the reservoir is 417,000 af. Camanche Reservoir is a source of municipal and industrial water supplies, and provides flood control.

*New Hogan Reservoir*

New Hogan Reservoir is owned and managed by the U.S. Army Corps of Engineers (USACE), was completed in 1964 for purposes of flood control and water supply, and receives water from the Calaveras River. The reservoir is located 28 miles northeast of Stockton along the Calaveras River. Storage capacity of the reservoir is 317,000 af, which supplies irrigation water to the Stockton East Water District and the Calaveras County Water District.

*Tulloch Reservoir*

The Tulloch Reservoir was developed as part of the Tri-Dam Project in the 1950s by the Oakdale and South San Joaquin Irrigation Districts and continues to be managed by them for use as

irrigation and domestic water supply. Tulloch Reservoir is located in Copperopolis on the lower Stanislaus River below New Melones Reservoir. Capacity of the reservoir is approximately 67,000 af.

*New Melones Reservoir*

New Melones Reservoir was completed in 1978 and is owned and operated by the U.S. Bureau of Reclamation. With a capacity for 2,420,000 af, New Melones Reservoir is one of California's largest reservoirs, located behind the 625-foot New Melones Dam on the Stanislaus River. Irrigation water, flood control, and hydroelectric power are provided by New Melones.

*Salt Springs Reservoir*

Salt Springs Reservoir was completed in 1931 and is owned and operated by the Pacific Gas and Electric Company (PG&E) for hydroelectric power purposes. The reservoir is located at a high elevation within the Stanislaus National Forest along the North Fork of the Mokelumne River on the Calaveras/Amador County border. Salt Springs has a capacity of approximately 140,000 af.

*Spicer Reservoir*

Spicer Reservoir is owned by the Calaveras County Water District and operated by the Northern California Power Agency for power generation. The reservoir is located at a high-elevation on the Stanislaus River system, eight miles southwest of State Route (SR) 4.

In addition to the reservoirs described above, a number of smaller older reservoirs built for irrigation and flood control purposes are found throughout the County. Such reservoirs include Hunter Reservoir, Salt Springs Valley Reservoir, Tiger Creek Reservoir, Calaveras Reservoir, Emery Reservoir, Schaads Reservoir, Old McCormick Reservoir, Copperopolis Reservoir, and the Goodwin Diversion Dam. In addition, several reservoirs were created as part of mine reclamation, such as Mine Run Reservoir near Camanche Reservoir.[4]

Major Streams and Diversion Canals

Below is a list of 23 major streams and diversion canals. Lesser perennial and seasonal creeks are not included in the list.

- Airola Creek
- Angel's Creek
- Bear Creek
- Blue Creek
- Calaveras Public Utility Ditch
- Calaveritas Creek
- Cherokee Creek

[4] U.S. Geological Survey. *Hydrogeology and Geochemistry of Acid Mine Drainage in Ground Water in the Vicinity of Penn Mine and Camanche Reservoir, Calaveras County, California: Summary Report, 1993-95*. 1999.

- Dutch Creek
- Esperanza Creek
- Forest Creek
- Indian Creek
- Jesus Maria Creek
- Licking Fork
- McCarty Creek
- Moore Creek
- Murray Creek
- San Antonio Creek
- San Domingo Creek
- Steele Creek
- Spring Valley Creek
- Swamp Creek
- Telegraph Creek
- Utica Ditch

Surface Water Quality

Typically, water quality issues stem from runoff during wet weather events, direct discharge associated with industrial/commercial activities, resource extraction activities, leaking sewer infrastructure, and illicit dumping. Additional potential sources of polluted water within the County include past waste disposal practices, agricultural chemicals, and chemicals and fertilizers applied to landscaping. Characteristic water pollutant contaminants may include sediment, hydrocarbons and metals, pesticides, nutrients, bacteria, and trash.

The State Water Resources Control Board (SWRCB), in compliance with the Clean Water Act, Section 303(d), prepared a list of impaired water bodies in the State of California. The list was approved by the US EPA in 2003. The Lower Stanislaus River is listed as being impaired by Diazinon, Group A pesticides, and mercury. Group A pesticides include chlordane, toxaphene, heptachlor, endosulfan, and several other pesticides. Diazinon and the Group A pesticides likely resulted from agricultural applications. Mercury likely originated from mining activities. The Central Valley Regional Water Quality Control Board (CVRWQCB) is required to develop and implement a plan to lower the amounts of the known contaminants in the Lower Stanislaus River to an acceptable level.[5]

Findings from a watershed assessment report prepared for the Upper Mokelumne River watershed provide information regarding the quality of water in the watershed.[6] Contaminants and characteristics of concern identified by the watershed assessment include turbidity, alkalinity, aluminum, nitrate, and pathogens. Each of these constituents is found in elevated levels throughout the watershed. High levels of turbidity and low alkalinity were determined to be the result of the

[5] Central Valley Regional Water Quality Control Board. *CWA Section 303(d) List of Water Quality Limited Segment*. Approved July 2003.

[6] Upper Mokelumne River Watershed Authority. *Technical Memorandum Number 9: Watershed Assessment. Upper Mokelumne River Watershed Assessment and Planning Project*. April 2007.

natural conditions of the watershed. High levels of aluminum could be a result of natural watershed conditions as well, but also could have originated from mining activities. High levels of nitrates could be resultant of the natural watershed conditions and/or human activities, such as failing septic systems. Elevated pathogen concentrations are a major concern for the Upper Mokelumne River watershed and were observed in the Middle Fork, North Fork, and Main Stem of the Mokelumne River. The majority of the County was found to have moderate susceptibility to the transference of the aforementioned water quality constituents. High to very high susceptibility to the constituents was identified for areas of the County that had a combination of the following factors: close proximity to water (less than 300 feet); high clay content in the soils; and high occurrence of vegetation with a low ability to provide a protective layer between rainfall and soil, such as leaf debris and roots.

Existing Stormwater Conveyance Systems

Unlike more urbanized areas, few discrete stormwater outlets exist in Calaveras that discharge collected stormwater from large geographic areas. Instead, most stormwater runoff from within the County sheet flows into roadside drainage ditches that discharge collected stormwater to various natural swales, creeks, rivers, and intermittent and perennial streams as determined by local topography. Culverts are typically provided to route stormwater under driveway encroachments and roadways.

Underground drainage facilities are important because surface drainage is more subject to flooding. Surface drainage also poses a potential threat to wildlife, livestock, and groundwater supplies, as there is limited ability to treat the water before flowing into a basin, or other surface waters such as a creek, irrigation ditch, or river.

Stormwater inlets are located along some County roads and State highways as well as in some parking lots and other large, public and private paved areas. These inlets typically convey localized drainage to adjacent open channel drainages and are not interconnected as part of a more extensive stormwater collection network. Curbs and gutters are located in some of the County's newer residential developments and in some community town centers. Collected gutter flow either discharges into natural drainage swales, into roadside ditches, or into stormwater inlets. Stormwater flowing into inlets or catch basins is typically discharged through culverts to adjacent natural or man-made surface drainage channels.

## Groundwater

Groundwater is used by local water purveyors and individuals to meet domestic and agricultural demands. A portion of western Calaveras County overlies the Eastern San Joaquin groundwater sub-basin, which is a part of the larger San Joaquin Valley groundwater basin. The sub-basin extends from the western corner of the County to west of the cities of Stockton and Lodi. Use of water from the Eastern San Joaquin groundwater sub-basin for irrigation and municipal purposes has resulted in a continuous decline of available groundwater over the past 40 years. As of 1990, annual groundwater extractions in San Joaquin County exceeded the estimated safe yield. Overdraft of the groundwater in the sub-basin has created groundwater depressions below Stockton, east of Stockton, and east of Lodi.

Although groundwater resources occur in other parts of the County, officially delineated groundwater basins do not exist to define such areas. According to the Calaveras County Water District (CCWD) *2015 UWMP Urban Water Management Plan*, local groundwater systems within Sierra Nevada foothill areas occur mostly in poorly permeable fractured rock, within which groundwater storage is limited to the small volume represented by the fracture openings. Natural recharge occurs seasonally from the deep percolation of precipitation during the winter.

The bulk of Calaveras County is underlain by the faulted and folded igneous and metamorphic rocks of the Sierra Nevada. A portion of the County is within the Calaveras County Water District Groundwater Management Plan area, which is underlain by westward thickening alluvial sediments. Groundwater occurs in the faults and fractures of the Sierra Nevada rocks and in the pore space of alluvial sediments in the Plan area. Wells drilled into the Sierra Nevada rocks may yield small amounts of water to domestic wells; however, water supply and availability are unpredictable.

Wells drilled into the alluvial sediments found in the County are more reliable than wells drilled in the Sierra Nevada rocks, but are becoming less reliable as the demands placed on the aquifer have increased. In the northwest portion of Calaveras County, the bedrock of the Sierra Nevada is overlain by the alluvial sediments of the Central Valley. The alluvial aquifer yields more water than the bedrock aquifer, and is more reliable and manageable. Groundwater wells in the unincorporated County typically extract water from such eastward-thinning alluvial deposits.[7]

Groundwater Quality

The water quality in the Eastern San Joaquin groundwater sub-basin is impaired and has been directly affected by the severe overdraft that has occurred in the sub-basin. As water levels in the sub-basin have declined, a saline front originating in the western portion of the basin has moved eastward. From 1994 through 2000, samples taken from wells within the impacted area of the sub-basin yielded water quality results that exceed maximum contaminant levels (MCLs) for constituent pollutants. Constituent pollutants include inorganic and radiological pollutants, nitrates, pesticides, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

Continuous monitoring of the groundwater quality from the Wallace Community Services District (WCSD) wells shows little change in the last 15 years. The water from the wells generally has iron and manganese concentrations above the MCL. However, implementation of industry standard treatment practices using a potassium permanganate additive and filtering results in concentrations typically in the range of 10 percent of the MCLs.

The quality of the remainder of the groundwater found throughout the County, in addition to the Eastern San Joaquin groundwater sub-basin, may be affected by activities that include Class V injection wells, abandoned mines, abandoned wells, underground storage tanks, hazardous waste sites, on-site septic systems, failing septic systems, and solid waste sites. Contaminants that may

[7] Calaveras County Water District. *2015 Urban Water Management Plan.* May 2016.

be released from these sources into groundwater include fecal coliform, nitrate, nitrite, VOCs, and synthetic organic compounds.

**Flooding**

Calaveras County consists of three general topographic areas along the western Sierra Nevada Mountains: 1) the western portion of the County is located on the eastern edge of the Central San Joaquin Valley; 2) the central portion of the County is located within rolling foothills; and 3) the eastern portion of the County consists of moderate to steep slopes as one travels eastward into the Sierra Nevada Mountains. As discussed previously, the County has three major drainages – the Mokelumne River, the Calaveras River, and the Stanislaus River. The Mokelumne River generally defines the northern boundary of the County and the Stanislaus River generally defines the southern boundary of the County. Passing through the central portion of the County is the Calaveras River and its three forks flowing in an east-west direction.

Calaveras County could be subject to the following four types of flood events:

- Dam Failure Inundation – Occurs as a result of structural dam failure. Produces a large release of water from a reservoir flowing downstream and overtop the banks of rivers and/or creeks. Further details regarding dam failure inundation are presented below.
- Flash Flood – A flood that rises very quickly, occurring suddenly, within a short time (from minutes to less than six hours), and usually is characterized by high flow velocities. Flash floods often result from intense rainfall over a small area, usually in areas of steep terrain.
- Riverine Flooding – Occurs when a river or stream flows over the banks and causes considerable inundation of nearby land and roads. Riverine flooding is a longer-term event that may last a week or more. Overbank flows along the Mokelumne and Stanislaus Rivers and portions of the Calaveras River system usually result from heavy snow melt combined with heavy rainfall.
- Urban Flooding – Occurs as land is converted from fields or woodlands to roads, parking lots, and other impervious surfaces, thus, losing the ability to absorb precipitation.

Other types of floods include general rain floods, thunderstorm floods, snowmelt and rain on snow floods, and local drainage floods.

Flood Zones

The Federal Emergency Management Agency (FEMA) recently updated the Flood Insurance Rate Maps (FIRMs) for Calaveras County, which became effective December 17, 2010. The FIRMs show the areas of the County at high risk for flooding, which is intended to aid the County, as well as the communities within, in the management of floodplain development. Table 4.8-1 below presents a list of the FEMA FIRM Panel numbers for Calaveras County and incorporated areas available for viewing on the FEMA Map Service Center website.[8]

[8] Federal Emergency Management Agency. *Flood Map Service Center.* Available at: https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1. Accessed, April 2017.

**Table 4.8-1**
**Calaveras County FEMA FIRMs dated December 17, 2010**

| Community | Community Number | Located on Panels |
|---|---|---|
| Angels Camp | 06009C | 0558E, 0566E, 0575E |
| Calaveras County (Unincorporated Areas) | 06009C | 0075E, 0100E, 0125E, 0150E, 0175E, 0200E, 0225E, 0250E, 0275E, 0288E, 0300E, 0325E, 0350E, 0354E, 0362E, 0364E, 0375E, 0400E, 0425E, 0450E, 0451E, 0475E, 0500E, 0525E, 0550E, 0558E, 0566E, 0575E, 0600E, 0625E, 0650E, 0675E, 0725E, 0750E |

*Source: FEMA Map Service Center, June 2012.*

According to the FIRMs prepared for the County, the areas located within the Special Flood Hazard Areas (SFHAs) are located immediately adjacent to waterways, such as those shown if Figure 4.8-1 above, including significant areas near the Camanche Reservoir, New Hogan Reservoir, New Melones Reservoir, Salt Springs Valley Reservoir, Tulloch Reservoir, Calaveras River, Cosgrove Creek, as well as the remaining creeks and rivers found throughout the County. These areas within the SFHAs are designated as Zone A (Base Flood Elevations not provided) or Zone AE (Base Flood Elevations provided). All remaining areas within the County have been determined to be located in Zone X, which is outside of the 100- and 500-year flood level and is considered a minimal flood hazard.

Dam Failure Inundation

As discussed above, Calaveras County's three major river systems (Mokelumne, Calaveras, and Stanislaus) have dams and large reservoirs along them. Dams are used for downstream flood control, agricultural water storage, and hydroelectric generation. Dam failure occurs independently from the other flooding events discussed above. Dam failure may result from earthquakes, internal erosion caused by embankment and foundation leakage, or inadequate spillway capacity leading to overtopping and erosion.

The Calaveras County 2015 Local Hazard Mitigation Plan (LHMP) identifies 47 dams in the County with the degree of potential hazard posed to downstream areas in the event of dam failure or faulty operations: 22 high-hazard dams (probable loss of life); 19 significant hazard dams (possible loss of life, likely significant property/environmental destruction); and six low hazard dams (no probable loss of human life and low economic and/or environmental losses). Per FEMA, areas with the greatest threat from dam inundation are located downstream of New Hogan, New Melones, Pardee, Camanche, and Tulloch Reservoirs in the western portion of the County. FEMA flood risk evaluations also indicate a potential flood hazard in areas immediately adjacent to Camanche, New Hogan, and New Melones, and in the vicinity of creeks and rivers countywide. Similarly, threats from seiche also are possible adjacent to County reservoirs. Dam failure inundation maps maintained by the Office of Emergency Services identify Dam Failure Inundation Zones within the County; however, such maps are unavailable for public review.

According to the 2015 LHMP, a number of dams have historically failed within Calaveras County. In 1895, the Angels Dam collapsed, resulting in one fatality. The cause cited for the failure was flooding that undermined the poorly constructed dam foundation. In 1997, the Don Pedro Dam in neighboring Tuolumne County had an uncontrolled release when a gate was opened, resulting in flooding across a 300 square-mile area that included parts of Calaveras County. In addition, in April of 2006, flooding caused significant damage and threat of failure to a small dam at Peachtree Pond near Valley Springs. In 1997, an uncontrolled release occurred at Melones dam, causing damages in the County.

Seiche

A seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir, typically as a result of seismic activity. As noted above, seiches can pose a risk to areas within the vicinity of the County's reservoirs.

Mudflow

Landslides in the form of debris flow, or mudslides (i.e., mudflows), have occurred in the past in Calaveras County.[9] Rockfalls and landslides occur more frequently in spring months, when high levels of precipitation and runoff combine with saturated soils and/or repeated freezing and thawing, which leads to general slope instability. Landslides and mudflows often can occur as a result of other hazard events, such as floods, wildfires, or earthquakes.

As noted in the Calaveras County *Local Hazard Mitigation Plan Update*, a large mudslide occurred in the Stanislaus National Forest near State Route (SR) 4 in January 1997. Known as the Sourgrass Slide, the mudslide destroyed Forest Service roads, heavy equipment, and a bridge. Debris and slash from the mudslide filled up the Mckay Reservoir. Other landslide incidents of varying degrees of magnitude tend to occur in areas throughout the County several times in a given year, but in most cases, do not cause significant damage or public safety risk.

## 4.8.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of hydrology and water quality under the CEQA process.

### Federal

The following federal regulations are relevant to the proposed project.

FEMA

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. In addition, FEMA is responsible for distributing the FIRMs, used in the National Flood

[9] Calaveras County. *Local Hazard Mitigation Plan Update* [pg. 4-82]. February 2016.

Insurance Program (NFIP), which identify the locations of special flood hazard areas, including the 100-year floodplains.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within the flood hazard areas depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). These standards are implemented at the State level through construction codes and local ordinances; however, these regulations only apply to residential and non-residential structure improvements. Roadway construction or modification is not explicitly addressed in the FEMA regulations. However, the California Department of Transportation (Caltrans) has also adopted criteria and standards for roadway drainage systems and projects situated within designated floodplains. Standards that apply to floodplain issues are based on federal regulations (Title 23, Part 650 of the CFR). At the State level, roadway design must comply with drainage standards included in Chapters 800-890 of the Caltrans Highway Design Manual.

Federal Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit system was established under the federal CWA to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, two types of nonpoint source discharges are controlled by the NPDES program – nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I.

Section 402 of the CWA mandates that certain types of construction activities comply with the requirements of the NPDES stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), and implemented and enforced by the nine RWQCBs.

Coverage under a General Construction Permit requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and submittal of a notice of intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the site during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical postconstruction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) is an NPDES permit that regulates discharges associated with ten broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that achieve the performance standard of best available technology (BAT) economically achievable and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1. Facility operators may be able to participate in group monitoring programs.

**State**

The following State regulations are relevant to the proposed project.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for protection of the quality of all waters of the State of California for use and enjoyment by the people of California. It further provides that all activities that may affect the quality of waters of the State shall be regulated to obtain the highest water quality that is reasonable, considering all demands being made and to be made on those waters. The Act also establishes provisions for a statewide program for the control of water quality, recognizing that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary regionally within the state. The statewide program for water quality control is therefore administered most effectively on a local level, with statewide oversight. Within this framework, the Act authorizes the SWRCB and regional boards to oversee responsibility for the coordination and control of water quality within California, including those responsibilities under the Federal Clean Water Act that have been delegated to the State.

State Water Resources Control Board

The SWRCB and the RWQCB are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The County is situated within the jurisdiction of the Central Valley Region of the RWQCB (Region 5). The CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within the CVRWQCB's jurisdiction.

As authorized by the Porter-Cologne Water Quality Control Act, the CVRWQCB primary function is to protect the quality of the waters within its jurisdiction for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

The CVRWQCB implements water quality protection measures by formulating and adopting water quality control plans (referred to as basin plans, as discussed below) for specific groundwater and surface water basins, and by prescribing and enforcing requirements on all agricultural, domestic, and industrial waste discharges. The CVRWQCB oversees many programs to support and provide benefit to water quality, including the following major programs: Agricultural Regulatory; Above-Ground Tanks; Basin Planning; CALFED; Confined Animal Facilities; Landfills and Mining; Non-Point Source; Spills, Leaks, Investigations, and Cleanups (SLIC); Storm Water; Total Maximum Daily Load (TMDL); Underground Storage Tanks (UST), Wastewater Discharges (including the NPDES); Water Quality Certification; and Watershed Management.

The CVRWQCB is responsible for issuing permits for a number of varying activities. Activities subject to the CVRWQCB permitting requirements include stormwater, wastewater, and industrial water discharge, disturbance of wetlands, and dewatering. Permits issued and/or enforced by the CVRWQCB include, but are not limited to, the NPDES Construction General Permit, NPDES Municipal Stormwater Permits, Industrial Stormwater General Permits, Clean Water Act Section 401 and 404 Permits, and Dewatering Permits.

Irrigated Lands Regulatory Program

To prevent agricultural discharges from impairing the waters that receive such discharges, the Irrigated Lands Regulatory Program (ILRP) was initiated in 2003, and regulates discharges from irrigated agricultural lands. The CVRWQCB has adopted Waste Discharge Requirements (WDRs) for discharges from irrigated lands to protect both surface water and groundwater throughout the Central Valley. Under the ILRP, the CVRWQCB issues WDRs or conditional waivers of WDRs to growers. The WDRs and conditional waivers contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are found. All commercial irrigated lands, including nurseries and managed wetlands, are required to obtain regulatory coverage from the CVRWQCB. Regulatory coverage is not required if a property is not used for commercial purposes. Options for regulatory coverage include joining a coalition group, obtaining coverage as an individual grower under general WDRs (Order R5-2013-0100), or obtaining an individual permit. The coalition groups work directly with their member growers to

assist in complying with requirements by conducting monitoring and preparing regional plans to address water quality problems.

Sustainable Groundwater Management Act

The California Legislature enacted a three-bill law (Assembly Bill [AB]-1739, Senate Bill [SB]-1168, and SB-1319), known as the Sustainable Groundwater Management Act (SGMA) on September 16, 2014. The SGMA was created to provide a framework for the sustainable management of groundwater supplies, and to strengthen local control and management of groundwater basins throughout the state with little state intervention. The SGMA is intended to empower local agencies to adopt groundwater management plans that are tailored to the resources and needs of their communities, such that sustainable management would provide a buffer against drought and climate change, and ensure reliable water supplies regardless of weather patterns. The SGMA is considered part of the statewide, comprehensive California Water Action Plan that includes water conservation, water recycling, expanded water storage, safe drinking water, and wetlands and watershed restoration. The SGMA requires that local agencies form a local groundwater sustainability agency (GSA) within two years of the passing of the SGMA. Agencies located within high- or medium-priority basins must adopt groundwater sustainability plans (GSP) within five to seven years. The time frame for basins determined by DWR to be in a condition of "critical overdraft" is five years (i.e., by 2020). Local agencies will have 20 years to fully implement GSPs after the plans have been adopted. Intervention by the SWRCB would occur if a GSA is not formed by the local agencies, and/or if a GSP is not adopted or implemented.

CCWD pumps water for municipal use from the Eastern San Joaquin Groundwater Subbasin, which has been categorized by DWR as a critically overdrafted basin. CCWD is actively participating in regional efforts to establish one or more GSAs and a GSP for the Eastern San Joaquin Groundwater basin to meet SGMA requirements. [10]

NPDES Small Municipal Separate Storm Sewer System (MS4) General Permit

The NPDES Municipal Stormwater Permitting Program regulates stormwater discharges from separate storm sewer systems. NPDES Municipal Stormwater Permits are issued in two phases. Phase I regulates stormwater discharges from large- and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons). Most Phase I permits are issued to a group of co-permittees encompassing an entire metropolitan area. Phase II provides coverage for smaller municipalities, including nontraditional small storm sewer systems, which include governmental facilities such as military bases, public campuses, and prison and hospital complexes. The NPDES Municipal Stormwater Permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable.

The CVRWQCB issued the NPDES General Permit No. CAS000004 Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, which became effective on July 1, 2013. An "MS4" is a conveyance or system of conveyances

[10] Calaveras County Water District. *2015 Urban Water Management Plan Update* [pg. 4-8]. June 2016.

(including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying stormwater; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW).

On December 27, 2006, Calaveras County received formal notification from the CVRWQCB that the community areas of Arnold, Murphys, San Andreas, Valley Springs/Burson, Rancho Calaveras, and Copperopolis within the County were being designated as regulated small MS4s.[11] With this designation, the specified community areas must be permitted as "storm water dischargers." The County elected to obtain required permit coverage for the areas under the statewide General Permit for Storm Water Discharges from Small MS4s, and, subsequently, prepared the *Calaveras County Storm Water Management Plan*. As a condition of continuing permit coverage, the areas covered by the permit are required to implement the various control measures specified in the Plan.

**Local**

The following local Calaveras County regulations are applicable to the proposed project.

Calaveras County Code of Ordinances

The following section includes a discussion of the County's Grading and Drainage Ordinance and regulations related to flood damage prevention.

*Calaveras County Grading and Drainage Ordinance*

According to Section 15.05.170 of the County's Grading and Drainage Ordinance, regardless of whether or not a grading permit is required, all grading and earthwork activities within unincorporated Calaveras County shall employ best management practices to minimize erosion and to control sediment discharges to the maximum extent practicable in accordance with the *Calaveras County Grading, Drainage, and Erosion Control Design Manual* (October 2007) and as required by the most recently adopted version of the State Water Resources Control Board's "General Permit for Discharges of Storm Water Associated with Construction Activities." In addition, according to Section 5.5 of the *Grading, Drainage, and Erosion Control Design Manual*, all grading plans must include an erosion and sediment control plan designed to reduce the offsite discharge of sediment to the maximum extent practicable.

Section 15.05.180, Drainage Control Measures, states that, for engineered grading projects, the peak off-site storm water discharge from the project site shall not exceed pre-construction conditions unless the applicant demonstrates that downstream stormwater conveyance systems have sufficient capacity to handle the increased flow rate without exceeding established design standards.

[11] Calaveras County Public Works. *Calaveras County Storm Water Management Plan.* August 21, 2007.

Section 15.05.180, Drainage Control Measures, states that, for engineered grading projects, the peak off-site storm water discharge from the project site shall not exceed pre-construction conditions unless the applicant demonstrates that downstream stormwater conveyance systems have sufficient capacity to handle the increased flow rate without exceeding established design standards.

*Flood Damage Prevention*

Chapter 15.06 of the Code of Ordinances sets forth the County's flood damage prevention regulations. Section 15.06.013, Statement of purpose, states the following:

> It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the community to all publicly and privately owned land within flood prone, mudslide [i.e. mudflow] or flood related erosion areas.

In addition, Section 15.06.014 includes the following provisions for reduction of flood hazards:

> In order to accomplish its purposes, this chapter includes regulations to:
>
> A. Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
> B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
> C. Control the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel floodwaters;
> D. Control filling, grading, dredging and other development which may increase flood damage; and
> E. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Chapter 15.06.051, Standards of construction, of the Code requires all new construction or improvements of residential structures to be elevated two feet above the base flood elevations specified on the FIRM for the area. All new construction or substantial improvements of nonresidential structures must either be elevated to the standards specified for residential structures, or be floodproofed, have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy, and be certified by a registered civil engineer or architect that the structure meets the aforementioned standards. All new construction and substantial improvements of structures are required to be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

Calaveras County Emergency Operations Plan

The Calaveras County Emergency Operations Plan (EOP) outlines the functions, responsibilities, and regional risk assessments of Calaveras County for large scale emergencies, including flooding, and sets forth the planned response for managing such incidents. The EOP addresses initial and extended emergency response and the recovery process.

## 4.8.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to hydrology and water quality.

**Standards of Significance**

Consistent with Appendix G of the CEQA Guidelines, the Draft General Plan would result in a significant impact to hydrology and water quality if development would do any of the following:

- Violate any water quality standards or waste discharge requirements;
- 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 storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year floodplain structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami, or mudflow.

Impacts associated with groundwater supplies are addressed in Chapter 4.12, Public Services and Utilities, of this EIR.

**Method of Analysis**

The hydrology and water quality impact analysis below is primarily based on information provided by the Calaveras County Local Agency Groundwater Protection Program, the *Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan Update*,[12] and the Calaveras County Water District's *2015 Urban Water Management Plan Update*. [13] Impacts to groundwater, water quality, and drainage associated with the buildout of the Draft General Plan are evaluated below, and impacts are identified if the above standards of significance would be exceeded as a result of buildout.

**Impacts and Mitigation Measures**

**4.8-1 Buildout of the Draft General Plan would violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Based on the analysis below, the impact is *less-than-significant.***

Implementation of the Draft General Plan could result in additional water pollutant discharges from construction activities, underground storage and septic tanks, municipal and industrial point sources, agricultural activities, and urban runoff. Such discharges could pollute the watersheds shown in Figure 4.8-1, including the Lower Stanislaus River, which is listed as impaired per the SWRCB.

Construction Activities

Construction activities such as grading, excavation, and trenching for utilities associated with buildout of the Draft General Plan would occur throughout the County, and such activities would result in the disturbance of soils. Exposed soils have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities.

Septic Tanks

On-site septic systems are highly prevalent within the County, and mapping septic systems is of high priority when considering contaminant sources. Currently, CCEHD oversees the Underground Storage Tank Program for the County and provides oversight of remediation

[12] Upper Mokelumne River Watershed Authority. *Mokelumne/Amador/Calaveras Integrated Regional Water Quality Management Plan Update.* January 2013

[13] Calaveras County Water District. *2015 Urban Water Management Plan Update.* June 2016.

with soil contamination.[14] CCEHD maintains an inventory of residential, commercial, and industrial areas that use groundwater and an on-site sewage disposal method; the inventory is managed by the CCEHD's GIS program. Under buildout of the Draft General Plan, the CCEHD would continue to document septic systems throughout the unincorporated County. Agencies involved in mitigating groundwater contamination generally include the Regional Water Quality Control Board (RWQCB), Department of Toxic Substance Control (DTSC) and the United States Environmental Protection Agency (USEPA).

Municipal and Industrial Point Sources

Discharges from municipal and industrial point sources (such as wastewater treatment plants) could result in surface and groundwater contamination if effluent is discharged without appropriate treatment. Unregulated or improperly treated discharges from point sources could result in unsafe drinking water, could restrict recreational activities in receiving waters, and could negatively impact the aquatic environment. Discharge of pollutants from any point source is prohibited unless the discharge is in compliance with a NPDES Permit issued by the RWQCB.

Agricultural Activities

As discussed in Chapter 4.2, Agricultural, Forest, and Mineral Resources, of this EIR, the Draft General Plan Land Use Map would maintain existing agricultural lands within the County. Discharges from agricultural activities occurring under buildout of the Draft General Plan could adversely affect water quality through the discharge of nutrients, sediment, pathogens, pesticides, metals, and salts into surface waters, or through percolation to groundwater. At high enough concentrations, such pollutants can harm aquatic life or make water unusable for drinking water or agricultural uses. Rain water can carry exposed sediment and deposits into nearby lakes or streams. As discussed previously, agricultural activities are regulated under CVRWQCB's ILRP. CVRWQCB issues WDRs or conditional waivers of WDRs (Orders) to growers.

Urban Runoff

Urban runoff is typically associated with impervious surfaces, such as rooftops, streets, and other paved areas, where various types of pollutants may build up and eventually be washed into the storm drain system after storm events. Sediment, trash, organic contaminants, nutrients, trace metals, and oil and grease compound are common urban pollutants than can affect receiving water quality if not properly managed. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they would accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to downstream stormwater drainage systems and/or waterways. Buildout of the Draft General Plan could involve the creation of a substantial amount of new impervious surface, and, thus, could potentially result in increased urban runoff.

[14] Calaveras County Water District. *Groundwater Management Plan*. 2007.

Draft General Plan

The Conservation and Open Space Element of the Draft General Plan includes goals, policies, and Implementation Measures (IMs) related to water quality and waste discharge.

| | |
|---|---|
| Goal COS-2 | High quality and abundant water resources. |
| Policy COS 2.1 | Participate in regional, watershed-level and integrated resources management planning efforts to improve watershed health and water quality. (IM COS-2A, COS-2D and COS-3D) |
| Policy COS 2.2 | Protect the County's surface and ground water resources and watersheds from uses that could adversely impact water quality. (IM COS-3Aand COS-3B) |
| IM COS-3B | Grading, Drainage and Erosion Control – Review planning and permitting processes to assess implementation of post-construction erosion control measures and best management practices. Where improvements are necessary amend the Design Manual for Grading, Drainage and Erosion Control and/or the County's Grading Ordinance to correct gaps impacting effective implementation. |
| IM COS-3D | Integrated Regional Water Management (IRWM) Planning Efforts – Participate in and keep appraised of Integrated Regional Water Management (IRWM) planning efforts in Calaveras County and identify mutually beneficial solutions for regional watershed management including efforts to protect water quality. |

The above goals, policies, and IMs provide broad guiding principles that would steer the County's future efforts to prevent impacts to water quality. Furthermore, the County Grading and Drainage Ordinance would continue to apply to projects with a reasonable potential to cause erosion and sedimentation. The Grading and Drainage Ordinance supplements the regulations from the California Building Standards Code, which addresses standards for all grading activities. Specifically, Section 15.05.170 requires all grading and earthwork activity within unincorporated Calaveras County to employ best management practices to minimize erosion and control sediment discharges to the maximum extent practicable. In addition, development occurring under the Draft General Plan that would disturb one acre of land or greater would be required to obtain coverage under the General Construction Permit, which requires the preparation of a SWPPP and submittal of a NOI. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the site during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains.

Consistent with Policy COS 2.1 of the Draft General Plan, the CCWD will continue to support the CVRWQCB, the DTSC, and the USEPA in monitoring and cleaning up point-source contamination sites throughout the County under buildout of the Draft General Plan. The CCEHD will continue to expand the GIS program on known and potential contaminant locations. Thus, buildout of the Draft General Plan would not be anticipated to result in water quality impacts related to new or existing septic systems or municipal and industrial point sources. In addition, under buildout of the Draft General Plan, all commercial irrigated lands within the unincorporated County, including nurseries and managed wetlands, would continue to be required to obtain regulatory coverage from CVRWQCB. The CVRWQCB ILRP would assure that impacts from agricultural discharges would be less than significant because associated WDRs and conditional waivers of WDRs require water quality monitoring of receiving waters and corrective actions when impairments are found.

IM COS-3B would encourage the implementation of post-construction erosion control measures and Best Management Practices (BMPs); when implemented, such features would minimize the effects of urban runoff on downstream water quality. In addition, Chapter 13.01, Storm Water Quality, of the County Code of Ordinances, prohibits the discharge of pollutants into County-maintained storm water drainage systems. Prohibited discharges include oil, grease, lubricants, hazardous waste materials, gasoline or diesel fuel, and sanitary wastewater (Section 13.01.040). Section 13.01.050 of the Code of Ordinances allows for the issuance of written notices of correction to discharges if the Calaveras County Department of Public Works determines that stormwater pollution from a property is inadequately controlled, and has the potential to adversely impact water quality. The notice of correction must cite the nature of the violation and specify a timeframe for the implementation of appropriate control measures.

Furthermore, development occurring within the community areas within the County that have been designated as regulated small MS4s is subject to the regulations specified in the Calaveras County Stormwater Management Plan, including requirements for implementation of both structural and non-structural BMPs. Examples of such structural control measures include storm water retention, porous pavement, infiltration basins, and landscaping features (such as grassy swales, filter strips, and artificial wetlands) designed to remove pollutants from storm water runoff and facilitate percolation. Nonstructural measures include buffer zones, minimization of land disturbance, maximizing open space, and discouraging development in sensitive ecological areas with critical habitat for plant and animal wildlife. As required by the statewide General Storm Water Discharge Permit, new developments within designated Storm Water Discharge Permit areas would also be required to submit annual reports to the County following the completion of construction confirming on-going maintenance of BMPs and evaluating the extent to which required BMPs are effectively controlling discharges into the County storm drain system.

Based on the above, construction activities occurring under buildout of the Draft General Plan would be required to comply with existing State and federal regulations, as well as the County Grading and Drainage Ordinance. Compliance with such would minimize the potential for construction activities to cause erosion or siltation, or otherwise result in

pollution of water bodies within the County. In addition, all septic tanks within the County would continue to be monitored by the CCWD and the CCEHD, and all commercially irrigated lands would be regulated by the CVRWQCB, which provides a framework of policy to prevent pollution of receiving waters. Furthermore, Chapter 13.01 of the County Code of Ordinances includes specific regulations related to the prevention of urban runoff, and development occurring within areas regulated as small MS4s would conform to water-quality-based land use controls and design guidelines specified in the County's Storm Water Management Plan. Therefore, a ***less-than-significant*** impact related to water quality would occur under buildout of the Draft General Plan.

Mitigation Measure(s)
*None required.*

**4.8-2 Substantial interference 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). Based on the analysis below, with implementation of mitigation, the impact is *less-than-significant.***

As discussed previously, most of the County is underlain by faulted and folded igneous and metamorphic rock. Groundwater recharge currently occurring in the County is generally focused in the northwestern portion of the County, where the bedrock of the Sierra Nevada is overlain by alluvial sediments. The alluvial sediments generally allow for higher rates of recharge than the bedrock.

Issues associated with depletion of groundwater supplies are addressed in Chapter 4.12, Public Services and Utilities, of this EIR. However, development occurring under buildout of the Draft General Plan would result in the creation of impervious surfaces (e.g., roofs, sidewalks, other paved surfaces) that could potentially interfere with groundwater recharge. The Draft General Plan includes the following policies and IMs that would prevent new development from interfering with groundwater recharge.

Policy PF 2.4 Design new development to encourage groundwater recharge in appropriate locations. (IM PF-2J)

IM PF-2J Protect Groundwater Recharge Areas. – Adopt standards for the protection of groundwater recharge areas including, but not limited to, limiting the extent of impervious surfaces in project design. Integrate existing information available from water providers to identify natural groundwater recharge areas associated with the Northeastern San Joaquin Groundwater Basin within the County.

IM PF-2L Groundwater Management. – Work with other agencies in the East San Joaquin Groundwater Basin to develop a management plan consistent

with the Sustainable Groundwater Management Act, protecting the water resource for productive use in Calaveras County.

IM PF-2M Groundwater Monitoring. – Continue groundwater monitoring efforts and expand them where feasible to include utilities, groundwater basin managers, and willing property owners to share groundwater monitoring results regarding water quality, yields, and contamination data.

Policy COS 2.3 Encourage the use of design features in new development to capture stormwater and recharge groundwater. (IM COS-3B and COS-3C)

Policy PF 2.4 would encourage the incorporation of groundwater recharge features in new development. Specifically, IM PF-2J would help to minimize the creation of impervious surfaces associated with new development occurring under the Draft General Plan. Furthermore, such development would be primarily focused around existing urban areas within the County where substantial impervious surfaces currently exist. With the exception of the communities of Rancho Calaveras and Wallace, the urban areas of the County where development would occur are located outside of the northwest portion of the County, and do not coincide with areas of substantial groundwater recharge.

Although the Draft General Plan includes specific policies and IMs to limit creation of impervious areas and the majority of the areas where development would occur have limited recharge, additional performance standards would be required to sufficiently ensure that the proposed project would not interfere substantially with groundwater recharge. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*4.8-2* *Implementation Measure PF-2J of the Draft General Plan shall be revised as follows:*

*IM PF-2J* *Protect Groundwater Recharge Areas. – Adopt standards for the protection of groundwater recharge areas including, but not limited to, limiting the extent of impervious surfaces in project design. The standards shall be sufficient to ensure that new development does not substantially interfere with groundwater recharge in the County. Integrate existing information available from water providers to identify natural groundwater recharge areas associated with the Northeastern San Joaquin Groundwater Basin within the County.*

**4.8-3 Substantial alteration of 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, siltation, or flooding on- or off-site, or creation or contribution of runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Based on the analysis below, with implementation of mitigation, the impact is *less-than-significant.***

Buildout of the Draft General Plan would result in new development occurring in the unincorporated areas of the County. Such development would result in creation of new impervious surfaces where none currently exist, and would alter drainage patterns. Future development in rural areas of the County could necessitate the construction of new drainage facilities for stormwater conveyance and management, while development occurring in areas with existing stormwater drainage systems could potentially require expansion of such systems in order to accommodate increased stormwater flows. Unless properly planned and engineered, stormwater drainage modifications, stream channel alterations, and structural bank stabilization measures could create significant localized erosion, siltation, or flooding issues.

In addition, construction activities associated with the new development occurring under buildout of the Draft General Plan could potentially require earthmoving, grading, and compaction. The aforementioned activities could expose areas of soil that were previously covered with existing development or vegetation, which would expose bare soil that could be subjected to erosion by wind and storm water runoff. The extent of erosion that could occur would vary depending on soil type, vegetation/cover, and weather conditions. The Draft General Plan includes policies and associated programs that minimize adverse effects associated with such issues.

The Conservation and Open Space Element of the Draft General Plan includes the following policies and IMs related to stormwater, drainage, and erosion:

IM COS-3A Post-Construction Stormwater Management Measures – Apply conditions of approval to development projects that require post-construction maintenance and allow monitoring of stormwater management treatment systems and hydromodification controls.

IM COS-3C Stream and Wetland Setback Guidelines – For new development, adopt building and/or grading setback standards for intermittent and perennial streams (as identified on USGS topographic maps and verified by field survey) and wetlands. The standards may contain a provision for reduction of the setback based on a qualified biologist's recommendation. In the interim, require new development to identify wetlands and riparian habitat areas. Where feasible, the developer shall designate a buffer around each area sufficient to protect them from degradation, encroachment, or loss or shall develop a mitigation compensation plan consistent with state and federal policies.

Policy COS 2.3 and IM COS-3B (see above)

The Safety Element of the Draft General Plan includes policies and IMs related to stormwater, drainage, and erosion.

| | |
|---|---|
| Policy S 2.3 | Ensure that post-development, off-site peak flow drainage from the area being developed does not exceed the capacity of downstream drainage facilities or systems. (IM S-2B, and S-2E) |
| IM S-2B | Project-Specific Run-off Management Standards – Update existing development standards to address cumulative direct and indirect impacts of runoff from individual projects and their subsequent contribution to increased stormwater, flood hazards and overtaxing County drainage systems. |
| IM S-2C | Storm Water Run-Off and Storm Drainage Facility Management Strategy – Pursue funding for and, if funded, prepare a Storm Water Management Strategy including, but not limited to, a Drainage Basin Master Plan and Storm Drainage Facilities Management Plan or their equivalents. Collaborate with responsible local, state and federal agencies and stakeholders, including the Department of Water Resources, to the extent feasible. The Plan(s) should evaluate run-off on a regional scale that cannot readily and economically be addressed by individual development projects. |

Consistent with Section 15.05.180 of the County Code of Ordinances, Policy S 2.3 is intended to ensure that for new projects developed under the Draft General Plan, the peak off-site storm water discharge from the project site would not exceed capacity of the downstream storm water conveyance systems. IM S-2B and S-2C would provide a framework to allow the County to more accurately assess stormwater runoff impacts on a project-specific basis. IM COS-3B could require implementation of post-construction erosion control measures and best management practices to limit soil erosion as part of the planning and permitting process for development occurring under the Draft General Plan. IM COS 3C would establish building/grading setbacks for intermittent and perennial streams, thereby limiting the potential for erosion along streambanks.

All development occurring in the unincorporated areas of the County would be subject to the County's Grading and Drainage Ordinance, which regulates grading, drainage, and other earthwork activities. The Ordinance requires implementation of erosion and sedimentation control measures to protect water quality and reduce discharge of pollutants. Per the Ordinance, new development would also be required to comply with the County's Grading, Drainage, and Erosion Control Manual.

Buildout of the Draft General Plan would alter existing drainage patterns in the County as a result of grading, placement of new structures, and other construction activities. Although such development would be required to comply with policies and IMs in the Draft General

Plan designed to limit off-site peak flow drainage and reduce erosion potential, as well as the County's Grading and Erosion Control Ordinance, additional performance standards would be required to sufficiently ensure that buildout would not result in substantial erosion, siltation, or flooding, and would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*4.8-3* *Policy S 2.3 of the Draft General Plan shall be revised as follows:*

*Policy S 2.3* *Ensure that post-development, off-site peak flow drainage from the area being developed does not exceed the capacity of downstream drainage facilities or systems. (IM S-2B, and S-2E) For new development, peak off-site storm water discharge from the project site shall not be permitted to exceed pre-construction conditions unless the applicant can demonstrate that downstream storm water conveyance systems would have sufficient capacity to handle the increased flow rate without exceeding established design standards.*

**4.8-4 Placement of housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, place within a 100-year floodplain structures which would impede or redirect flood flows, or exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Based on the analysis below, the impact is *less-than-significant.***

Buildout of the Draft General Plan would result in new development occurring in the County, which could potentially result in housing or other structures being located within areas at risk for flood hazards, including areas designated by FEMA as SFHAs.

The Safety Element of the Draft General Plan includes the following goals, policies, and IMs related to hazards associated with flooding:

Goal S-2 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from floods, including flooding caused by seiches and dam failure.

Policy S 2.1 Apply consistent development standards for new development in designated flood hazard zones, or areas identified by a qualified

professional as flood-prone, to reduce potentially significant adverse impacts related to flooding. (IM S-2A)

Policy S 2.2 Deny discretionary entitlements that place people or property at risk within identified flood hazard zones unless measures are identified and implemented to minimize flood hazards prior to occupancy. (IM S-2A and S-2E)

Policy S 2.4 Within the Dam Failure Inundation Zone there shall be no new high-occupancy structures or land divisions creating high density lots unless the lots contain a building envelope outside of the DFI. (IM S-2D)

IM S-1E Current Information – Continue to monitor, maintain and update natural hazard information as it becomes available. Monitor flood mapping activities undertaken by state and federal agencies and provide comments on draft maps to ensure accuracy. Continue to monitor the California Department of Conservation, California Geological Survey website and related seismic and geological information centers for release of updated ground shaking maps, geotechnical data and soils information for Calaveras County. Update emergency plans, the general plan and the County Code, as necessary, in response to the release of new data.

IM S-2A Flood Damage Prevention Ordinance – Continue to maintain a Flood Damage Prevention Ordinance consistent with state law. The Flood Damage Prevention Ordinance shall continue to be used to evaluate whether (and if so, where and how) new development, including essential public facilities, shall be located in a flood hazard zone and to identify construction or other methods to minimize damage to new development in flood hazard zones.

IM S-2D Dam Failure Inundation Zone – Review all discretionary projects against Dam Failure Inundation Zone maps to ensure high occupancy structures and new high density residential building sites are not placed within the inundation area.

IM S-2E Road Culverts – Identify substandard road culverts and develop a program to replace when undersized culverts create or contribute to upstream flooding.

As the County builds out pursuant to the Draft General Plan, Policies S 2.1 and 2.2 would limit new development occurring in SFHAs and ensure that housing placed within SFHAs would be specifically designed to reduce the risk of flood hazards. Policy S 2.4 and IM S-2D would limit high-occupancy structures or land divisions creating high density lots within designated Dam Failure Inundation Zones. The above, goals, policies, and IMs would minimize risks associated with flood hazards. In addition, buildout occurring under

the Draft General Plan would be subject to all of the provisions of Chapter 15.06, Flood Damage Prevention, of the County's Code of Ordinances, which would help to further minimize such risks.

The Draft General Plan would restrict new development and redevelopment within areas designated by FEMA as SFHAs, consistent with Chapter 15.06 of the County Code of Ordinances. Pursuant to the Code, any new development within the unincorporated area of the County would be required to either build outside the flood hazard areas or to elevate new structures above the anticipated flood depth. In addition, the Draft General Plan would provide policies to minimize flood-related hazards by requiring appropriate siting and design criteria to protect both proposed structures and existing structures downstream. Furthermore, all discretionary projects proposed within Dam Failure Inundation Zones would be subject to review to ensure that high occupancy structures and high density residential buildings would not be located in such areas.

Based on the above, buildout of the Draft General Plan would not result in significant impacts related to flooding. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required*.

**4.8-5 Risks associated with inundation by seiche, tsunami, or mudflow. Based on the analysis below, the impact is *less-than-significant.***

Tsunamis typically affect coastlines and areas up to one quarter-mile inland. The western boundary of Calaveras County is located approximately 75 miles east of the Pacific Ocean; therefore, the County is not at risk for inundation by tsunami. However, development occurring under buildout of the Draft General Plan could potentially be located in areas of the County at risk for inundation by seiche or mudflow.

While unlikely, a seiche in one of the County's reservoirs could lead to overtopping of dams and cause flooding, potentially impacting new development occurring in such areas under the Draft General Plan. Hazards associated with dam failure and flooding are discussed in Impact 4.8-4 above. Given that areas at risk for overtopping of dams would also be located within existing Dam Inundation Zones, projects at risk for hazards associated with seiches would be subject to the provisions of IM S-2D from the Draft General Plan, which requires review of all discretionary projects against Dam Failure Inundation Zone maps to ensure high occupancy structures and new high density residential building sites are not placed within inundation areas. Therefore, seiches would not pose a substantial risk to development occurring under the Draft General Plan.

As discussed in Chapter 4.6, Geology, Soils, and Seismicity, of this EIR, development occurring on steep slopes could be at risk for landslide or mudflow hazard during periods of heavy rainfall. However, Chapter 15.06 of the County Code of Ordinances includes specific provisions to reduce risks associated with mudflows and other flooding risks. In addition, IM S-4D in the Draft General Plan would require new development occurring on

slopes of 20 percent or greater to include geotechnical and engineering data to minimize risks associated with landslides, mudslides, and other geologic hazards.

Based on the above, new development occurring under the Draft General Plan would not be at substantial risk for inundation by seiche, tsunami, or mudflow, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required*.

# 4.9 LAND USE AND PLANNING

## 4.9.1 INTRODUCTION

The Land Use and Planning chapter of the EIR is intended to provide the reader with information regarding current and proposed General Plan land use designations for the County. Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines states "[…] the EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans." Documents utilized to prepare this chapter include, but are not limited to, the *Calaveras County General Plan Background Report,*[1] the *Calaveras County General Plan,*[2] the *Calaveras County Housing Element 2014-2019,*[3] the *Calaveras County Airport Land Use Compatibility Plan,*[4] and the *Calaveras County Regional Transportation Plan.*[5]

## 4.9.2 EXISTING ENVIRONMENTAL SETTING

The following section presents regional setting, background information, boundaries, and existing land use conditions in Calaveras County.

### Regional Setting

Calaveras County encompasses approximately 662,791 acres in the central Sierra Nevada region of California. The County is bordered by Amador County to the north, Alpine County to the east, Tuolumne County to the south, and San Joaquin and Stanislaus Counties to the west. According to the California Department of Finance (DOF), Calaveras County is currently home to approximately 41,857 persons.

### Community Plans

Calaveras County has a long history of using community plans to provide policy direction for well-established communities in the County. The current Calaveras County General Plan identifies the following eight community plans:

- Arnold Community Plan (adopted 1968; revised 1980 and 1998);
- Avery-Hathaway Pines Community Plan (adopted 1999);
- Ebbetts Pass Highway Special Plan (adopted 1984; revised 1986 and 1988);
- Mokelumne Hill Community Plan (adopted 1983; revised 1988);

[1] Calaveras County. *Calaveras County General Plan Background Report.* December 18, 2014.
[2] Calaveras County. *Calaveras County General Plan.* Adopted October 2016.
[3] Calaveras County. *Calaveras County Housing Element, 2014-2019.* Adopted May 26, 2015.
[4] Calaveras County Airport Land Use Commission. *Calaveras County Airport Land Use Compatibility Plan.* Adopted June 2, 2010.
[5] Calaveras Council of Governments. *2017 Calaveras Regional Transportation Plan* [pg. 47]. October 2017.

- Murphys and Douglas Flat Community Plan (adopted 1969; revised 1984, 1986, and 1988);
- Rancho Calaveras Special Plan (adopted 1983, revised 1999);
- San Andreas Community Plan (adopted 1981; revised 1988); and
- Valley Springs Community Plan (adopted 1975; revised 1983).

## 4.9.3 REGULATORY CONTEXT

The following discussion contains a summary review of regulatory controls pertaining to land use and planning, including State, regional, and local regulations and ordinances. Specific federal regulations do not directly pertain to land use and planning of an area.

**State Regulations**

The following are the State environmental laws and policies relevant to land use and planning.

California Airport Land Use Planning Handbook

The State Aeronautics Act Public Utilities Code Section 21001 et seq. sets forth requirements for airport land use compatibility planning. The 2011 California Airport Land Use Planning Handbook provides guidance for determining consistency between a general plan and an Airport Land Use Commission's (ALUC's) Compatibility Plan. General Plan amendments must be consistent with any applicable Airport Land Use Plan unless a local government governing body overrules the plan by a 2/3 vote and makes certain findings (Government Code Section 65302.3(a)). Prior to amendment of a General Plan, a local agency must refer the proposed amendment to the ALUC.

Planning and Zoning Law

Government Code Section 65300 requires Calaveras County and all other cities and counties in the State to "adopt a comprehensive, long-term general plan for the physical development of the county." The General Plan is considered to be the County's "constitution," in that it contains development and conservation policies that address land use, housing, circulation, open space, conservation, noise, and public safety issues as well as other issues that face the County.

Senate Bill (SB) 375 requires consistency between regional transportation planning processes and housing planning processes. Each region's transportation plan must be consistent with the Regional Housing Needs Allocation (RHNA), a process established under the State Housing Element law that requires cities and counties in California to plan for the future development of new housing units to meet their share of their regional housing needs. The State of California requires the Department of Housing and Community Development (HCD) to use population projection and household growth projections to identify housing needs. Each Council of Government (COG) must distribute the RHNA to each jurisdiction within the COG's region. The Calaveras Council of Governments (CCOG) RNHA allocation is discussed in the Population and Housing chapter of this EIR.

**Regional Regulations**

The following are the regional policies relevant to land use and planning.

Calaveras County Airport Land Use Compatibility Plan

The California State Aeronautics Act (California Public Utilities Code Sections 21670–21679.5) requires, with limited exceptions, the creation of an ALUC in each county that has a public-use or military airport. The ALUC is required to prepare an Airport Land Use Compatibility Plan (ALUCP) for each public-use and military airport. An ALUCP must reflect anticipated growth at an airport for at least 20 years based on a long-range master plan or airport layout plan. Each ALUCP includes policies to prevent conflicts between planned airport development and proposed land uses within the Airport Influence Area (AIA) identified in the compatibility plan.

The Calaveras County ALUC is responsible for the preparation of ALUCPs for public-use airports in Calaveras County. The Calaveras County ALUCP was adopted on June 2, 2010. The purpose of the ALUCP is to promote compatibility between each public-use airport and the land uses in its vicinity to the extent that these areas have not already been devoted to incompatible uses. To accomplish this, the ALUCP establishes a set of compatibility criteria that the ALUC use to evaluate the compatibility of land use proposals within an AIA as well as the Airport's long-range development plans. Calaveras County and jurisdictions with land use authority over areas within the AIA are expected to incorporate certain criteria and procedural policies from the ALUCP into their General Plan and Zoning Ordinances in an effort to ensure that future land use development would be compatible with long-term airport operations. Each agency or jurisdiction also has the option of overruling the ALUC in accordance with the steps defined by state law and summarized in the ALUCP.

Calaveras 2017 Regional Transportation Plan Update

The Policy Element in the Regional Transportation Plan Update (RTP) identifies transportation issues in the Calaveras County region, describes the goals, objectives, and policies for each of the transportation modes, and the implementation strategies within the RTP to meet the identified goals. The goals and policies within the 2017 RTP are designed to be consistent with the current 1996 Calaveras County General Plan as well as the proposed Draft General Plan.[6] It should be noted that as part of the most recent update to the RTP, the Calaveras Council of Governments (CCOG) opted out of modeling the RTP, in part, in order to avoid potential conflicts with modeling conducted for the Draft General Plan as part of this EIR.[7]

Calaveras County UPLAN and Data Development

The Calaveras County UPLAN prepared by Calaveras Council of Governments is a Geographic Information System (GIS) modeling tool used for regional transportation planning. The data

[6] Calaveras Council of Governments. *2017 Calaveras Regional Transportation Plan* [pg. 47]. October 2017.
[7] Collins, Amber, Executive Director, Calaveras Council of Governments. Personal communication with Peter Maurer, Planning Director, Calaveras County. February 2018.

development project is funded by Caltrans and assists in long-range planning efforts that help guide decision-makers in the region. The tool serves as a platform for information-sharing and coordination between agencies and enhances the connection between land use and transportation planning by projecting future growth alternatives. UPLAN illustrates how different projections affect the region's air quality, transportation system, housing, and natural resources and was also developed to be integrated with the General Plan Update.

The main goals of the Calaveras UPLAN and Data Development project were to develop the following:

1. Current and accurate data and advancement of visualization/mapping tools that will lead to more effective transportation and land use planning processes;
2. Platform for collaboration amongst agencies; and
3. Current trends scenario and alternative scenarios consistent with the County General Plan update.

**Local Regulations**

The following are the local regulations relevant to land use and planning.

Calaveras County Subdivision Ordinance

The Calaveras County Subdivision Ordinance (Title 16 of the Calaveras County Code of Ordinances) establishes the procedure by which private land may be divided for sale. Additionally, the ordinance regulates subdivision of property in accordance with California's Subdivision Map Act. Calaveras County is responsible for regulation and control of subdivision design and improvement, including proper grading and erosion control.

Calaveras County Zoning Ordinance

The Calaveras County Zoning Ordinance (Title 17 of the Calaveras County Code of Ordinances) regulates land use. The county has several designated zoning districts (e.g., agriculture, residential, planned development, industrial, historic site, highway frontage, commercial, and specific plan). California planning and development law requires zoning in all counties and general law cities to be consistent with their adopted general plans.

Calaveras County Housing Element

State law recognizes the vital role local governments play in the supply and affordability of housing. For this reason, each local government in California is required to adopt a housing element as part of its comprehensive, long-term general plan. As noted above, Calaveras County adopted the 2014 Housing Element in 2015. Under California law, the housing element must include the County's goals, policies, quantified objectives, and housing programs for the maintenance, improvement, and development of housing.

## 4.9.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to land use and planning.

### Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the Draft General Plan would result in a significant land use and planning impact if it would result in any of the following:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating a significant environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Issues not Discussed Further

Impacts associated with conflicting with an applicable habitat conservation plan or natural community conservation plan are addressed in the Biological Resources chapter of this EIR.

### Method of Analysis

The following section analyzes the compatibility of the proposed project with surrounding land uses and adopted plans and policies, pursuant to Section 15125(d) of the CEQA Guidelines.

### Impacts and Mitigation Measures

The following discussion of land use and planning impacts is based on implementation of the proposed project in comparison to existing conditions and the standards of significance presented above.

**4.9-1 The proposed project would not physically divide an established community. Based on the analysis below, the impact is *less than significant*.**

The eight elements of the Calaveras County Draft General Plan provide a framework to determine appropriate future development and land uses in the planning area. Calaveras County identified the following vision statement for the Calaveras County Draft General Plan.

> *The historical character of the county's communities, the value of its productive resources, the distinction of its physical beauty, and growing economic opportunities will create a high quality of life for residents and a remarkable and memorable experience for visitors to the county.*

In addition, Calaveras County identified the following guiding principles for the Calaveras County Draft General Plan.

- *Property Rights*
  - *The General Plan will protect the rights of property owners.*
  - *County government will respect and protect the property rights of people in their efforts to maintain or develop productive resources.*
- *Role of the Plan*
  - *Where practical, the General plan will be as general as possible, rather than specific, favoring flexibility and adaptability.*
  - *As a document that guides the County's future and exerts great influence on the lives of the citizens, the General Plan shall be written in a style that is understandable to the public.*
- *Economic Development*
  - *The General Plan intends to promote an improved, business friendly economic climate for the prosperity of its citizens, for the livability of the county, and to enhance the tax base in order to provide needed services and fiscal stability.*
  - *The County desires to allow economic growth and foster it where possible.*
  - *The County understands that its economy relies heavily on agriculture, forestry, mineral industries, recreation, and tourism, and desires to support those endeavors where practical.*
  - *The General Plan will endeavor to preserve the natural beauty of the region where such preservation efforts will be consistent with the desire for diversified economic growth and the rights of property owners.*
  - *The General Plan desires to foster a more diverse economy which will result from entrepreneurs being allowed to apply their creativity and expertise.*
- *Community Development*
  - *The history of the Gold Rush era will be alive in the culture of distinctive communities that provide a high quality of life for generations of residents.*
  - *The General Plan and the County values its heritage and the unique qualities of its individual communities. Community Plans, as developed by the local residents, will help preserve the character of historic communities and foster economic growth, delivery of services, and provision of infrastructure.*
  - *Through community involvement and volunteerism, residents will be active participants in guiding Calaveras County towards the common vision for the future.*
- *Infrastructure and Services*
  - *New development will pay the costs of providing adequate additional infrastructure and services necessitated by development, including roads, water, sewage disposal, and services such as schools, police, and fire protection, without reducing the level of service enjoyed by existing communities.*
  - *Roads and streets will be well-maintained and well-connected and other modes of transportation will be encouraged.*
  - *The General Plan promotes coordination among agencies to provide effective and efficient water, wastewater disposal, fire protection, and other essential services.*
- *Safety and Natural Resources*
  - *Protect citizens and resources from natural and manmade hazards.*

- *Maintenance of open space, wildlife habitat, agricultural lands and forests will be accomplished by the continued ability to maintain the productive resources in the county by those who own, operate, or manage them.*

Land Use Element

As shown in Table 3-1 in the Project Description chapter of this EIR, adoption and implementation of the proposed project would result in an increase in dwelling units, population, and nonresidential building floor area over existing conditions. Figure 3-3 in the Project Description chapter of this EIR illustrates the Draft General Plan land use designations which would be applied to the land under the jurisdiction of the County. The Land Use Element is intended to serve as a guide for future development in the County and determine many key issues evaluated in other elements of the Draft General Plan. The Land Use Element guides the general pattern of development in the County by identifying the general nature, location, density, and intensity of existing and future land uses.

Community Plan Element

When the County decided to update the General Plan in 2008, the then sitting supervisor for District 2 reached out to community members to work towards citizen involvement in the planning process, which resulted in draft community plans for each community in District 2. At the same time, community members from other districts began working on updates to their community plans, or the development of new plans where none currently existed.

In January 2014, the Board of Supervisors directed County staff to proceed with the General Plan update without including the community plans, which was due to concerns about the length of time needed to ensure consistency and outstanding controversy on some of the plans. A Draft General Plan was released in December 2014 that did not include community plans. However, in June 2015 the Board modified that direction, and directed staff to include the community plans that had been previously reviewed and incorporate them into the Draft General Plan, creating the Community Plan Element. The Board intends to adopt revised plans for the rest of the County's communities as quickly as possible following adoption of the General Plan.

Individual communities make up the backbone of Calaveras County. Each community is unique in many ways, but also shares similarities with the other communities of the County. The purpose of the Community Plan Element is to identify the unique characteristics of these communities, the vision of its citizens, and provide policies to support and assist development and preservation of their social, economic, environmental, and historic assets.

Community plans were previously adopted for several communities under prior General Plans. With adoption of the proposed project, those community plans would be rescinded. Existing community plans would be incorporated into the proposed Community Plan

Element. Additional community plans may be added through General Plan Amendments as they are completed. The primary objective of the community plans is to refine the planning goals and policies for each community while integrating each into the overall vision and goals of the General Plan as a whole.

Each community plan contains a description and a brief history of the community, a community vision statement and a set of policies. The policies are intended to be specific to that community, although there may be some overlap with policies that apply generally to the whole County.

The following section includes the draft policies related to land use and planning from the ten community plans included in the Draft Community Plan Element.

*Glencoe Community Plan Policies*

The following policies are included in the Glencoe Community Plan.

Land Use

CPG 1.1 Design new commercial construction in the town center in the Gold Rush style that conforms to the historic character of the communities.

CPG 1.2 Support commercial recreation development in the area such as stables, outfitters, etc.

CPG 1.3 Support the development of community service uses such as a fire station, community hall, education center, places of worship, and commercial uses in the town center.

Conservation and Open Space/Recreation

CPG 2.1 Develop walking paths throughout the town center which maintain the rural, atmosphere. Develop hiking, bicycling and equestrian trails for low intensity recreational use with property owner consent.

CPG 2.2 Encourage creation of a local park to serve the Glencoe area.

CPG 2.3 Support trail planning and development including use of historic roads, ditches and canals, and routes to the South Fork and Main Stem of the Mokelumne River and the North Fork of the Calaveras River.

*Mokelumne Hill Community Plan Policies*

The following policies are included in the Mokelumne Hill Community Plan.

Land Use

CPMH 1.1 Provide for orderly growth in a manner that retains the small town character, historical, and cultural assets and protects the community's scenic, recreational, agricultural, and natural resources.

CPMH 1.2 Protect the Historic District, designated Historic Buildings, and Gateway Areas in Mokelumne Hill, which are determined significant to the history and atmosphere of the town by continued implementation of the Mokelumne Hill Design Review Guidelines.

CPMH 1.3 Encourage present and future owners of property in Mokelumne Hill to construct and maintain structures in a manner that is in keeping with the town's historical atmosphere.

CPMH 1.4 Promote and facilitate infill within the existing Community Plan area, especially with land already served by public sewer and water.

CPMH 1.5 New commercial development shall be located where it will be compatible with adjacent and nearby land uses.

CPMH 1.6 Accommodate the housing needs of all income groups expected to reside in Mokelumne Hill.

CPMH 1.7 Duplexes and multiple family dwellings shall be designed to be compatible with single-family homes, and adequately served by public water and sewer service, fire protection, and have satisfactory access to a public street.

CPMH 1.8 All new residential and commercial development shall meet the requirements of the Calaveras County Zoning Ordinance for off street parking with the exception of the use of existing structures within the Historic District and all designated Historic buildings within the Mokelumne Hill Community Planning Area.

CPMH 1.9 Permit residential agriculture uses where compatible with other land uses, to include the raising of livestock and crops for home or youth projects.

Circulation

CPMH 2.1 Sufficient roads shall be provided to serve the transportation needs of the community while preserving the unique and irregular street patterns and road widths of the existing community and remaining consistent with the historical transportation routes of the town.

Public Facilities and Services

CPMH 3.1 Pursue opportunities to expand the existing offering of park and recreational facilities.

*Mountain Ranch Community Plan Policies*

The following policies are included in the Mountain Ranch Community Plan.

Land Use

CPMR 1.1 Development of the town center area shall be consistent with the historical nature of the historic building inventory and future building shall retain the look and feel of the old west.

CPMR 1.2 Development in the Town Center area should encourage residential density, Single Family Residential lots no smaller than 1/8 acre, mixed-use and commercial uses.

CPMR 1.3 Public buildings serving Mountain Ranch should be located in the town center area.

CPMR 1.4 An architectural review committee of local citizens should be appointed by the Board of Supervisors to develop architectural guidelines for development of the town center area.

CPMR 1.5 The County shall encourage the development of a municipal water supply and sewage treatment to support development in the Town Center area.

CPMR 1.6 The existing park shall remain at least as big as it is at the current time and the public buildings in the park area should remain for public use.

Lighting and Noise

CPMR 2.1 Activities on developed and undeveloped lands that create excessive noise shall be consistent with Noise Element Policies N 1.6, N 1.7 and N 1.8.

CPMR 2.2 Outdoor lighting shall be consistent with Land Use Element Policies LU 4.3 and LU 4.10.

*Paloma Community Plan Policies*

The following policies are included in the Paloma Community Plan.

Land Use

CPPA 1.1 Appropriate public uses in the Community Center of Paloma are a fire station, community garden, school, park, post office and a community center/town hall.

CPPA 1.2 Appropriate residential and non-residential uses in the Community Center of Paloma are single family dwellings, commercial uses, mixed use structures of residential and commercial/light industrial, places of worship.

CPPA 1.3 Agriculture, mining, and other working lands, open space and recreational uses are appropriate in the area around Paloma.

*Rail Road Flat Community Plan Policies*

The following policies are included in the Rail Road Flat Community Plan.

Land Use

CPRF 1.1 Design new commercial construction in the town center in the Gold Rush style that conforms to the historic character of the communities.

CPRF 1.2 Support the establishment or re-establishment of a public park in or near the community.

Conservation and Open Space

CPRF 2.1 Develop walking paths throughout the town center which maintain the rural, atmosphere. Develop hiking, bicycling and equestrian trails for low intensity recreational use with property owner consent.

*Rancho Calaveras/Jenny Lind Community Plan Policies*

The following policies are included in the Rancho Calaveras/Jenny Lind Community Plan.

Land Use

CPRC 1.1 No commercial zoning or uses shall be established in Rancho Calaveras except within the historic townsite of Jenny Lind and for those uses that qualify as a home business in conformance with Chapter 17.68 of the Zoning Code.

CPRC 1.2 Prohibit multiple family residential development in Rancho Calaveras.

CPRC 1.3 Due to limitations on the ability of the soils in Rancho Calaveras to accommodate septic systems, accessory dwellings, as provided in Chapter 17.66 of the Calaveras County Code, shall be limited to parcels of two acres or more.

CPRC 1.4 Maintain a rural residential density for the Plan area by retaining Rural Residential Three-Acre (RR-3) zoning for all those parcels zoned RR-3 in the original Rancho Calaveras Subdivision.

Recreation/Animal Keeping

CPRC 2.1 Encourage the preservation and development of practical pedestrian/equestrian easements throughout the Rancho Calaveras Community Plan area by identifying and supporting those easements which are physically practical and which provide reasonable access to and from streets and roads.

CPRC 2.2 Maintain compatibility between residential use and the keeping of farm animals, birds, or pets within the Plan area and prohibit the keeping of same on absentee owner lots within the Rancho Calaveras area.

*San Andreas Community Plan Policies*

The following policies are included in the San Andreas Community Plan.

Land Use

CPSA 1.1 Concentrate all current and future government facilities in the County Government Center along Mountain Ranch Road.

CPSA 1.2 Facilitate the establishment and operation of retail and commercial outlets that meet the retail and commercial needs of the community while at the same time complimenting the rural atmosphere and historical character of the San Andreas Community.

CPSA 1.3 Encourage and promote the use of architectural standards in the "Gold Rush" or "Mother Lode" style in the Historic Center designated areas.

Circulation

CPSA 2.1 Support the completion of a complete sidewalk system to facilitate pedestrian circulation within the community and provide safe access to schools.

CPSA 2.2 Work with Caltrans and the Calaveras Council of Governments to facilitate planning and construction of improvements to improve the

intersection of Mountain Ranch Road and State Route 49 and access to the Government Center and to resolve circulation conflicts between through traffic on St. Charles Street, local traffic and business needs, and pedestrian and bicycle circulation.

Public Facilities and Services

CPSA 3.1 Facilitate water conservation to protect and maintain an adequate water supply in coordination with the Calaveras Public Utility District.

CPSA 3.2 Facilitate sewage treatment capacity and line extensions to areas identified for future development in coordination with the San Andreas Sanitary District. Infrastructure improvement costs shall be borne by development causing the needed improvements.

Recreation

CPSA 4.1 Work with the San Andreas Recreation and Park District to provide sufficient park and recreation facilities to meet the needs of the community by pursuing funding opportunities, including state and federal grants, development fees, and other funding sources.

*Sheep Ranch Community Plan Policies*

The following policies are included in the Sheep Ranch Community Plan.

Land Use

CPSR 1.1 Maintain current densities (one dwelling per acre for parcels served by public water and conventional septic, and one dwelling per five acres on parcels served by well and conventional septic) and current subdivision limitations in the town center, with all existing parcels maintaining their current development potentials and restrictions. This policy is not meant to preclude future requests to amend the general plan within the Sheep Ranch Community Area.

CPSR 1.2 Maintain the noncommercial nature of all properties other than the existing commercially-zoned parcel. This policy is not meant to preclude future requests to amend the general plan within the Sheep Ranch Community Area.

CPSR 1.3 Maintain the county's ordinance permitting open-range grazing of sheep.

CPSR 1.4 Preserve the historic nature of the Sheep Ranch town center by encouraging the traditional Mother Lode architectural style for any new building construction or exterior renovation in the town center.

CPSR 1.5 Continue use of the Sheep Ranch firehouse as a fire station and community center serving the entire Sheep Ranch area.

CPSR 1.6 Preserve the rural character of the Sheep Ranch area and maintain the local road system as two-lanes with minimum improvements needed to meet county public safety standards.

CPSR 1.7 Ensure that development is consistent with the natural beauty of this low-density area and protects important wildlife habitats.

CPSR 1.8 Preserve the ability of Sheep Ranch citizens to conduct reasonable agricultural activities, including the keeping of sheep, horses, chickens, and pigs, and raising of fruit, vegetables, grain and lavender.

Public Facilities and Services

CPSR 2.1 Support the development of an open-space park within the town center of Sheep Ranch as a keystone in preserving the town's rural nature.

*West Point Community Plan Policies*

The following policies are included in the West Point Community Plan.

Land Use

CPWP 1.1 Provide for higher density and commercial uses in the town center transitioning to a buffer area of lower density residential uses.

CPWP 1.2 Remove impediments to new commercial construction.

Public Facilities and Services

CPWP 2.1 Support the upgrade of infrastructure in West Point.

*Wilseyville Community Plan Policies*

The following policies are included in the Wilseyville Community Plan.

Land Use

CPWV 1.1 New development within the town center should adhere to the historical architecture of Wilseyville's past and protect the many historical sites in the area.

CPWV 1.2 Support the development of a community center to support Wilseyville's social needs.

CPWV 1.3 Support employment and shopping options by encouraging the development of professional and medical offices, small retail stores, and light industrial uses in the community center.

CPWV 1.4 Support development of a range of housing meeting all income levels in the community.

CPWV 1.5 Support development of and access to regional open space, park and recreation facilities, including Schaads Reservoir and Camp Lodestar, to encourage tourism and social capital.

Public Facilities and Services

CPWV 2.1 Support efforts by CCWD to connect the Wilseyville and West Point sewage treatment facilities and expansion of services within the Wilseyville community center.

CPWV 2.2 Encourage the extension of broadband and expansion of other telecommunication services in the Wilseyville area.

CPWV 2.3 Work with the West Point Fire Protection District and other emergency responders to address unmet needs and plan for future emergency services.

The primary objective of the Land Use Element and Community Plan Element of the Draft General Plan is to maintain and enhance the established communities in the County, as well as implement the Calaveras County Draft General Plan vision statement and guiding principles. Implementing the policies included in the Land Use Element and Community Plan Element would focus development in and around the existing communities, and would prevent the physical division of an established community. Therefore, impacts related to the potential to divide established communities would be ***less than significant***.

Mitigation Measure(s)
*None required.*

**4.9-2 Conflict, or create an inconsistency, with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Based on the analysis below, the impact is *less than significant.***

Updating the existing General Plan involves revisions and/or additions to existing policies and land use designations; therefore, the updated plan is often inconsistent with the existing General Plan. For example, changes in land use patterns resulting from approval of the Draft General Plan may be in conflict with the existing Calaveras County General Plan. However, the adoption of the proposed project would result in new policies with which all future development must comply. Other than the existing General Plan, Calaveras County currently does not have any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed new policies in the Draft General Plan would strengthen and expand the environmental protection policies included in the existing General Plan, as opposed to conflicting with such existing policies.

The Draft General Plan includes the following goals and policies applicable to land use compatibility issues:

Land Use Patterns

Goal LU-1 Development of mixed use communities providing for a wide range of residential, commercial, visitor-serving and job-generating uses that facilitate their development as independent communities.

Policy LU 1.1 Maintain an adequate supply of appropriately designated land of varying parcel sizes and locations to accommodate growth within each land use designation.

Policy LU 1.2 Support growth in and around existing communities while protecting and enhancing community and neighborhood character.

Policy LU 1.3 Encourage development of infill parcels and redevelopment of underused properties.

Policy LU 1.4 In addition to the consistent zoning districts listed in Table LU-2, in areas designated for future development, less intensive residential and agricultural zoning districts shall be deemed compatible with the General Plan's land use designations as an interim zone until such time as infrastructure and services are available to support intended development.

Policy LU 1.5 Encourage mixed use development in the Community Areas where designated Community Center and Historic Center.

Goal LU-2 A land use pattern that allows those who own, operate, or manage the productive resources in the county, to maintain open space, wildlife habitat, agricultural lands, mineral resources and forests.

Policy LU 2.1 Respect and protect the property rights of people in their efforts to maintain or develop productive resources.

Policy LU 2.2 Maintain availability of the Williamson Act contracts and other protections for agricultural, mineral and timber productivity as set forth in the Resource Production Element.

Infrastructure and Land Use

Goal LU-3 A pattern of growth and development that effectively utilizes the planned provision of infrastructure, facilities, and public services.

Policy LU 3.1 Locate community-oriented services and amenities (schools, libraries, parks, civic facilities, County offices) in and near community town centers to encourage community vitality.

Policy LU 3.2 Maintain the compatibility of surrounding land uses and development so as not to impede the existing and planned operation of public airports, landfills, sewage treatment and related community service facilities.

Policy LU 3.3 Implement the provisions of the Calaveras Airport ALUCP to protect the ongoing operations of the airport and safety of the public.

Policy LU 3.4 Infrastructure such as water and sewer and high capacity roads shall be encouraged within existing developed areas, areas contiguous to existing communities, areas where future development is anticipated by the General Plan as reflected in the General Plan land use map, existing, non-contiguous communities, and/or where essential to public health and safety.

Policy LU 3.5 Adequate infrastructure, facilities, and public services shall be in place or shall be extended or provided as necessary to serve a project as a requirement of the project approval.

Community Character and Design

Goal LU-4 High quality, well-designed development that is compatible with surrounding uses and is integrated with the community and the physical environment in which it is located.

Policy LU 4.1 New development shall be designed to be compatible with the natural, scenic, and historic resources of Calaveras County.

Policy LU 4.2 Preserve and enhance existing buildings and other structures of historic and architectural importance, as reflected in state and federal standards for significance, that contribute to the historic identity of Calaveras County.

Policy LU 4.3 Ensure new development is designed in a manner that is compatible with surrounding land uses through design and buffering, addressing potential impacts from noise, lighting, and traffic.

Policy LU 4.4 Encourage clustering of residential development where appropriate, based on availability of infrastructure and community character, to increase open space and housing affordability, and reduce infrastructure costs.

Policy LU 4.5 Create alternatives to on-site parking in historic districts to support economic development opportunities and to protect the historic character of communities.

Policy LU 4.6 Ensure that the design of community-oriented public facilities is compatible with community character.

Policy LU 4.7 New non-residential development shall be designed to integrate with and enhance the community and surrounding uses by utilizing compatible architecture and site design.

Policy LU 4.8 New development shall provide pedestrian and vehicle interconnectedness.

Policy LU 4.9 Facilitate the rehabilitation and/or removal of abandoned buildings.

Policy LU 4.10 Retain the rural nature of the county's communities and dark skies by controlling light pollution (glare, light trespass, and night sky glow.)

Economics and Land Use

Goal LU-5 A strong and diversified economic base through the creation, retention, expansion and attraction of business, agriculture, and industry

Policy LU 5.1 Work with infrastructure providers (power, communications, water wastewater) to serve commercial, industrial, and mixed use parcels, and facilitate the provision of state-of-the-art communications infrastructure.

Policy LU 5.2 Encourage entrepreneurship and home-based business development compatible with neighborhoods.

Policy LU 5.3 Recognize the county's unique recreational, scenic, cultural, historic and agricultural resources as strong economic generators and encourage their retention and expansion.

Policy LU 5.4 Encourage attraction of new compatible business and industry to the county.

Policy LU 5.5 Revitalize existing community centers by encouraging a mixed use concentration of retail, entertainment, arts, housing and services to support job and economic growth.

Policy LU 5.6 Provide for a business friendly environment with clear and efficient planning, permitting, and building guidelines and regulations.

Policy LU 5.7 Encourage the attraction of new destination venues (performing arts, agritourism, outdoor sports and recreation, cultural and historic attractions) that appeal to locals and visitors, contribute to the County's

economic growth and that are compatible with the surrounding land uses.

Policy LU 5.8 Encourage the development of a higher educated and skilled workforce to meet the needs of existing and new business and industry.

Policy LU 5.9 Encourage and facilitate the renovation and reuse of underutilized and vacant parcels, industrial sites, buildings, and retail centers.

Regional Planning and Coordination

Goal LU-6 Coordinate planning efforts with other agencies and interest groups to identify mutually beneficial goals, avoid duplicating efforts, and leverage limited resources.

Policy LU 6.1 Support and participate in countywide, regional and other multi-agency planning efforts that benefit the County.

Policy LU 6.2 Continue to develop and maintain strong working relationships and effective intergovernmental review procedures with local Native American tribes.

Policy LU 6.3 Provide coordinated planning with the City of Angels Camp and within the City of Angels Camp Sphere of Influence to coordinate the effective provision of infrastructure and services.

As described above, other than the existing General Plan, Calaveras County currently does not have any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Calaveras County Draft General Plan identifies the land use and planning goals and policies that would guide all future development in the County and would further strengthen and expand the environmental protection policies included in the existing General Plan to help avoid environmental effects associated with such development. For example, General Plan Policies LU 3.3 and LU 6.1 require compliance and participation in countywide, regional and other multi-agency planning efforts, such as the Calaveras County ALUCP and the Calaveras County RTP. As a result, should the Calaveras County Board of Supervisors vote to approve the Draft General Plan, the proposed project would further strengthen and expand the environmental protection policies and would not conflict or create an inconsistency, with any existing applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the implementation of the draft goals and policies above would result in a ***less-than-significant*** impact.

Mitigation Measure(s)
*None required.*

# 4.10 NOISE AND VIBRATION

## 4.10.1 INTRODUCTION

The Noise and Vibration chapter of the EIR describes the existing noise environment in the project vicinity and identifies potential impacts from the proposed project. In addition, the chapter includes an analysis of potential impacts related to groundborne vibration. The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant impacts to levels that are less than significant. Information within this chapter is primarily based on information from the *Environmental Noise Assessment* prepared specifically for the proposed project by j.c. brennan & associates, Inc.,[1] which is included as Appendix F to this EIR.

## 4.10.2 EXISTING ENVIRONMENTAL SETTING

The following section provides a discussion of acoustical terminology, the effects of noise on people, existing sensitive receptors in the project vicinity, existing sources and noise levels in the project vicinity, and existing sources of vibration.

### Acoustical Terminology

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 large and perplexing range of numbers. As a result, the decibel (dB) scale was created. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, and defines the lowest sound perceptible to persons with perfect hearing 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 sound levels. A strong correlation exists between A-weighted sound levels (expressed as dB) 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, but are expressed as dB, unless otherwise noted. Table 4.10-1

[1] j.c. brennan & associates, Inc. *Calaveras County General Plan, Calaveras County, California.* December 4, 2017.

**Table 4.10-1**
**Typical Noise Levels**

| Common Outdoor Activities | Noise Level (dB) | Common Indoor Activities |
|---|---|---|
| | --110-- | Rock Band |
| Jet Fly-Over at 300 m (1,000 ft) | --100-- | |
| Gas Lawn Mower at 1 m (3 ft) | --90-- | |
| Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph) | --80-- | Food Blender at 1 m (3 ft)<br>Garbage Disposal at 1 m (3 ft) |
| Noisy Urban Area, Daytime<br>Gas Lawn Mower, 30 m (100 ft) | --70-- | Vacuum Cleaner at 3 m (10 ft) |
| Commercial Area<br>Heavy Traffic at 90 m (300 ft) | --60-- | Normal Speech at 1 m (3 ft) |
| Quiet Urban Daytime | --50-- | Large Business Office<br>Dishwasher in Next Room |
| Quiet Urban Nighttime | --40-- | Theater, Large Conference Room (Background) |
| Quiet Suburban Nighttime | --30-- | Library |
| Quiet Rural Nighttime | --20-- | Bedroom at Night, Concert Hall (Background) |
| | --10-- | Broadcast/Recording Studio |
| Lowest Threshold of Human Hearing | --0-- | Lowest Threshold of Human Hearing |

*Source: California Department of Transportation, Technical Noise Supplement, Traffic Noise Analysis Protocol, November 2009.*

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 ($L_{eq}$), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The $L_{eq}$ is the foundation of the composite noise descriptor, $L_{dn}$, and shows very good correlation with community response to noise.

The Day/Night Average Level ($L_{dn}$) is based upon the average noise level over a 24-hour day, with a +10-decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because $L_{dn}$ represents a 24-hour average, short-term variations in the noise environment tend to be disguised.

**Effects of Noise on People**

The effects of noise on people can be placed in the following three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; or
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. A completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction does not exist. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise environment compares to the existing environment to which one has adapted (i.e., the ambient noise level). In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing the noise.

With regard to increases in A-weighted noise levels, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of one dB cannot be perceived;
- Outside of the laboratory, a three dB change is considered a barely perceivable difference;
- A change in level of at least five dB is required before any noticeable change in human response would be expected; and
- A 10 dB change is subjectively heard as approximately a doubling in loudness and would typically cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately six dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

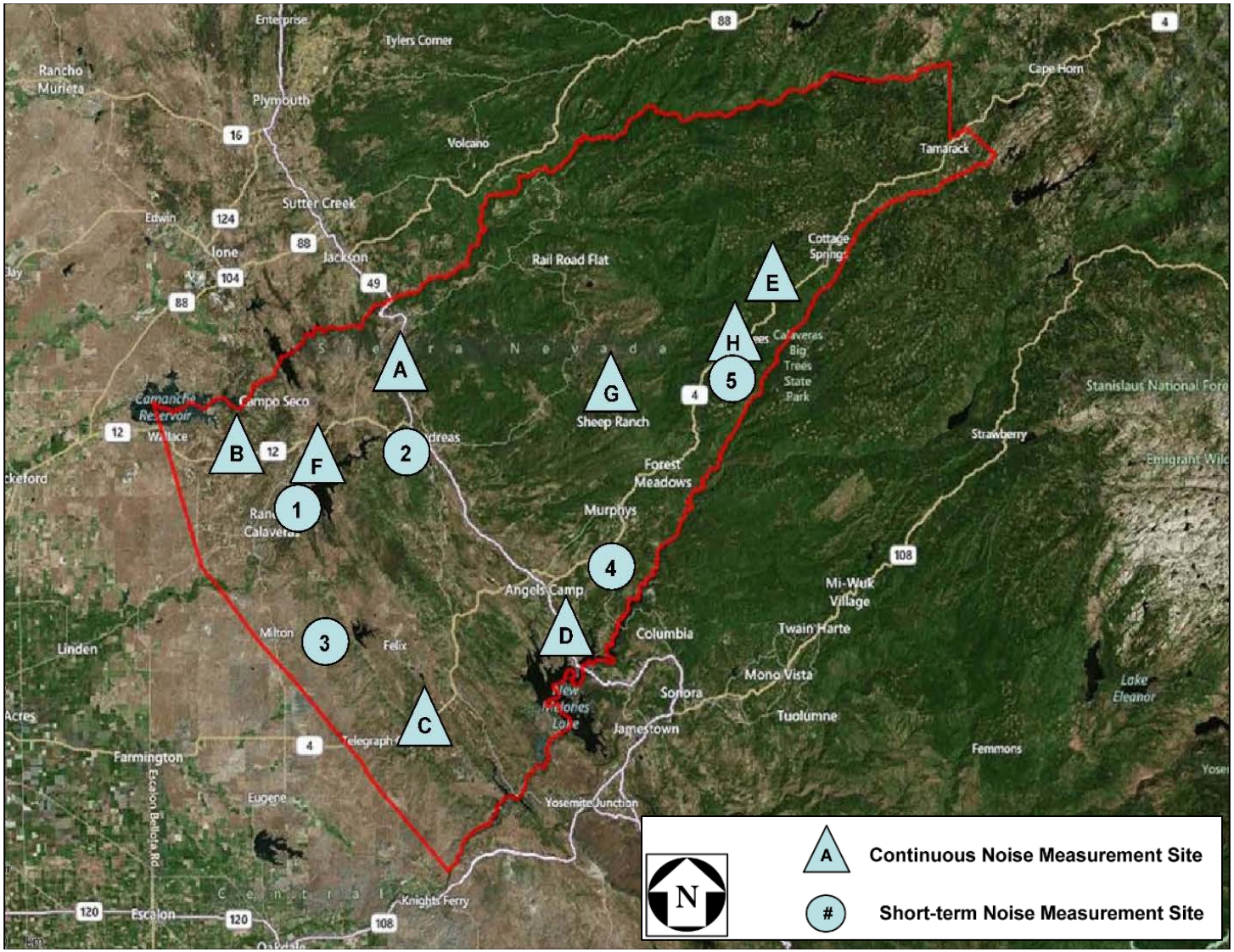
**Existing Sensitive Receptors**

Some land uses are considered more sensitive to ambient noise levels than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved.

**Existing Ambient Noise Levels**

In order to document existing ambient noise levels at major noise sensitive land uses, major roadways, and fixed noise sources within the County, a community noise survey was conducted as part of the Environmental Noise Assessment. The community noise survey included eight continuous 24-hour noise measurements and five short-term noise measurements (see Table 4.10-2). Long-term noise monitoring sites were selected to be representative of typical residential, commercial, and recreational areas within the County, while short-term measurements were selected based on known fixed noise source sites. The sound level meters were programmed to record the hourly maximum, median, and average noise levels at each site during the survey.

**Figure 4.10-1**
**Noise Measurement Locations**




*Source: j.c. brennan & Associates, Inc., 2017.*

The maximum value, denoted $L_{max}$, represents the highest noise level measured during each hour. The average value, denoted $L_{eq}$, represents the energy average of all of the noise received by the sound level meter microphone. The median value, denoted $L_{50}$, represents the sound level exceeded 50 percent of the time during the monitoring period. The results of the continuous 24-hour noise monitoring are summarized in Table 4.10-2 below.

**Table 4.10-2**
**Existing Continuous 24-Hour Ambient Noise Monitoring Results**

| Site | Location | $L_{dn}$ | Measured Hourly Noise Level (dB) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Daytime (7 AM to 10 PM) | | | Nighttime (10 PM to 7 AM) | | |
| | | | $L_{eq}$ | $L_{50}$ | $L_{max}$ | $L_{eq}$ | $L_{50}$ | $L_{max}$ |
| A | State Route (SR) 49, south of Mokelumne near Sport Hill Rd | 61 | 60 | 49 | 82 | 52 | 34 | 72 |
| B | SR 12, between Wallace and Burson, near Megan Ln | 65 | 62 | 48 | 81 | 58 | 34 | 78 |
| C | SR 4, near Copperopolis, south of Telegraph Rd | 66 | 61 | 51 | 77 | 60 | 34 | 75 |
| D | SR 49, south of Angels Camp, south of Rainbow Way | 65 | 62 | 55 | 78 | 58 | 35 | 74 |
| E | SR 4, north of Arnold, north of Moran Rd | 64 | 63 | 45 | 81 | 55 | 26 | 72 |
| F | New Hogan Lake Headquarters along Fire Trail | 43 | 39 | 33 | 56 | 37 | 31 | 48 |
| G | Sheep Ranch Road, between Armstrong Rd and Lookout Point Rd | 46 | 41 | 29 | 75 | 39 | 22 | 75 |
| H | White Pines Lake, along Forest Rd 7N08, north of Forth St. | 44 | 45 | 34 | 65 | 33 | 28 | 47 |

*Source: j.c. brennan & Associates, Inc., 2017.*

The short-term noise measurements conducted as part of the community noise survey focused primarily on fixed noise sources, which include, but are not limited to, industrial, commercial, recreational, and public service facilities within the County. Such noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. Noise generation from fixed noise sources may vary based upon climatic conditions, time of day, and existing ambient noise levels.

Fixed noise sources which are typically of concern include, but are not limited to, the following:

- HVAC Systems;
- Cooling Towers/Evaporative Condensers;
- Pump Stations;
- Lift Stations;
- Steam Valves;
- Steam Turbines;
- Generators;
- Fans;
- Air Compressors;
- Heavy Equipment;
- Conveyor Systems;
- Transformers;
- Pile Drivers;
- Grinders;
- Drill Rigs;
- Gas or Diesel Motors;
- Welders;
- Cutting Equipment;
- Outdoor Speakers;
- Blowers;
- Chippers;
- Cutting Equipment;
- Loading Docks; and
- Amplified music and voice.

The following section describes key existing industrial noise-generating noise sources within the County. The descriptions provided are intended to be representative of the relative noise impacts associated with such uses and to identify individual noise sources that would likely require consideration during the environmental review process for future developments in the vicinity of such sources. The results of the short-term noise level measurements are summarized in Table 4.10-3 below.

**Table 4.10-3**
**Existing Short-Term Fixed Noise Source Noise Monitoring Results**

| Site | Location | Time | Measured Sound Level (dB) | | | Notes |
|---|---|---|---|---|---|---|
| | | | $L_{eq}$ | $L_{50}$ | $L_{max}$ | |
| 1 | Hogan Quarry, 3650 Hogan Dam Rd | 11:06 AM | 51 | 43 | 70 | 585 feet from equipment |
| 2 | Calaveras Materials, 2288 Pool Station Rd | 12:07 PM | 63 | 53 | 81 | 900 feet from equipment |
| 3 | Rock Creek Solid Waste Facility, 12021 Hunt Rd | 9:45 AM | 45 | 37 | 63 | 114 feet from equipment |
| | | 10:13 AM | 39 | 36 | 59 | No equipment running |
| 4 | Red Hill Transfer Station, 5314 Red Hill Rd | 2:36 PM | 53 | 46 | 75 | 225 feet from noise source |
| 5 | Avery Transfer Station, 4541 Segale Rd | 1:29 PM | 59 | 55 | 78 | 135 feet from equipment |
| | | 1:49 PM | 51 | 48 | 66 | 135 feet from manual disposal |

*Source: j.c. brennan & Associates, Inc., 2017.*

Site #1: Foothill Materials

Foothill Materials is an aggregate productions facility located at 3650 Hogan Dam Road in Valley Springs. The primary noise source associated with the facility is the production of aggregate, which includes operation of loaders, excavators, rock crushers, impact rock hammers, conveyors, diesel generators, and heavy-duty truck traffic. Noise level measurements were conducted on October 18, 2013 at the east boundary of Foothill Materials, approximately 585 feet from the center of the noise source. Measured noise levels were 51 dB $L_{eq}$ and 70 dB $L_{max}$. The distances to the 45 and 55 dB $L_{eq}$ noise contours are 1,167 feet and 369 feet, respectively.

Site #2: Calaveras Materials

Calaveras Materials is an aggregate production facility located at 2288 Pool Station Road in San Andreas, California. The primary noise source associated with the facility is the production of aggregate, which includes operation of loaders, excavators, rock crushers, water trucks, conveyors, diesel generators, and heavy-duty truck traffic. Noise level measurements were conducted on October 18, 2013 at the northeast boundary of Calaveras Materials approximately 900 feet from the center of the noise source. Measured noise levels were 63 dB $L_{eq}$ due to the plant operations. The distances to the 45 and 55 dB $L_{eq}$ noise contours are 2,260 feet and 715 feet, respectively.

Site #3: Rock Creek Solid Waste Facility

The Rock Creek Solid Waste Facility is a landfill facility located at 12021 Hunt Road in Milton. The primary noise sources associated with the facility are the ingress and egress of trucks entering the facility from Hunt Road and on-site heavy equipment operation (including backup alarms). Noise level measurements were conducted at the northwest boundary of the Rock Creek Solid Waste Facility on October 18, 2013 approximately 114 feet from the center of the noise source. Measured noise levels were 45 dB $L_{eq}$ and 63 dB $L_{max}$. The distances to the 45 and 55 dB $L_{eq}$ noise contours are 114 feet and 36 feet, respectively.

Site #4: Red Hill Transfer Station

The Red Hill Transfer Station is a solid waste collection facility located at 5314 Red Hill Road in Vallecito, California. The primary noise sources associated with the facility are the loading and unloading of refuse at the facility, and on-site truck traffic. Noise level measurements were conducted on October 18, 2013 near the facility's northeast gate, approximately 225 feet from the center of the noise source. Measured noise levels were 53 dB $L_{eq}$ and 75 dB $L_{max}$. The distances to the 45 and 55 dB $L_{eq}$ noise contours are 634 feet and 252 feet, respectively.

Site #5: Avery Transfer Station

Avery Transfer Station is a solid waste collection facility located at 4541 Segale Road, Avery, CA 95224. The primary noise sources are the loading and unloading of refuse at the facility and truck traffic at the site. The noise level measurements were conducted on October 18, 2013 near the loading dock, approximately 135 feet from the center of the noise source. Measured noise levels were 59 dB $L_{eq}$ and 78 dB $L_{max}$. The distances to the 45 and 55 dB $L_{eq}$ noise contours are 759 feet and 240 feet, respectively.

**Existing Traffic Noise Levels**

To predict existing noise levels due to traffic, j.c. brennan & associates used the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108). Traffic volumes for existing conditions were obtained from Caltrans and the traffic study prepared for the project by Fehr & Peers. Day/night traffic distribution for SR 49, SR 12, and SR 4 were based upon continuous hourly noise measurement data collected for each roadway. Truck mix data were based on Caltrans and j.c. brennan & associates, Inc. file data.

Based on the aforementioned data sources, distances from the centerlines of selected roadways to the 60, 65 and 70 dB $L_{dn}$ noise contours are summarized in Table 4.10-4. In many cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA model. Factors such as roadway curvature, roadway grade, shielding from local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation. Nonetheless, the distances reported in Table 4.10-4 represent conservative estimates of noise exposure along roadways in Calaveras County. Appendix F to this EIR provides details regarding the FHWA modeling, including the complete inputs and results, as well as traffic noise contour maps for each study roadway segment included in the table.

**Table 4.10-4**
**Existing Traffic Noise Levels and Distances to Contours**

| Roadway | Segment | Exterior Traffic Noise Level (dB $L_{dn}$) at Nearest Sensitive Receptor | Distance (feet) to Traffic Noise Contours ($L_{dn}$)[1] | | |
|---|---|---|---|---|---|
| | | | 70 dB | 65 dB | 60 dB |
| SR 4 | Stanislaus Co Line to West of Hunt Rd | 66 dB | 54 | 116 | 251 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dB | 54 | 116 | 250 |
| SR 4 | East of Stallion Way to SR 49 | 64 dB | 40 | 86 | 186 |
| SR 4 | SR 49 to Allen Ln | 64 dB | 42 | 90 | 194 |
| SR 4 | Allen Ln to Broadview Ln | 66 dB | 52 | 111 | 240 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dB | 60 | 129 | 278 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dB | 51 | 109 | 235 |
| SR 4 | Henry Dr to Sierra Pkway | 66 dB | 53 | 114 | 245 |
| SR 4 | Skyline Dr to Alpine Co Line | 61 dB | 27 | 58 | 124 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dB | 43 | 92 | 199 |
| SR 12 | San Joaquin Co Line to Burson Rd | 64 dB | 42 | 90 | 193 |
| SR 12 | Burson Rd to SR 26 | 66 dB | 58 | 126 | 271 |
| SR 12 | SR 26 to SR 49 | 66 dB | 58 | 126 | 271 |
| SR 26 | San Joaquin Co Line to Silver Rapids Rd | 65 dB | 44 | 94 | 203 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dB | 60 | 129 | 277 |
| SR 26 | SR 12 to SR 49 | 59 dB | 17 | 37 | 80 |
| SR 26 | SR 49 to Ridge Rd | 55 dB | 11 | 23 | 50 |
| SR 26 | Ridge Rd to Winton Rd | 57 dB | 13 | 29 | 62 |
| SR 26 | Winton Rd to Amador Co Line | 56 dB | 12 | 26 | 57 |
| SR 49 | Amador Co Line to SR 12 | 63 dB | 33 | 71 | 152 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dB | 49 | 105 | 226 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dB | 56 | 120 | 259 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dB | 56 | 120 | 259 |
| SR 49 | Mountain Ranch Rd to Forth Crossing | 65 dB | 44 | 95 | 204 |
| SR 49 | Forth Crossing Rd to Brunner Hill Rd | 65 dB | 47 | 100 | 216 |
| SR 49 | Copello Dr to Dogtown Rd | 63 dB | 44 | 95 | 204 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dB | 45 | 98 | 211 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dB | 55 | 119 | 256 |
| SR 49 | Murphys Grade Rd to Stanislaus Ave | 63 dB | 35 | 75 | 161 |

*(continued on next page)*

**Table 4.10-4**
**Existing Traffic Noise Levels and Distances to Contours**

| Roadway | Segment | Exterior Traffic Noise Level (dB $L_{dn}$) at Nearest Sensitive Receptor | Distance (feet) to Traffic Noise Contours ($L_{dn}$)[1] | | |
|---|---|---|---|---|---|
| | | | 70 dB | 65 dB | 60 dB |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dB | 48 | 103 | 222 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dB | 49 | 106 | 228 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dB | 42 | 90 | 194 |
| SR 49 | SR 4 South to Tuolumne Co. Line | 62 dB | 39 | 83 | 179 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dB | 15 | 31 | 68 |
| Baldwin St | SR 26 to Milton Rd | 57 dB | 13 | 29 | 62 |
| Big Tree Rd | SR 4 to Main St. Murphys | 58 dB | 21 | 44 | 95 |
| Burson Rd | SR 26 to Cammanche Parkway South | 52 dB | 11 | 24 | 52 |
| Cammanche Parkway South | SR 12 to Amador Co. Line | 52 dB | 8 | 17 | 36 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dB | 4 | 8 | 17 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dB | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St | 57 dB | 15 | 31 | 68 |
| Gold Strike Rd | Neilsen Rd to SR 49 | 57 dB | 15 | 32 | 69 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dB | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dB | 1 | 3 | 7 |
| Jenny Lind Rd | SR 26 Milton | 56 dB | 16 | 35 | 75 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dB | 3 | 7 | 14 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dB | 21 | 44 | 95 |
| Milton Rd | SR 26 to Stanislaus Co. Line | 54 dB | 10 | 21 | 45 |
| Moran Rd | SR 4 to SR 4 | 58 dB | 15 | 33 | 72 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dB | 22 | 48 | 104 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dB | 26 | 56 | 122 |
| O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co. Line | 58 dB | 22 | 48 | 104 |
| Olive Orchard Rd | SR26 to Burson Rd | 55 dB | 14 | 31 | 66 |
| Ospital Rd | Southworth Rd to San Joaquin Co. line | 50 dB | 6 | 13 | 27 |
| Paloma Rd | SR 12 to SR 26 | 55 dB | 13 | 27 | 59 |

*(continued on next page)*

**Table 4.10-4**
**Existing Traffic Noise Levels and Distances to Contours**

| Roadway | Segment | Exterior Traffic Noise Level (dB $L_{dn}$) at Nearest Sensitive Receptor | Distance (feet) to Traffic Noise Contours ($L_{dn}$)[1] | | |
|---|---|---|---|---|---|
| | | | 70 dB | 65 dB | 60 dB |
| Parrotts Ferry Rd | SR 4 to Tuolumne Co. Line | 57 dB | 17 | 36 | 77 |
| Pennsylvania Gulch Rd | SR4 to END | 54 dB | 13 | 27 | 59 |
| Pettinger Rd | SR12 to Southworth Rd | 54 dB | 13 | 29 | 62 |
| Pool Station Rd | SR 4 to SR 49 | 54 dB | 11 | 24 | 52 |
| Railroad Flat Rd | Sheep Ranch Rd to SR 26 | 55 dB | 12 | 25 | 54 |
| Ridge Rd | SR 26 to Railroad Flat Rd | 52 dB | 7 | 16 | 34 |
| Rock Creek Rd | Milton Rd to SR4 | 40 dB | 4 | 8 | 17 |
| Sheep Ranch Rd | Mountain Ranch Rd to Main Street Murphys | 57 dB | 14 | 31 | 66 |
| Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 53 dB | 10 | 22 | 47 |
| Vista de Lago | SR 26 to Hogan Dam Rd | 58 dB | 19 | 41 | 88 |

Notes:
[1] Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
[2] Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

*Source: j.c. brennan & associates, Inc., 2017.*

## Vibration

While vibration is similar to noise, both involving a source, a transmission path, and a receiver, vibration differs from noise because noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating. Vibration can be measured in terms of acceleration, velocity, or displacement. Within Calaveras County, existing sources of vibration are relatively limited. However, vibration may occur as a result of ongoing construction projects, as well as heavy-duty truck operations associated with the industrial noise-generating noise sources listed in Table 4.10-3 above.

## Aviation Noise

Calaveras County Airport/Maury Rasmussen Field is currently the only public use, general aviation airport in the County. The Airport is located off of SR 49, just south of the town of San Andreas. The airport was constructed in the 1980's and currently consists of 93 acres with a single 3,602-foot runway, 65 hangar spaces, seven maintenance hangars and 64 tiedowns. The Calaveras County Airport Land Use Compatibility Plan (ALUCP) was updated June 2, 2010. Annual flight operations as of 2011 totaled approximately 32,000. Approximately 60 aircraft are based at the

airport, consisting mainly of single-engine aircraft (approximately 90 percent). Other types of aircraft, including multi-engine piston aircraft and, to a lesser extent, transient jets and helicopters, use the airport on a limited basis. Helicopter activity is generated primarily by the Calaveras County Sheriff's Department, the Air National Guard, and various air ambulance companies. Currently, the airport bases approximately 52 single-engine aircraft and two multi-engine aircraft. The airport has 43 hangar spaces and 64 tie-downs. New T-hangars are planned that would increase the airport capacity for an additional 22 aircraft. Existing noise exposure contours, as determined in the ALUCP, are provided in Figure 4.10-2 below.

## 4.10.3 REGULATORY CONTEXT

In order to limit exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The following provides a general overview of the existing State and local regulations that are relevant to the proposed project.

### State Regulations

The following are the State environmental laws and policies relevant to noise.

California State Building Codes

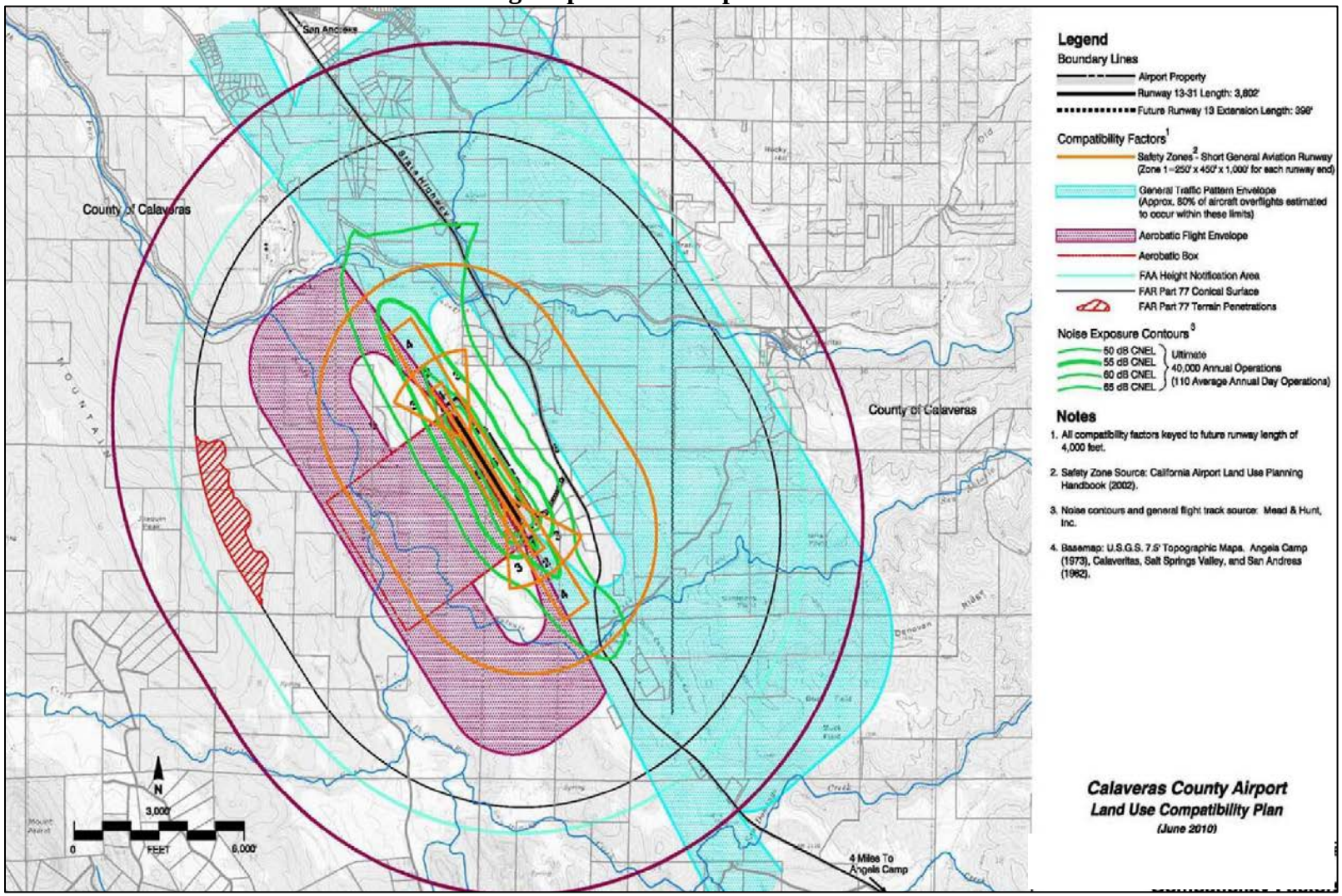
The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings.

Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB $L_{dn}$ or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the $L_{dn}$ or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

### Local Regulations

Intermittent and occasional noise from vehicles and outdoor recreational activities is addressed through Chapter 9.02 of the County Code of Ordinances, which establishes exterior noise level standards for various land use types within the County (see Table 4.10-5). The standards apply to private properties, as well as all public spaces and public right-of-way. It should be noted that compliance with all provisions of Subsection 9.02.060D of the Code of Ordinances exempts construction activities from the noise level standards.

**Figure 4.10-2**
**Existing Airport Noise Exposure Contours**




*Source: j.c. brennan & Associates, Inc., 2017.*

| Table 4.10-5<br>County Code of Ordinances Exterior Noise Level Standards | | |
|---|---|---|
| | Sound Level (dB) | |
| Land Use Type | 7:00 AM to 10:00 PM | 10:00 PM to 7:00 AM |
| Residential | 60 | 50 |
| Commercial | 70 | 60 |
| Industrial (Industry) | 75 | 65 |
| *Source: j.c. brennan & Associates, Inc., 2017.* | | |

## 6.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to noise and vibration. A discussion of the project's impacts, as well as mitigation measures, are also presented.

**Standards of Significance**

For the purposes of this EIR, the following standards of significance were adapted from Appendix G of the CEQA Guidelines. Impacts are considered significant if implementation of the proposed project would result in any one or more of the following:

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

Certain of the above general CEQA thresholds require more specific applications, as follows:

Threshold #1 – Standards in Local General Plan and Noise Ordinance

The proposed project consists of a Draft General Plan for the County, and, as such, the project would provide updated noise level standards for the County upon adoption. The updated noise level standards established in the Draft General Plan are summarized in Table 4.10-6 below. It should be noted that the proposed noise level standards would not apply to aviation-related noise sources. Aircraft-related noise exposure is governed by the ALUCP.

**Table 4.10-6**
**Draft General Plan Noise Exposure Levels for Sensitive Land Uses Adjacent to Existing Transportation Noise Sources**

| Noise Sensitive Land Use | Outdoor Activity Areas | Interior Spaces | |
|---|---|---|---|
| | $L_{dn}$/CNEL, dB | $L_{dn}$/CNEL, dB | $L_{eq}$, dB[1] |
| Residential | 60[2] | 45 | -- |
| Transient Lodging | 65[3] | 45 | -- |
| Hospitals, Nursing Homes | 60[2] | 45 | -- |
| Theaters, Auditoriums, Music Halls | -- | -- | 45 |
| Churches, Meeting Halls, | 60[2] | -- | 40 |
| Office Buildings | -- | -- | 45 |
| Schools, Libraries, Museums | -- | -- | 45 |
| Playgrounds, Neighborhood Parks | 70 | -- | -- |

Notes:
[1] As determined for a typical worst-case hour during periods of use.
[2] Where it is not feasible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
[3] Where it is not feasible to reduce noise in outdoor activity areas to 65 dB $L_{dn}$/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 70 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

In addition to the standards presented above, the Draft General Plan sets maximum allowable noise exposure levels for stationary noise sources (see Table 4.10-7). Stationary noise sources typically of concern include, but are not limited to, commercial HVAC systems, cooling towers/evaporative condensers, pump stations, lift stations, emergency generators, and other similar uses. The proposed standards would apply to the outdoor activity areas at the nearest noise-sensitive receptor. Per the Draft General Plan, an outdoor activity area is defined as a location outside of the immediate structure where formal or informal activities are likely to happen.

**Table 4.10-7**
**Maximum Allowable Noise Exposure from Stationary Noise Sources to Noise Sensitive Land Uses (Outdoor Activity Areas) ($L_{eq}$, dB)**

| Daytime (7:00 AM to 10:00 PM) | Nighttime (10:00 PM to 7:00 AM) |
|---|---|
| 55 | 45 |

Furthermore, per Policy N1.4 in the Draft General Plan, a potentially significant adverse noise-related impact would occur if a project generating transportation noise would result in the following:

- Where existing traffic noise levels are less than 60 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a 5 dB $L_{dn}$ increase in noise levels due to roadway improvement projects would be considered significant;

- Where existing traffic noise levels range between 60 and 65 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a 3 dB $L_{dn}$ increase in noise levels due to roadway improvement projects would be considered significant; and
- Where existing traffic noise levels are greater than 65 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a 1.5 dB $L_{dn}$ increase in noise levels due to roadway improvement projects would be considered significant.

Threshold #2 - Vibration

Although Calaveras County does not have specific vibration standards, CEQA requires an evaluation of potential vibration-related impacts of a project. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 4.10-8 indicates that per California Department of Transportation (Caltrans) standards, the threshold for architectural damage to structures is 0.2 inches per second (in/sec) peak particle velocity (PPV) and continuous vibrations of 0.1 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

**Table 4.10-8**
**Effects of Vibration on People and Buildings**

| PPV | | Human Reaction | Effect on Buildings |
|---|---|---|---|
| mm/sec | in/sec | | |
| 0.15 - 0.30 | 0.006 - 0.019 | Threshold of perception; possibility of intrusion | Vibrations unlikely to cause damage of any type |
| 2.0 | 0.08 | Vibrations readily perceptible | Recommended upper level of the vibration to which ruins and ancient monuments should be subjected |
| 2.5 | 0.10 | Level at which continuous vibrations begin to annoy people | Virtually no risk of "architectural" damage to normal buildings |
| 5.0 | 0.20 | Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations) | Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage |
| 10 - 15 | 0.4 - 0.6 | Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges | Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage |

*Source: Caltrans. Transportation Related Earthborne Vibrations, TAV-02-01-R9601, February 20, 2002.*

Threshold #3 – Substantial Permanent Increase

The Federal Interagency Committee on Noise (FICON) provides guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the

noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, the recommendations have been widely accepted as being applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the $L_{dn}$ (see Table 4.10-9). As shown in the table, an increase in noise from similar sources of 5 dB or more would be noticeable where the ambient level is less than 60 dB. Where the ambient level is between 60 and 65 dB, an increase in noise of 3 dB or more would be noticeable, and an increase of 1.5 dB or more would be noticeable where the ambient noise level exceeds 65 dB $L_{dn}$. The rationale for the Table 4.10-9 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

**Table 4.10-9**
**Significance of Changes in Noise Exposure**

| Ambient Noise Level Without Project, $L_{dn}$ | Increase Required for Significant Impact |
|---|---|
| <60 dB | +5.0 dB or more |
| 60-65 dB | +3.0 dB or more |
| >65 dB | +1.5 dB or more |

*Source: FICON, Federal Agency Review of Selected Airport Noise Analysis Issues, 1992.*

**Method of Analysis**

Below are descriptions of the methodologies utilized to determine traffic noise, stationary noise sources, aircraft noise, as well as construction noise and vibration impacts. Further modeling details and calculations are provided in Appendix F to this EIR. The results of the noise and vibration impact analyses were compared to the standards of significance discussed above in order to determine the associated level of impact.

As noted in the Project Description chapter of this EIR, in addition to the analysis of full buildout, the Noise and Transportation and Circulation chapters of this EIR provide for an analysis of impacts associated with a Market-Level Year 2035 growth scenario. As defined in Chapter 4.13, Transportation and Circulation, of this EIR, the Market-Level Year 2035 growth scenario assumes the addition of 6,374 new dwelling units to the County's housing stock and addition of 1,560 new employees to the County's workforce, which is more intensive than the Department of Finance housing growth projections. The Market-Level Year 2035 growth scenario relies on land use allocation created with UPLAN, a simple rule-based growth model developed by UC Davis.

Existing Ambient Noise Level Measurement Methodology

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Traffic Noise

As noted previously, to predict existing noise levels due to traffic, j.c. brennan & associates used the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly $L_{eq}$ values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 dB. To predict $L_{dn}$ values, the hourly distribution of traffic is determined for a typical 24-hour period.

Traffic volumes for existing conditions were obtained from Caltrans and the traffic analysis prepared for the project by Fehr & Peers. Day/night traffic distribution for SR 49, SR 12, and SR 4 were based upon continuous hourly noise measurement data collected for each roadway. Truck mix data were based on Caltrans and j.c. brennan & associates, Inc. file data.

**Impacts and Mitigation Measures**

The following discussion of impacts related to noise is based on implementation of the Draft General Plan in comparison to existing conditions and the standards of significance presented above.

**4.10-1 Exposure of persons to or generation of transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

As discussed in Chapter 4.13, Transportation and Circulation, of this EIR, the Transportation Impact Analysis (TIA) prepared for the proposed project includes two growth scenarios, both of which include more growth than forecast for the County by the California Department of Finance (DOF):

- Market-Level Year 2035 – Assumes addition of 6,374 new dwelling units to the County's housing stock and addition of 1,560 new employees to the County's workforce.
- General Plan Buildout (Growth Beyond 2035) – Assumes addition of 19,979 dwelling units to the County's housing stock and addition of 4,889 employees to the County's workforce. The General Plan Buildout (Growth Beyond 2035) scenario is consistent with the General Plan buildout assumptions described in Chapter 3, Project Description, of this EIR.

Noise levels associated with Market-Level Year 2035 traffic and General Plan Buildout (Growth Beyond 2035) traffic on the local roadway network within the County is summarized in Table 4.10-10 and Table 4.10-11, respectively, along with existing noise levels.

**Table 4.10-10**
**Existing and Future Traffic Noise Levels and Distances to Contours: Market-Level Year 2035**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 4 | Stanislaus Co. Line to West of Hunt Rd | 66 dB | **67 dB** | 1 | 67 | 144 | 309 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dB | **68 dB** | **2** | 77 | 166 | 358 |
| SR 4 | East of Stallion Way to SR 49 | 64 dB | **66 dB** | 2 | 51 | 111 | 239 |
| SR 4 | SR 49 to Allen Ln | 64 dB | **66 dB** | 2 | 57 | 123 | 266 |
| SR 4 | Allen Ln to Broadview Ln | 66 dB | **67 dB** | 1 | 68 | 146 | 314 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dB | **68 dB** | 1 | 72 | 156 | 336 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dB | **66 dB** | 0 | 58 | 125 | 269 |
| SR 4 | Henry Dr to Sierra Pkwy | 66 dB | **66 dB** | 0 | 54 | 115 | 249 |
| SR 4 | Skyline Dr to Alpine Co. Line | 61 dB | **62 dB** | 1 | 29 | 63 | 136 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dB | **65 dB** | 1 | 46 | 100 | 215 |
| SR 12 | San Joaquin Co. Line to Burson Rd | 64 dB | **66 dB** | 2 | 55 | 118 | 255 |
| SR 12 | Burson Rd to SR 26 | 66 dB | **68 dB** | **2** | 72 | 156 | 336 |
| SR 12 | SR 26 to SR 49 | 66 dB | **69 dB** | **3** | 82 | 176 | 379 |
| SR 26 | San Joaquin Co. Line to Silver Rapids Rd | 65 dB | **66 dB** | 1 | 55 | 118 | 255 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dB | **68 dB** | 1 | 79 | 170 | 367 |
| SR 26 | SR 12 to SR 49 | 59 dB | 59 dB | 0 | 20 | 43 | 92 |
| SR 26 | SR 49 to Ridge Rd | 55 dB | 57 dB | 2 | 13 | 29 | 62 |
| SR 26 | Ridge Rd to Winton Rd | 57 dB | 57 dB | 0 | 14 | 31 | 66 |
| SR 26 | Winton Rd to Amador Co. Line | 56 dB | 58 dB | 2 | 17 | 36 | 77 |
| SR 49 | Amador Co. Line to SR 12 | 63 dB | **64 dB** | 1 | 41 | 89 | 191 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dB | **66 dB** | 1 | 55 | 118 | 254 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dB | **67 dB** | 1 | 63 | 135 | 290 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dB | **67 dB** | 1 | 64 | 137 | 295 |
| SR 49 | Mountain Ranch Rd to Forth Crossing | 65 dB | **67 dB** | 2 | 64 | 137 | 295 |
| SR 49 | Forth Crossing Rd to Brunner Hill Rd | 65 dB | **67 dB** | 2 | 66 | 143 | 308 |
| SR 49 | Copello Dr to Dogtown Rd | 63 dB | **65 dB** | 2 | 44 | 95 | 204 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dB | **65 dB** | 0 | 45 | 98 | 211 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dB | **66 dB** | 1 | 55 | 119 | 256 |
| SR 49 | Murphys Grade Rd to Stanislaus Ave | 63 dB | **63 dB** | 0 | 35 | 75 | 161 |

*(continued on next page)*

**Table 4.10-10**
**Existing and Future Traffic Noise Levels and Distances to Contours: Market-Level Year 2035**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dB | **65 dB** | 0 | 48 | 103 | 222 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dB | **65 dB** | 0 | 49 | 106 | 228 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dB | **64 dB** | 0 | 42 | 90 | 194 |
| SR 49 | SR 4 South to Tuolumne Co. Line | 62 dB | **64 dB** | 2 | 39 | 83 | 179 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dB | 57 dB | 1 | 15 | 31 | 68 |
| Baldwin St | SR 26 to Milton Rd | 57 dB | 57 dB | 0 | 13 | 29 | 62 |
| Big Tree Rd | SR 4 to Main St Murphys | 58 dB | 60 dB | 2 | 21 | 44 | 95 |
| Burson Rd | SR 26 to Cammanche Pkwy South | 52 dB | 56 dB | 4 | 11 | 24 | 52 |
| Cammanche Pkwy S | SR 12 to Amador Co. Line | 52 dB | 53 dB | 1 | 8 | 17 | 36 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dB | 49 dB | 4 | 4 | 8 | 17 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dB | 58 dB | 0 | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St | 57 dB | 57 dB | 0 | 15 | 31 | 68 |
| Gold Strike Rd | Neilsen Rd to SR 49 | 57 dB | 58 dB | 1 | 15 | 32 | 69 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dB | 56 dB | 0 | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dB | 43 dB | 0 | 1 | 3 | 7 |
| Jenny Lind Rd | SR 26 to Milton Rd | 56 dB | 58 dB | 2 | 16 | 35 | 75 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dB | 47 dB | 1 | 3 | 7 | 14 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dB | **60 dB** | 2 | 21 | 44 | 95 |
| Milton Rd | SR 26 to Stanislaus Co. Line | 54 dB | 55 dB | 1 | 10 | 21 | 45 |
| Moran Rd | SR 4 to SR 4 | 58 dB | 58 dB | 0 | 15 | 33 | 72 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dB | **60 dB** | 0 | 22 | 48 | 104 |
| Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 58 dB | 59 dB | 1 | 17 | 37 | 80 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dB | **61 dB** | 1 | 22 | 48 | 104 |
| O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co. Line | 58 dB | **60 dB** | 2 | 14 | 31 | 66 |
| Olive Orchard Rd | SR 26 to Burson Rd | 55 dB | 57 dB | 2 | 6 | 13 | 27 |
| Ospital Rd | Southworth Rd to San Joaquin Co. Line | 50 dB | 52 dB | 2 | 13 | 27 | 59 |
| Paloma Rd | SR 12 to SR 26 | 55 dB | 57 dB | 2 | 17 | 36 | 77 |
| Parrotts Ferry Rd | SR 4 to Tuolumne Co. Line | 57 dB | 58 dB | 1 | 13 | 27 | 59 |

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**Table 4.10-10**
**Existing and Future Traffic Noise Levels and Distances to Contours: Market-Level Year 2035**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Pennsylvania Gulch Rd | SR4 to END | 54 dB | 57 dB | 3 | 13 | 27 | 59 |
| Pettinger Rd | SR 12 to Southworth Rd | 54 dB | 57 dB | 3 | 13 | 29 | 62 |
| Pool Station Rd | SR 4 to SR 49 | 54 dB | 56 dB | 2 | 11 | 24 | 52 |
| Railroad Flat Rd | Sheep Ranch Rd to SR 26 | 55 dB | 56 dB | 1 | 12 | 25 | 54 |
| Ridge Rd | SR 26 to Railroad Flat Rd | 52 dB | 53 dB | 1 | 7 | 16 | 34 |
| Rock Creek Rd | Milton Rd to SR 4 | 40 dB | 49 dB | **9** | 4 | 8 | 17 |
| Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 57 dB | 57 dB | 0 | 14 | 31 | 66 |
| Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 53 dB | 55 dB | 2 | 10 | 22 | 47 |
| Vista de Lago | SR 26 to Hogan Dam Rd | 58 dB | 59 dB | 1 | 19 | 41 | 88 |

Notes:
1 Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding.
2 Distances to traffic noise contours are measured in feet from the centerlines of the roadways from existing noise barriers or intervening structures.
3 **Bold** indicates that development within the 100 feet of the roadway centerline would be exposed to noise levels in excess of the Draft General Plan threshold of 60 dB $L_{dn}$ for residential land uses. Depending on the development type, a potentially significant impact could occur.
4 **Bold** indicates a potentially significant noise level increase, per the standards of significance shown in Table 4.10-9.

*Source: j.c. brennan & associates, Inc., 2017.*

**Table 4.10-11**
**Existing and Future Traffic Noise Levels and Distances to Contours: General Plan Buildout (Growth Beyond 2035)**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 4 | Stanislaus Co. Line to West of Hunt Rd | 66 dB | **68 dB** | 2 | 79 | 170 | 367 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dB | **70 dB** | **4** | 95 | 205 | 442 |
| SR 4 | East of Stallion Way to SR 49 | 64 dB | **66 dB** | 2 | 56 | 120 | 258 |
| SR 4 | SR 49 to Allen Ln | 64 dB | **67 dB** | 3 | 65 | 140 | 301 |
| SR 4 | Allen Ln to Broadview Ln | 66 dB | **69 dB** | 3 | 82 | 176 | 380 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dB | **68 dB** | 1 | 72 | 154 | 333 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dB | **68 dB** | 2 | 76 | 164 | 354 |
| SR 4 | Henry Dr to Sierra Pkwy | 66 dB | **66 dB** | 0 | 57 | 122 | 263 |
| SR 4 | Skyline Dr to Alpine Co. Line | 61 dB | **63 dB** | 2 | 36 | 78 | 167 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dB | **65 dB** | 1 | 44 | 94 | 203 |
| SR 12 | San Joaquin Co. Line to Burson Rd | 64 dB | **68 dB** | 4 | 69 | 148 | 320 |
| SR 12 | Burson Rd to SR 26 | 66 dB | **69 dB** | **3** | 87 | 188 | 406 |
| SR 12 | SR 26 to SR 49 | 66 dB | **69 dB** | **3** | 90 | 194 | 418 |
| SR 26 | San Joaquin Co. Line to Silver Rapids Rd | 65 dB | **67 dB** | 2 | 65 | 141 | 304 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dB | **69 dB** | 2 | 91 | 195 | 420 |
| SR 26 | SR 12 to SR 49 | 59 dB | **61 dB** | 2 | 26 | 55 | 119 |
| SR 26 | SR 49 to Ridge Rd | 55 dB | 59 dB | 4 | 18 | 39 | 83 |
| SR 26 | Ridge Rd to Winton Rd | 57 dB | 57 dB | 0 | 14 | 31 | 66 |
| SR 26 | Winton Rd to Amador Co. Line | 56 dB | **60 dB** | 4 | 22 | 48 | 103 |
| SR 49 | Amador Co. Line to SR 12 | 63 dB | **65 dB** | 2 | 48 | 104 | 225 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dB | **67 dB** | 2 | 59 | 126 | 272 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dB | **67 dB** | 1 | 67 | 144 | 311 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dB | **67 dB** | 1 | 67 | 144 | 311 |
| SR 49 | Mountain Ranch Rd to Forth Crossing | 65 dB | **68 dB** | 3 | 72 | 155 | 333 |
| SR 49 | Forth Crossing Rd to Brunner Hill Rd | 65 dB | **68 dB** | 3 | 74 | 159 | 344 |
| SR 49 | Copello Dr to Dogtown Rd | 63 dB | **66 dB** | 3 | 54 | 117 | 253 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dB | **66 dB** | 1 | 53 | 114 | 246 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dB | **66 dB** | 1 | 55 | 119 | 256 |

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**Table 4.10-11**
**Existing and Future Traffic Noise Levels and Distances to Contours: General Plan Buildout (Growth Beyond 2035)**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 49 | Murphys Grade Rd to Stanislaus Ave | 63 dB | **64 dB** | 1 | 37 | 80 | 172 |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dB | **65 dB** | 0 | 48 | 104 | 225 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dB | **66 dB** | 1 | 51 | 110 | 236 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dB | **65 dB** | 1 | 46 | 99 | 214 |
| SR 49 | SR 4 South to Tuolumne Co. Line | 62 dB | **65 dB** | 3 | 45 | 98 | 210 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dB | 58 dB | 2 | 15 | 33 | 72 |
| Baldwin St | SR 26 to Milton Rd | 57 dB | 58 dB | 1 | 15 | 33 | 72 |
| Big Tree Rd | SR 4 to Main St Murphys | 58 dB | **61 dB** | 3 | 26 | 57 | 123 |
| Burson Rd | SR 26 to Cammanche Pkwy South | 52 dB | 58 dB | 6 | 17 | 36 | 77 |
| Cammanche Pkwy S | SR 12 to Amador Co. Line | 52 dB | 54 dB | 2 | 9 | 19 | 42 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dB | 50 dB | 5 | 4 | 9 | 20 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dB | 58 dB | 0 | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St. | 57 dB | 57 dB | 0 | 14 | 31 | 66 |
| Gold Strike Rd | Neilsen Rd to SR 49 | 57 dB | 58 dB | 1 | 17 | 36 | 77 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dB | 56 dB | 0 | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dB | 46 dB | 3 | 2 | 5 | 11 |
| Jenny Lind Rd | SR 26 to Milton Rd | 56 dB | 58 dB | 2 | 17 | 37 | 79 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dB | 49 dB | 3 | 4 | 8 | 17 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dB | **61 dB** | 3 | 26 | 55 | 120 |
| Milton Rd | SR 26 to Stanislaus Co. Line | 54 dB | 56 dB | 2 | 12 | 26 | 55 |
| Moran Rd | SR 4 to SR 4 | 58 dB | 58 dB | 0 | 16 | 35 | 75 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dB | **61 dB** | 1 | 25 | 53 | 114 |
| Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 58 dB | 59 dB | 1 | 17 | 37 | 80 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dB | **62 dB** | 2 | 30 | 65 | 139 |
| O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co. Line | 58 dB | **62 dB** | 4 | 29 | 63 | 136 |
| Olive Orchard Rd | SR 26 to Burson Rd | 55 dB | 59 dB | 4 | 19 | 41 | 89 |
| Ospital Rd | Southworth Rd to San Joaquin Co. Line | 50 dB | 53 dB | 3 | 7 | 15 | 32 |
| Paloma Rd | SR 12 to SR 26 | 55 dB | 58 dB | 3 | 17 | 37 | 79 |

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**Table 4.10-11**
**Existing and Future Traffic Noise Levels and Distances to Contours: General Plan Buildout (Growth Beyond 2035)**

| Roadway | Segment | Noise Levels 100 Feet from Centerline ($L_{dn}$, dB)[1] | | | Distance to Future Noise Contours (feet)[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future[3] | Change[4] | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Parrotts Ferry Rd | SR 4 to Tuolumne Co. Line | 57 dB | 59 dB | 2 | 20 | 43 | 92 |
| Pennsylvania Gulch Rd | SR 4 to END | 54 dB | 57 dB | 3 | 13 | 27 | 59 |
| Pettinger Rd | SR 12 to Southworth Rd | 54 dB | 58 dB | 4 | 17 | 39 | 79 |
| Pool Station Rd | SR 4 to SR 49 | 54 dB | 57 dB | 3 | 13 | 29 | 62 |
| Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 55 dB | 57 dB | 2 | 13 | 27 | 59 |
| Ridge Rd | SR 26 to Railroad Flat Rd | 52 dB | 53 dB | 1 | 7 | 16 | 34 |
| Rock Creek Rd | Milton Rd to SR 4 | 40 dB | 53 dB | **13** | 7 | 15 | 32 |
| Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 57 dB | 58 dB | 1 | 16 | 35 | 75 |
| Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 53 dB | 58 dB | 5 | 15 | 32 | 69 |
| Vista de Lago | SR 26 to Hogan Dam Rd | 58 dB | **61 dB** | 3 | 24 | 51 | 111 |

Notes:
1 Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding.
2 Distances to traffic noise contours are measured in feet from the centerlines of the roadways from existing noise barriers or intervening structures.
3 **Bold** indicates that development within the 100 feet of the roadway centerline would be exposed to noise levels in excess of the Draft General Plan threshold of 60 dB $L_{dn}$ for residential land uses. Depending on the development type, a potentially significant impact could occur.
4 **Bold** indicates a potentially significant noise level increase, per the standards of significance shown in Table 4.10-9.

*Source: j.c. brennan & associates, Inc., 2017.*

It should be noted that the actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers.

As shown in Table 4.10-10, projected traffic occurring for Market-Level Year 2035 conditions would result in noise level increases of up to 9 dB $L_{dn}$. Per Table 4.10-11, projected traffic occurring for General Plan Buildout (Growth Beyond 2035) conditions would result in noise level increases of up to 13 dB $L_{dn}$. To the extent that existing noise-sensitive uses are located along primary roadways within the County, the potential exists for such land uses to be exposed to excess traffic noise levels. Specifically, residential development, hospitals, nursing homes, churches, and meeting halls within the 60 dB $L_{dn}$ future traffic noise contours could conflict with the Draft General Plan transportation noise thresholds presented in Table 4.10-6. Similar conflicts could occur for transient lodging located within the 65 dB $L_{dn}$ future traffic noise contours.

However, the Noise Element of the Draft General Plan includes the following policies and implementation measures (IMs) that are intended to limit noise exposure at noise-sensitive uses:

Policy N 1.1 Locate and design sensitive noise-receiving land uses so they are not exposed to noise levels exceeding noise standards set forth in Tables Noise 1 and 2 (see Table 4.10-6 and Table 4.10-7). (IM N-1B and N-1E)

Policy N 1.2 Evaluate the potential impacts of noise on and from existing and planned land uses and public and private transportation facilities during the development review process using noise thresholds set forth in Tables Noise 1 and 2 (see Table 4.10-6 and Table 4.10-7). (IM N-1C and N-1E)

Policy N 1.5 Design and orient noise-sensitive land uses proposed adjacent to existing transportation noise sources to incorporate noise reduction techniques so that the new noise-sensitive development will not be affected by noise that exceeds the limits in Table Noise 1 (see Table 4.10-6). (IM N-1B, N-1D and N-1E)

Policy N 1.11 Continue to maintain a County noise ordinance that addresses, at a minimum, the protection of public health, safety, and welfare relative to noise; establishes maximum noise generation levels for new noise sources and receptors; addresses construction noise; identifies exemptions from noise standards, establishes standard practices for reducing noise levels from Transportation Noise Sources and commonly occurring Non-Transportation Noise Sources, and referencing the Right-to-Farm Ordinance. (IM N-1A, N-1B and N-1D)

IM N-1B Noise Reduction Strategies (Discretionary Projects) – Prepare an approved list of noise reduction strategies acceptable to the County to mitigate potentially significant adverse noise impacts pursuant to CEQA, subject to Planning Commission and Board of Supervisor's approval, where necessary. Include provisions for allowing deviations and alternative strategies proposed by qualified professionals. This program is intended to facilitate project review and provide predictability for applicants and the public. Noise reduction strategies should:

- Include noise-reducing design techniques for new development along roadways; and
- Address special events and temporary land uses (e.g., concerts, festivals), which may temporarily exceed the maximum allowable decibel level (e.g., establishing maximum levels of amplification for sound systems).

IM N-1C Transportation-Related Noise – Coordinate with Caltrans and the Calaveras County Council of Governments to evaluate truck route plans and continue to gather input from local communities and businesses to minimize noise from truck travel through residential and visitor-serving centers.

IM N-1D Best Management Practices (Ministerial Projects) – Make noise-management standards and best management practices for new construction/remodeling available on the County website and at the public counter of the Building or Planning Department. Reference and/or provide a link to the County's noise ordinance.

IM N-1E Acoustic Analysis – When an acoustic analysis is required for a development project the analysis shall be prepared by a qualified professional and include the following:

- Ambient noise level measurements of existing conditions;
- Anticipated noise levels generated by the project;
- Recommended measures to achieve compliance with noise standards set forth in Tables Noise 1 and 2;
- Estimate of noise levels after the mitigation measures have been implemented; and
- Noise monitoring program.

Existing sensitive receptors in proximity to County roadways would be exposed to increasing traffic noise levels. Policy IM N-1C would help to reduce noise level increases related to truck traffic within the County, including truck traffic occurring as a result of future development under the Draft General Plan. Compliance with the policies and IMs included in the Draft General Plan, as well as the County's Code of Ordinances, would

help to reduce potential conflicts with the proposed transportation noise exposure thresholds shown in Table 4.10-6. Policies N 1.1, N 1.2, and N 1.5 would help guide development of future noise-sensitive land uses such that exposure to traffic noise would be limited. Nonetheless, given that the exact nature of future development is not known at this time, compliance with the applicable noise level thresholds cannot be guaranteed. Rather, consistency with such thresholds would be determined by the County during future review of development applications. Therefore, for both the Market-Level Year 2035 traffic and General Plan Buildout (Growth Beyond 2035) scenarios, implementation of the Draft General Plan could result in exposure to, or generation of, transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, and/or applicable standards of other agencies. Thus, a ***significant*** impact would occur.

Mitigation Measure(s)

Beyond the goals, policies, and IMs in the Draft General Plan, and without specific designs for future development, feasible measures are not available to ensure that implementation of the Draft General Plan would not conflict with applicable noise level standards related to traffic noise (for both existing development and future development). Potential mitigation imposed during project-level review of future development could include sound walls, additional construction measures, or site plan redesign to reduce impacts. However, because such project-level details are not currently available, the above impact would remain *significant and unavoidable*.

**4.10-2 Exposure of persons to or generation of non-transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

Future development occurring under the Draft General Plan may include, but would not necessarily be limited to, noise-generating land uses such as commercial loading docks, industrial uses, HVAC equipment, schools, automobile repair facilities, and various other land uses including stationary noise sources. Noise generated by such uses could conflict with the exterior and interior noise level thresholds established in the Draft General Plan. Furthermore, future noise-sensitive development within the County could be exposed to excessive noise levels associated with the existing stationary noise sources discussed previously.

However, the Noise Element of the Draft General Plan includes the following policies and IMs that are intended to minimize noise associated with stationary noise sources and the potential for exposure of noise-sensitive land uses to excess noise levels:

Policy N 1.1 (see above)

Policy N 1.7 New development of noise sensitive land uses adjacent to existing stationary noise sources or land designated on the General Plan Land Use Maps as industrial or resource production lands shall be designed

to avoid exposure to noise levels in excess of those in Table Noise-2. (IM N-1B and N-1E)

Policy N 1.13 Applicants for development projects that are likely to produce excessive noise that may affect noise sensitive land uses shall provide to the County an acoustic analysis which shall be incorporated into the project review process. (IM N-1E)

IM N-1E (see above)

Policy N 1.13 and IM N-1E above would help to reduce noise associated with future stationary sources occurring under buildout of the Draft General Plan by ensuring that such projects provide an acoustical analysis. Per IM N-1E, the acoustical analysis would be required to recommend measures to achieve compliance with the Draft General Plan noise level thresholds for stationary sources set forth in Table 4.10-7. Policies N 1.1 and N 1.7 would limit future development of noise-sensitive land uses in the vicinity of existing stationary noise sources.

Conclusion

Although required compliance with the above policies and IMs related to stationary noise sources would minimize impacts associated with buildout of the Draft General Plan, Implementation Measure N-1E would require additional performance standards to adequately reduce the potential impacts. Therefore, without additional performance standards, future noise-sensitive development occurring under buildout of the Draft General Plan could be subject to, and future stationary noise sources could generate, noise levels in excess of the proposed non-transportation noise level standards shown in Table 4.10-7 above. Thus, a ***significant*** impact would occur.

Mitigation Measure(s)

Although the following additional performance standards would be added to Implementation Measure N-1E, implementation of the recommendations included within acoustic analyses cannot be guaranteed. Therefore, the above impact would remain *significant and unavoidable.*

*4.10-2 Implementation Measure N-1E shall be revised as follows:*

*IM N-1E Acoustic Analysis – When an acoustic analysis is required for a development project the analysis shall be prepared by a qualified professional and include the following:*

- *Ambient noise level measurements of existing conditions;*
- *Anticipated noise levels generated by the project;*

- *Recommend measures to ensure ~~achieve compliance with~~ noise levels do not exceed the noise standards set forth in Tables Noise 1 and 2;*
- *Estimate of noise levels after the mitigation measures have been implemented; and*
- *Noise monitoring program.*

**4.10-3 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Based on the analysis below, with implementation of mitigation, the impact is *less-than-significant.***

The primary vibration-generating activities associated with buildout of the Draft General Plan would occur during construction of future development, including grading, paving, and installation of utilities. Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage could take the form of cosmetic or structural. Table 4.10-12 shows the typical vibration levels produced by construction equipment.

**Table 4.10-12**
**Vibration Levels for Varying Construction Equipment**

| Type of Equipment | Peak Particle Velocity @ 25 feet (inches/second) | Peak Particle Velocity @ 50 feet (inches/second) | Peak Particle Velocity @ 100 feet (inches/second) |
|---|---|---|---|
| Large Bulldozer | 0.089 | 0.031 | 0.011 |
| Loaded Trucks | 0.076 | 0.027 | 0.010 |
| Small Bulldozer | 0.003 | 0.001 | 0.000 |
| Auger/drill Rigs | 0.089 | 0.031 | 0.011 |
| Jackhammer | 0.035 | 0.012 | 0.004 |
| Vibratory Hammer | 0.070 | 0.025 | 0.009 |
| Vibratory Compactor/roller | 0.210 | 0.074 | 0.026 |

*Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006.*

Neither the Draft General Plan nor the County Code of Ordinances contain any specific regulations that would limit groundborne vibration associated with future construction activities. As such, buildout of the Draft General Plan could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, and a ***significant*** impact would occur.

Mitigation Measure(s)

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

*4.10-3 The following new policy shall be included in the Noise Element of the Draft General Plan:*

*Policy N 1.14 The County shall limit the use of heavy-duty vibration-generating construction equipment, such as vibratory rollers, within close proximity of existing buildings, particularly buildings of weak structural integrity and/or historical significance to ensure that groundborne vibration shall not exceed 0.2 in/sec PPV at the nearest sensitive receptor. For construction projects where vibration-intensive activities are anticipated, a designated person shall be responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.*

**4.10-4 A substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

Implementation of the Draft General Plan would increase vehicle traffic on roadways throughout the County. As shown in Table 4.10-10, projected traffic occurring for Market-Level Year 2035 conditions would result in noise level increases of up to 9 dB $L_{dn}$. Per Table 4.10-11, projected traffic occurring for General Plan Buildout (Growth Beyond 2035) conditions would result in noise level increases of up to 13 dB $L_{dn}$. Consistent with the thresholds shown in Table 4.10-9, a substantial permanent increase in noise levels would occur on the following roadway segments under both growth scenarios:

- SR 4 west of Hunt Rd to east of Stallion Way;
- SR 12 from Burson Rd to SR 26;
- SR 12 from SR 26 to SR 49; and
- Rock Creek Rd from Milton Rd to SR 4.

In addition to traffic noise, non-transportation noise would increase in areas where new development occurs. In particular the areas surrounding commercial loading docks, industrial uses, HVAC equipment, schools, automobile repair facilities, and other similar stationary noise sources. However, Policy N 1.13 and IM N-1E (as revised in Mitigation Measure 4.10-3 above) in the draft General Plan would help to reduce noise from non-traffic noise sources sufficient to reduce these noise sources to a less-than-significant level.

As noted previously, Policy IM N-1C in the Draft General Plan would help to reduce noise level increases related to vehicle traffic within the County, including traffic occurring as a result of future development. Nonetheless, the increase in traffic noise at the roadway segments listed above would likely continue to exceed the applicable thresholds. Therefore, traffic occurring under both Market-Level Year 2035 conditions and General Plan Buildout (Growth Beyond 2035) conditions could result in a substantial permanent increase in

ambient noise levels in the County above levels existing without implementation of the Draft General Plan, and a ***significant*** impact would occur.

Mitigation Measure(s)

Beyond the goals, policies, and IMs in the Draft General Plan, feasible measures are not available to ensure that traffic associated with implementation of the Draft General Plan would not result in a substantial permanent increase in ambient noise levels at the roadway segments noted above. Therefore, the above impact would remain *significant and unavoidable*.

**4.10-5 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project. Based on the analysis below, and the lack of feasible mitigation, the impact is *significant and unavoidable.***

New development, roadway maintenance, and installation of public utilities occurring under buildout of the Draft General Plan would involve construction activities. Temporary noise related to such activities could result in short-term noise level increases at noise-sensitive receptors, including existing and future residential development, throughout the County. Table 4.10-13 provides a list of the types of equipment commonly associated with construction activities along with the predicted noise levels associated with each piece of equipment. As shown in the table, equipment typically involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet, with noise levels decreasing as the relative distance from the noise source increases.

**Table 4.10-13**
**Noise Levels for Varying Construction Equipment**

| Type of Equipment | Predicted Noise Levels, $L_{max}$ dB | | | | Distances to Noise Contours (feet) | |
|---|---|---|---|---|---|---|
| | 50 feet | 100 feet | 200 feet | 400 feet | 70 dB $L_{max}$ contour | 65 dB $L_{max}$ contour |
| Backhoe | 78 | 72 | 66 | 60 | 126 | 223 |
| Compactor | 83 | 77 | 71 | 65 | 223 | 397 |
| Compressor (air) | 78 | 72 | 66 | 60 | 126 | 223 |
| Concrete Saw | 90 | 84 | 78 | 72 | 500 | 889 |
| Dozer | 82 | 76 | 70 | 64 | 199 | 354 |
| Dump Truck | 76 | 70 | 64 | 58 | 100 | 177 |
| Excavator | 81 | 75 | 69 | 63 | 177 | 315 |
| Generator | 81 | 75 | 69 | 63 | 177 | 315 |
| Jackhammer | 89 | 83 | 77 | 71 | 446 | 792 |
| Pneumatic Tools | 85 | 79 | 73 | 67 | 281 | 500 |

*Source: j.c. brennan & Associates, Inc., 2017.*

Per Section 9.02.060 of the Calaveras County Code of Ordinances, sound from construction activities is exempt from the County's Noise Ordinance, provided that all construction in or adjacent to residential areas is limited to the daytime hours of 7:00 AM to 6:00 PM, unless otherwise subject to conditions in a valid discretionary land use permit that addresses construction noise associated with the project. Similarly, Policies N 1.3 and

N 1.4 in the Draft General Plan both provide exemptions for temporary construction noise. However, because specific details regarding construction occurring throughout the County during buildout of the General Plan are not known at this time, the maximum exposure at an adjacent sensitive receptor could be up to 90 dB or more. 90 dB would exceed the County's noise standard. Therefore, future construction activities occurring under buildout of the Draft General Plan could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project, and a ***significant*** impact would occur.

Mitigation Measure(s)

Potential mitigation imposed during project-level review of future development could include temporary sound walls, locating noisy equipment away from sensitive receptors, or other additional construction measures to reduce impacts. However, because such project-level details are not currently available, the above impact would remain *significant and unavoidable*.

**4.10-6 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, public use airport, or private airstrip, expose people residing or working in the project area to excessive noise levels. Based on the analysis below, the impact is *less-than-significant.***

As discussed above, Calaveras County currently contains a single public airport (Calaveras County Airport). Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of $L_{max}$, which is the maximum sound level recorded for each event. A different measurement of single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the County would be greatest and most frequent near the airport's primary flight paths.

The Noise Element of the Draft General Plan includes the following policies related to aircraft noise:

| | |
|---|---|
| Policy N 1.9 | Minimize noise-sensitive development in identified high noise areas surrounding the Calaveras County Airport and ensure that potential new property owners are made aware of existing and anticipated noise levels associated with the airport. (IM N-1D) |
| Policy N 1.10 | Integrate the goals, policies and programs of the Calaveras County Airport Land Use Compatibility Plan in planning decisions as necessary to insure compatibility between noise-generating and noise-sensitive land uses. (IM N-1D) |
| IM N-1D | (see above) |

The areas within a two-mile radius of the Calaveras County Airport have been previously developed with residential and agricultural uses. As such, buildout of the Draft General Plan would not likely place new noise-sensitive uses within the vicinity of the airport. Furthermore, Policies N 1.9, as well as Section 17.60.060 in the County's Code of Ordinances, would ensure that potential new property owners are aware of airport-related noise levels. Policy N 1.10 would limit introduction of new incompatible land uses. Therefore, with implementation of Policies N 1.9 and N 1.10, as well as compliance with applicable regulations within the County's Code of Ordinances, the Draft General Plan would not expose people residing or working in the County to excessive noise levels related to air traffic. As such, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

# 4.11 POPULATION AND HOUSING

## 4.11.1 INTRODUCTION

The Population and Housing chapter of the EIR describes existing and projected population and conditions in Calaveras County and evaluates the extent to which the proposed project could induce population growth and/or displace substantial numbers of people or housing. The following impact analysis is based on information drawn from the Calaveras County Housing Element,[1] as well as the U.S. Census Bureau and the California Department of Finance (DOF).

It should be noted that the existing setting section of this chapter includes a discussion of the population estimates and projections included in the County's adopted Housing Element (rather than the population and housing figures used elsewhere in this EIR). Generally, estimates and projections related to population and housing often change from year to year depending on changing growth trends and variability in data collection. As such, the population and housing figures presented in the Housing Element and incorporated herein differ slightly from the population and housing figures which are used in the other technical chapters of this EIR.

## 4.11.2 EXISTING ENVIRONMENTAL SETTING

The following discussion provides a summary of the existing population, employment, and housing trends within Calaveras County, as well as the County's jobs/housing balance.

### Population

As shown in the Table 4.11-1 below, between 1970 and 1980, the Average Annual Growth Rate (AAGR) for Calaveras County was 4.3 percent. Between 1980 and 1990, the County added residents even more quickly, with an AAGR of 4.4 percent. From 1990 to 2000, growth slowed to an AAGR of 2.4 percent. In 2010, the County's population was 45,251. Thus, from 2000 to 2010, the population AAGR was 1.2 percent, much slower than the rate of growth seen in the 1970s and 1980s. As such, the County added more people during the 1980s than during any other decade in recent history. Between 2010 and 2016, the population slightly declined to 45,207.[2]

[1] Calaveras County. *Calaveras County Housing Element, 2014-2019*. Adopted May 26, 2015.
[2] California Department of Finance. *New State Population Report: California Grew by 348,000 Residents in 2015*. May 2, 2016.

| Table 4.11-1<br>Historic Population Growth for Calaveras County | | | |
|---|---|---|---|
| **Year** | **Population** | **Change** | **AAGR (%)** |
| 1920 | 6,183 | - | - |
| 1930 | 6,008 | -175 | -0.3 |
| 1940 | 8,221 | 2,213 | 3.2 |
| 1950 | 9,902 | 1,681 | 1.9 |
| 1960 | 10,289 | 387 | 0.4 |
| 1970 | 13,585 | 3,296 | 2.8 |
| 1980 | 20,710 | 7,125 | 4.3 |
| 1990 | 31,998 | 11,288 | 4.4 |
| 2000 | 40,554 | 8,556 | 2.4 |
| 2010 | 45,578 | 5,024 | 1.2 |
| *Source: Calaveras County Housing Element, 2015.* | | | |

Population Projections

The California DOF produces population projections for all counties in the State, including Calaveras County.[3] Table 4.11-2 below shows the DOF's most recent population projections for Calaveras County, including the incorporated City of Angels Camp, for 2020 through 2035.

| Table 4.11-2<br>Population Projections for Calaveras County | |
|---|---|
| **Year** | **Population** |
| 2020 | 45,162 |
| 2025 | 46,143 |
| 2030 | 47,129 |
| 2035 | 47,851 |
| *Source: California Department of Finance, 2017.* | |

As shown in the table, Calaveras County's population is projected to be 45,162 in 2020. By 2035, the Draft General Plan horizon year, the County's population is projected to be 47,851, which represents an approximately five percent increase (2,273 persons) above the 2010 population (45,578). Future growth rates are projected to be lower than the historical growth rates shown in Table 4.11-1. As noted previously, the aforementioned 2017 DOF growth estimates are slightly lower relative to the 2012 growth projections discussed in Chapter 3, Project Description, of this EIR. Because the 2012 growth projections provide for a more conservative estimate of future growth, the 2017 DOF projections are not used for determination of impacts but, rather, are presented herein to provide context for the County's 2014 Housing Element.

**Employment**

According to the Housing Element, the most significant employment sectors in Calaveras County in 2013 included government, leisure and hospitality, retail trade jobs, and education and health services. Overall, the civilian labor force included a total of 19,260 persons in 2013, 89.6 percent

[3] California Department of Finance. *Total Population by County: 2010-2060 (5-year increments).* February 2017.

of which were employed. The total industrial employment within the County for the same year was 8,020; however, it should be noted that total industrial employment does not include business owners, the self-employed, unpaid family workers, or private household workers. The education and health services sector had the largest increase in jobs from 2000 to 2013 with relatively moderate increase in transportation, warehousing and utilities, while the natural resources, mining and construction sector had the largest job losses.

The California Employment Development Department provided industry employment and occupational projections in September of 2013 for the Mother Lode Workforce Investment Region, which includes Amador, Calaveras, Mariposa, and Tuolumne counties. The following are the industry sectors projected to gain the most jobs and grow fastest in the Region from 2010 to 2020:

- Construction (540 jobs, 37.5 percent);
- Manufacturing (390 jobs, 22.4 percent);
- Transportation, Warehousing and Utilities (120 jobs, 18.5 percent);
- Education and Health Services (680 jobs, 14.1 percent);
- Wholesale Trade (40 jobs, 11.1 percent);
- Retail Trade (420 jobs, 9.2 percent);
- Financial Activities (90 jobs, 8.0 percent);
- Mining and Logging (20 jobs, 6.7 percent);
- Leisure and Hospitality, mostly accommodations and food (350 jobs, 5.5 percent); and
- Other Services (20, 1.9 percent).

Following trends of the state and national recession, the unemployment rate in the County increased sharply between 2007 and 2014 before falling back to pre-recession levels. Table 4.11-3 shows unemployment rates in the County from 2006 to 2015.

**Table 4.11-3**
**Unemployment Rates in Calaveras County**

| Year | Unemployment Rate |
|---|---|
| 2006 | 6.4% |
| 2007 | 8.7% |
| 2008 | 13.6% |
| 2009 | 14.4% |
| 2010 | 14.5% |
| 2011 | 14.0% |
| 2012 | 12.4% |
| 2013 | 9.9% |
| 2014 | 8.0% |
| 2015 | 6.5% |

*Source: Employment Development Department, Labor Market Information Division, 2016.*

## Housing

In 2015, Calaveras County adopted the *Calaveras County Housing Element, 2014-2019* (2014 Housing Element). The 2014 Housing Element is an update of the previously adopted 2010

Housing Element and contains information on household characteristics, housing needs, housing supply, land inventory for new development, and housing programs. Per the 2014 Housing Element, the unincorporated Calaveras County had a total of 26,298 housing units in 2010, with a vacancy rate of 33.6 percent. Of the total households, approximately 17,241 were occupied. Table 4.11-4 below shows the number of housing units per housing type within the County.

**Table 4.11-4**
**Calaveras County Housing Stock in 2010**

| Unit Type | Number of Units |
|---|---|
| Single Family | 23,527 |
| Multi-Family (2 to 4) | 541 |
| Multi-Family (5 plus) | 272 |
| Mobile Homes | 1,958 |
| **Total** | **26,298** |

*Source: Calaveras County Housing Element, 2015.*

As presented in the table, approximately 23,527 of the total housing units were single-family units, 813 were multi-family units, and 1,958 were mobile home units.

Housing Projections

The California Department of Housing and Community Development (HCD) issued the most recent Regional Housing Need Allocation (RHNA) numbers in June 2012. Calaveras County received a total allocation of 1,240 units for the 5.5-year projection period from January 1, 2014 through June 30, 2019. The allocation reflects the HCD's statewide distribution of anticipated residential units needed during the 5.5-year projection period, broken down by four income groups: very-low, low, moderate, and above-moderate. For the 2014 to 2019 RHNA cycle only, an adjustment was made to account for the abnormal vacancies and unique market conditions due to prolonged recessionary conditions, high unemployment and unprecedented foreclosures. As a comparison, the RHNA for the prior planning period (2007 to 2014) was 2,344 units.

**Jobs/Housing Balance**

The relationship between the respective locations of jobs and housing can have important environmental ramifications. Specifically, a good match between the number and types of jobs and the number of households/employed residents in an area can help to alleviate traffic congestion, shorten commute times, and reduce overall vehicle miles traveled (VMT) and the associated air pollutant emissions and noise associated with motor vehicle travel. In order to characterize the quality of the "match" between jobs and households within Calaveras County, the County relies on a metric known as the jobs/housing balance.

Broadly, balance of jobs and housing represents the availability of affordable housing for employees in a defined geographic area, and provides an indicator of the health of the local housing and jobs market. An area that has too many jobs relative to the available housing supply is likely to experience increased commuting, escalations in housing prices, and intensified pressure for additional residential development. Conversely, if an area has relatively few jobs relative to the

number of employed residents, many of the workers may be required to commute to jobs outside of the geographic area in which they reside. In order to maximize the environmental benefits of a jobs/housing balance, a nexus must exist between the type, cost, and location of housing, the education and skills required by jobs relative to the local labor force, and the wages associated with such jobs.

The jobs/housing ratio divides the number of jobs in an area by the number of employed residents. A ratio of 1.0 indicates a balance, while a ratio greater than 1.0 indicates a net in-commute, and a ratio less than 1.0 indicates a net out-commute. Based on the employment data presented above, in 2013, the County's jobs-to-housing balance was 0.42 (8,020 jobs / 19,260 total civilian labor force). The jobs/housing balance reflects the fact that Calaveras County communities are increasingly serving as bedroom communities to residents commuting to jobs outside of the County, as well as locales for retirement/vacation homes.

## 4.11.3 REGULATORY CONTEXT

The following regulations apply to population, housing, and employment issues associated with the Draft General Plan.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan (RHNP) developed by the California Department of Housing and Community Development Division of Housing Policy Development (HCD). State law requires that the RHNP promote the following objectives: increase the housing supply and the mix of housing types, tenure, and affordability; promote infill development and socioeconomic equity; protect environmental and agricultural resources; encourage efficient development patterns; promote an improved intraregional balance between jobs and housing; and balance the distribution of households by income category.

Calaveras County Housing Element

State law recognizes the vital role local governments play in the supply and affordability of housing. For this reason, each local government in California is required to adopt a housing element as part of its comprehensive, long-term general plan. As noted above, Calaveras County adopted the 2014 Housing Element in 2015. Under California law, the housing element must include the County's goals, policies, quantified objectives, and housing programs for the maintenance, improvement, and development of housing. The following are applicable goals and policies from the 2014 Housing Element related to population, employment, and housing.

Goal H-1 A broad range of new housing types and densities to meet the needs of all Calaveras County residents.

Policy H-1.1 Maintain an adequate supply of appropriately zoned land to accommodate the housing needs of existing and future residents.

Policy H1.2 Ensure that its adopted policies, regulations, and procedures do not add unnecessarily to the time required for development or cost of construction for new housing while still attaining other important County objectives, such as public health and safety.

Policy H-1.3 Encourage new residential development to locate in existing community centers and in areas with existing water and sewer capacity.

Goal H-2 Development, construction, and maintenance of safe, decent, and well-built affordable housing in the County.

Goal H-3 Accommodate the housing requirements of County residents with special needs, including seniors, large families, single parents, farmworkers, persons in need of emergency shelter, and persons with physical or developmental disabilities.

Goal H-5 Improve the County's existing stock of affordable housing.

Policy H-5.2 Strive to preserve all at-risk and existing affordable rental housing, such as subsidized apartments for extremely low-, very low- and low- income households, mobilehomes in mobilehome parks, and low-cost private rental housing.

## 4.11.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to population, employment, and housing.

### Standards of Significance

Based on Appendix G of the State CEQA Guidelines, a population and housing impact is considered significant if implementation of the Draft General Plan would do the following:

- Induce substantial population growth in an area, either directly or indirectly; or
- Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

### Method of Analysis

Population, employment, and housing conditions that may result from the implementation of the Draft General Plan are addressed below. The following analysis relies on information from relevant federal, State, and local agencies, including current population and housing data and projections from the DOF, the U.S. Census Bureau, the 2014 Housing Element, and the Draft General Plan. Such information is considered in the context of the goals, policies, and

implementation measures (IMs) contained in the Draft General Plan. Ultimate determination of significance is based on buildout of the Draft General Plan in the context of the standards of significance presented above.

**Impacts and Mitigation Measures**

The following discussion of impacts related to population and housing is based on buildout of the Draft General Plan relative to existing conditions and the standards of significance presented above.

**4.11-1 Development associated with the Draft General Plan would cause direct or indirect inducement of substantial population growth. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable*.**

By providing for the orderly future development of residential, commercial, and industrial uses in designated land use categories throughout the planning area, implementation of the Draft General Plan would indirectly induce population growth. Such development is necessary to accommodate a balance in residential, commercial, employment, civic, recreational, open space, natural resource, and other uses.

The Draft General Plan anticipates and plans for projected growth through the designations placed on the Draft General Plan Land Use Map and defined in the Land Use Element. Specifically, future development in the County would be focused in and near existing communities such as Arnold, Murphys, San Andreas, Mokelumne Hill, West Point, Valley Springs, and Wallace. The Draft General Plan is aimed at reducing adverse impacts associated with population growth in such areas, as well as in more rural areas of the County, by accommodating growth in an orderly fashion. Accordingly, the Draft General Plan includes the following goals, policies, and IMs:

Goal LU-1 Development of mixed use communities providing for a wide range of residential, commercial, visitor-serving and job-generating uses that facilitate their development as independent communities.

Policy LU 1.2 Support growth in and around existing communities while protecting and enhancing community and neighborhood character.

Policy LU 1.3 Encourage development of infill parcels and redevelopment of underused properties. (IM LU-2B and LU-2C)

Policy LU 1.5 Encourage mixed-use development in the Community Areas where designated Community Center and Historic Center. (IM LU-2A and LU-2B)

IM LU-2B Mixed Use Zoning – Create mixed use zoning that: 1) allows a combination of land uses located near community centers, major transportation routes, and public transportation stops; 2) facilitates

pedestrian and bicycle access to shopping, services, employment and leisure activities; 3) permits upper floor housing with commercial, office and other uses below; and 4) facilitates the provision of a wide variety of housing types and choices for all income levels.

Goal LU-3 A pattern of growth and development that effectively utilizes the planned provision of infrastructure, facilities, and public services.

Policy LU 3.4 Infrastructure such as water and sewer and high capacity roads shall be encouraged within existing developed areas, areas contiguous to existing communities, areas where future development is anticipated by the General Plan as reflected in the General Plan land use map, existing, non-contiguous communities, and/or where essential to public health and safety. (IM LU-3C)

Policy LU 3.5 Adequate infrastructure, facilities, and public services shall be in place or shall be extended or provided as necessary to serve a project as a requirement of the project approval. (IM LU-3C)

Goal LU-4 High quality, well-designed development that is compatible with surrounding uses and is integrated with the community and the physical environment in which it is located.

Policy LU 4.4 Encourage clustering of residential development where appropriate, based on availability of infrastructure and community character, to increase open space and housing affordability, and reduce infrastructure costs. (IM LU-2A and LU-2E)

Goal LU-5 A strong and diversified economic base through the creation, retention, expansion and attraction of business, agriculture, and industry.

Policy LU 5.2 Encourage entrepreneurship and home-based business development compatible with neighborhoods. (IM LU-2A, LU-5B and LU-5F)

Policy LU 5.3 Recognize the county's unique recreational, scenic, cultural, historic and agricultural resources as strong economic generators and encourage their retention and expansion. (IM LU-5D)

Policy LU 5.4 Encourage attraction of new compatible business and industry to the county. (IM LU-5B and LU-5G)

Policy LU 5.5 Revitalize existing community centers by encouraging a mixed use concentration of retail, entertainment, arts, housing and services to support job and economic growth. (IM LU-2A, LU-2B, LU-2C and LU-5D)

IM LU-5B New and Emerging Markets – In consultation with affected industry groups and organizations, review the zoning code to assess the adequacy of the code in recognizing and facilitating the provision of new, emerging and re-emerging markets in Calaveras.

IM LU-5C Home Businesses – Revise the Zoning Ordinance to expand the potential for home occupations, rural home businesses, and live-work options. Update the County Code to address Cottage Food Operations in accordance with California Government Code Section 51035.

IM LU-5E Workforce – Coordinate with the Mother Lode Workforce Investment Board, Mother Lode Job Training, Calaveras Economic Development Company, Community College Districts, Calaveras County Chamber of Commerce, and other entities to assist in developing workforce training programs to meet local labor needs and to connect local businesses with training resources and the local workforce.

IM LU-5G Land Inventory – Provide an inventory of land planned and zoned for mixed use, commercial and industrial development sufficient to provide a variety of choice (parcel size, location and amenities).

As noted above, future development that could be permitted under the Draft General Plan would induce growth; however, the above goals and policies included in the Land Use Element of the Draft General Plan have been designed to allow the County to manage such growth. For example, Policies LU 3.4 and 3.5 would ensure the availability of proper infrastructure for existing and new development, while Policy LU 4.4 would promote more efficient and practical development. In addition, consistent with Goal LU-5 above, Policies 5.2, 5.3, 5.4, and 5.5, as well as the associated IMs, would encourage the creation of new employment opportunities, which would improve the County's jobs/housing balance by reducing the percentage of the civilian labor force that is currently required to commute out of the County for work. Specifically, IM LU-5C would expand opportunities for home occupations, rural home businesses, and live-work options.

As discussed in Chapter 3, Project Description, of this EIR, implementation of the Draft General Plan could potentially accommodate a population of 111,527, approximately double the DOF's most recent countywide projection for the year 2035 (47,851). In addition, buildout of the Draft General Plan could potentially accommodate a net increase of 22,269 dwelling units from what currently exists within the County (48,567 – 26,298 = 22,269).[4] However, the population and housing that could potentially be accommodated by the Draft General Plan does not represent an estimate of the growth that would occur under buildout of the Draft General Plan, but rather the theoretical "carrying capacity" of the Draft General Plan's Land Use Map. The most recent DOF population projections and the 2014 Housing Element provide a more accurate gauge of

[4] Calaveras County. *Calaveras County Housing Element, 2014-2019*. Adopted May 26, 2015.

future population and housing trends within the County. As noted previously, DOF projects that Calaveras County's population, excluding the City of Angels Camp, will grow from the current population of 41,857 to approximately 50,355 persons by year 2035 (approximately 8,498 additional people) requiring the addition of approximately 5,413 residential units based on past and predicted future trends.

The goals and policies included in the Draft General Plan would not induce development beyond the level anticipated in the Plan and comprehensively analyzed in this EIR for the projected resident population, as well as other population groups that could potentially increase with adoption of the Draft General Plan (e.g., seasonal workers, tourists). The purpose of the Draft General Plan is to manage the most recent population growth, employment, and housing projections in an orderly manner. Given that the anticipated carrying capacity of the Draft General Plan is greater than the DOF projections for 2035, the Draft General Plan Land Use Map would be capable of accommodating the population growth projected for the County. However, as noted above, population growth would occur in the County throughout buildout of the Draft General Plan, and the Draft General Plan does not include goals or policies that would substantially limit such growth. Thus, Draft General Plan implementation would directly and indirectly induce a permanent increase in population over existing levels, resulting in a ***significant*** impact.

Mitigation Measure(s)

Because a purpose of the Draft General Plan is to accommodate projected population growth in an orderly manner, feasible mitigation measures are not available to reduce the potential for population growth to a less-than-significant level. The County cannot meet its economic development and housing needs without accommodating additional residents and workers. Therefore, the impact remains *significant and unavoidable.*

**4.11-2 Development associated with the Draft General Plan would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. Based on the analysis below, the impact is *less than significant.***

While implementation of the Draft General Plan could create opportunities for increasing the housing stock of the County, the Draft General Plan does not contain policies or programs that would directly cause adverse effects on existing housing or cause people to be displaced. For instance, Policies LU 1.2 and 1.3 in the Land Use Element encourage growth within existing communities and infill development (see above). In general, the Draft General Plan is intended to accommodate additional housing units and non-residential square footage in ways that enhance existing communities, and the Draft General Plan Land Use Map does not propose land use changes that would require the removal of existing housing or people. Therefore, impacts relating to displacement of a substantial number of housing or people necessitating the construction of replacement housing would be ***less than significant***.

Mitigation Measure(s)
*None required.*

# 4.12 PUBLIC SERVICES AND UTILITIES

## 4.12.1 Introduction

The Public Services and Utilities section summarizes existing setting information and identifies potential new demands resulting from buildout of the Calaveras County Draft General Plan on law enforcement, fire protection, schools, libraries, hospitals, natural gas and electric facilities, telecommunication facilities, water supply, wastewater systems, storm drainage, solid waste disposal, and recreation facilities. Information for this section is based on several primary source documents as well as direct personal communication with applicable service providers and County Departments.

## 4.12.2 Existing Environmental Setting

The following existing setting information provides an overview of the existing public services in Calaveras County, including law enforcement, fire protection, schools, libraries, medical services, and natural gas and electric facilities. The information presented below represents the most up-to-date information available at the time of environmental analysis.

**Law Enforcement**

The Calaveras County Sheriff's Department acts as the police department on a non-contract basis. Angels Camp, the only incorporated City within the County, has a police department that serves the City. Considering the exclusion of Angels Camp, the Sheriff's Department provides services for 95 percent of the County's population.

The Calaveras County Sheriff's Department consists of the main sheriff's office and County Jail located in San Andreas at the Government Center, as well as five substations:

- Valley Springs Substation with two patrol beats (pending);
- Copperopolis Substation with one patrol beat;
- West Point Substation with one patrol beat;
- Arnold Substation with one patrol beat; and
- Mokelumne Hill Substation with one patrol beat (same patrol beat as the West Point Substation).

Additionally, the Sheriff's Department runs the Office of Emergency Services (OES), the Marine Safety, Hazardous Materials (Haz Mat) Team, and the Explosives Ordnance Disposal (EOD) Unit, all located at the County Airport. The County Haz Mat and EOD team provides services for four

counties: Calaveras, Amador, Tuolumne, and Alpine. The EOD Team also covers Stanislaus County on a fill-in basis. The Investigations Division, Narcotics Enforcement Unit (CNEU) and the Calaveras Methamphetamine Enforcement Team are also overseen by the Sheriff's Department and are located at separate offices in San Andreas.

In addition to the programs described above, the Sheriff's Department includes the following programs:

- Special Enforcement Team (SET);
- Bicycle Patrol;
- Dive Rescue and Recovery Team;
- SWAT Team;
- Hostage Negotiations Team (HNT);
- Off-Highway Vehicle Patrol (OHV);
- Search and Rescue (SAR);
- Volunteer Unit;
- Reserve Deputies Program; and
- Chaplains Program.

The Sheriff's Department has recently initiated an inter-agency effort to suppress illegal cannabis cultivation within the County. Known as Operation Terminus, the project includes collaboration with the California National Guard Counter Drug Task Force, the California Highway Patrol, the California Department of Fish and Wildlife, as well as the State and Regional Water Quality Control Boards. The project has resulted in the confiscation of large amounts of cannabis, firearms, and cash, while leading to various citations and arrests under criminal and environmental violations.

As indicated in Table 4.12-1 below, currently, the Sheriff's Department has a total of 123 paid staff and 27 volunteers.

The Sheriff Department's current response time goal for emergency calls is between 11 and 13 minutes. In 2011, the Department received 35,343 calls for service with an average response time of 41 minutes.[1]

Crime Statistics

Crime statistics for the County are tabulated on a year-to-date basis. A comparison of various crime statistics for the calendar years of 2011 and 2016 is shown below in Table 4.12-2.

[1] Jackson, Natalie, Sheriff Services Technician III, Calaveras County Sheriff's Department. Personal communication. May 1, 2012.

| Table 4.12-1<br>Calaveras County Sheriff's Department Staff & Positions | |
|---|---|
| **Department** | **Number of Staff or Positions** |
| Sheriff | 1 |
| Captains | 2 |
| Lieutenants | 4 |
| Sergeants | 10 |
| Corporals | 10 |
| Deputies | 24 |
| Extra-Hire | 6 |
| Records Manager Supervisor | 1 |
| Business Administrator | 1 |
| Sheriff Service Technicians | 9 full time 3 part time |
| CSI/Evidence Room Manager | 1 full 1 part |
| Lead Mechanic | 1 |
| Senior Dispatchers | 1 |
| Dispatch Clerks | 12 |
| Extra-Hire Dispatch Clerk | 2 part time |
| Canine | 2 |
| Correctional Sergeants | 2 |
| Correctional Corporals | 4 |
| Correctional Officers/Matrons | 20 |
| Correctional Technician | 4 |
| Correctional Cooks | 2 |
| *Total Paid Staff* | **123** |
| **Volunteers** | |
| Search and Rescue | 27 |
| Sheriff Volunteer Unit | 25 |
| *Source: Macedo, Jeff, Sheriff's Captain, Calaveras County Sheriff's Department. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 14, 2018.* | |

| Table 4.12-2<br>Crime Statistics for 2011 and 2016 | | | |
|---|---|---|---|
| **Classification** | **2011 Year Total** | **2016 Year Total** | **5 Year Change in Crime** |
| Homicide | 1 | 2 | +1 |
| Rape | 14 | 7 | +7 |
| Robbery | 8 | 16 | +8 |
| Aggravated Assault | 79 | 124 | +45 |
| Burglary | 314 | 183 | -131 |
| Larceny Thefts | 35 | 24 | -11 |
| Vehicle Theft | 4 | 3 | -1 |
| Calls for Domestic Violence | 78 | 78 | 0 |
| **Total** | **533** | **437** | **-82** |
| *Source: State of California Department of Justice. Open Justice: Data Portal. Available at: https://openjustice.doj.ca.gov/data. Accessed March 2018.* | | | |

Calaveras County Jail

The original Calaveras County Jail was built in 1963. The jail was originally constructed to house 45 male inmates, 4 female inmates, and 10 juvenile inmates. While housing units were assigned for the female population, typically female inmates were housed in the Amador County Jail. From 1963 until 1980 sworn deputies rotated time between staffing the jail and patrol duties. Deputies also staffed the 911/dispatch center as part of the jail until a new dispatch unit was added in the early 1980s. Correctional officers took over the duties of the jail in 1980.

The original County jail was expanded twice, but even with the addition of more beds, overpopulation problems continued. During the November 4, 2007 election, voters in Calaveras County passed Measure J, which allowed the County to issue bonds to construct a new County Sheriff's jail, 911 dispatch center, and support facilities. The County used the Measure J funds along with funding through state Assembly Bill 900 to design and construct a new 76,500-square-foot adult detention facility and a 41,500-square-foot Sheriff's Office building. The new facility was completed in 2014 and is now operating.

Emergency Communication

Efficient functioning of both voice and data communications systems are vital to the ongoing mission of Calaveras County public services. The Calaveras County Sheriff's Office has traditionally used VHF Low Band (approx. 45MHz) for voice radio communications due to the fact that Low Band's coverage historically had a distinct advantage over higher frequencies in terrain like Calaveras County. Designed in the late 1960s and early 1970s, over the years, coverage has degraded in many communities. In response, the Sheriff's Office expanded from a two (2) Repeater system to four (4) Repeater sites with devoted multicast features. County-owned Repeater sites at Ross Drive and Blue Mountain operate half of the Low Band repeaters and leased sites from the Department of General Services at Sierra Vista and Fowler Peak house the other two Sheriff's Office Low Band repeaters. The voice quality of the Low Band system continues to degrade as populated areas of the County locate beyond the boundaries that the radio system was originally engineered to serve, or new development locates where repeating towers do not exist to carry the signal.

New towers are needed or current towers need to be retrofitted to expand the geographic radio coverage as well as enhance a system that is limited with current technology. The Low Band system has ceased to provide adequate County-wide communications, the single voice channel cannot be expanded to more channels, and the system lacks interoperability with adjoining County Sheriff's Offices. Calaveras County Sheriff's Office is working on the build out of a VHF High Band system with the implementation of two repeaters at the Sierra Vista and Fowler Peak locations, but complete build-out of a County-wide system is still needed. Additionally, the Sheriff's Office is enhancing County-wide technology opportunities with the construction of a County-owned microwave system that currently serves the south-western portion of Calaveras County. This system is being developed with ample bandwidth to provide technology for all Calaveras County public services and is currently being used to stream mission critical information to mobile data terminals in the Sheriff's Office patrol vehicles. Again, in order for expansion of

the microwave system, new towers are needed or current towers need to be retrofitted to expand the geographic coverage.

**Fire Protection and Emergency Response**

Calaveras County is divided into 10 different fire districts; the incorporated City of Angels Camp operates the Angels Camp Fire Department. In addition to the County districts, the California Department of Forestry and Fire Protection (CalFire) serves the County. Figure 4.12-1 shows the locations of fire response facilities and the boundaries of the different fire districts. Fire response facilities in Figure 4.12-1 are defined as follows:

- Fire Department Facilities: Fire Department facilities are operated by local town/community Fire Protection Districts. For example, F23 "Copperopolis Fire Protection District Station" is operated by the Copperopolis Fire Protection District.

- Forest Fire Station Facilities: Forest Fire Station facilities are operated primarily by CalFire and include Hermit Springs Forest Fire Station, West Point Forest Fire Station, Esperanza Forest Fire Station, Arnold Forest Fire Station, Valley Springs Forest Fire Station, Murphys Forest Fire Station, Altaville Forest Fire Station and Copperopolis Forest Fire Station.

- Look Out Facilities: Look Out facilities are operated by CalFire and include the Blue Mountain Look Out between West Point and Arnold, the Sierra Vista Look Out in San Andreas, and the Fowler Peak Look Out west of City of Angels.

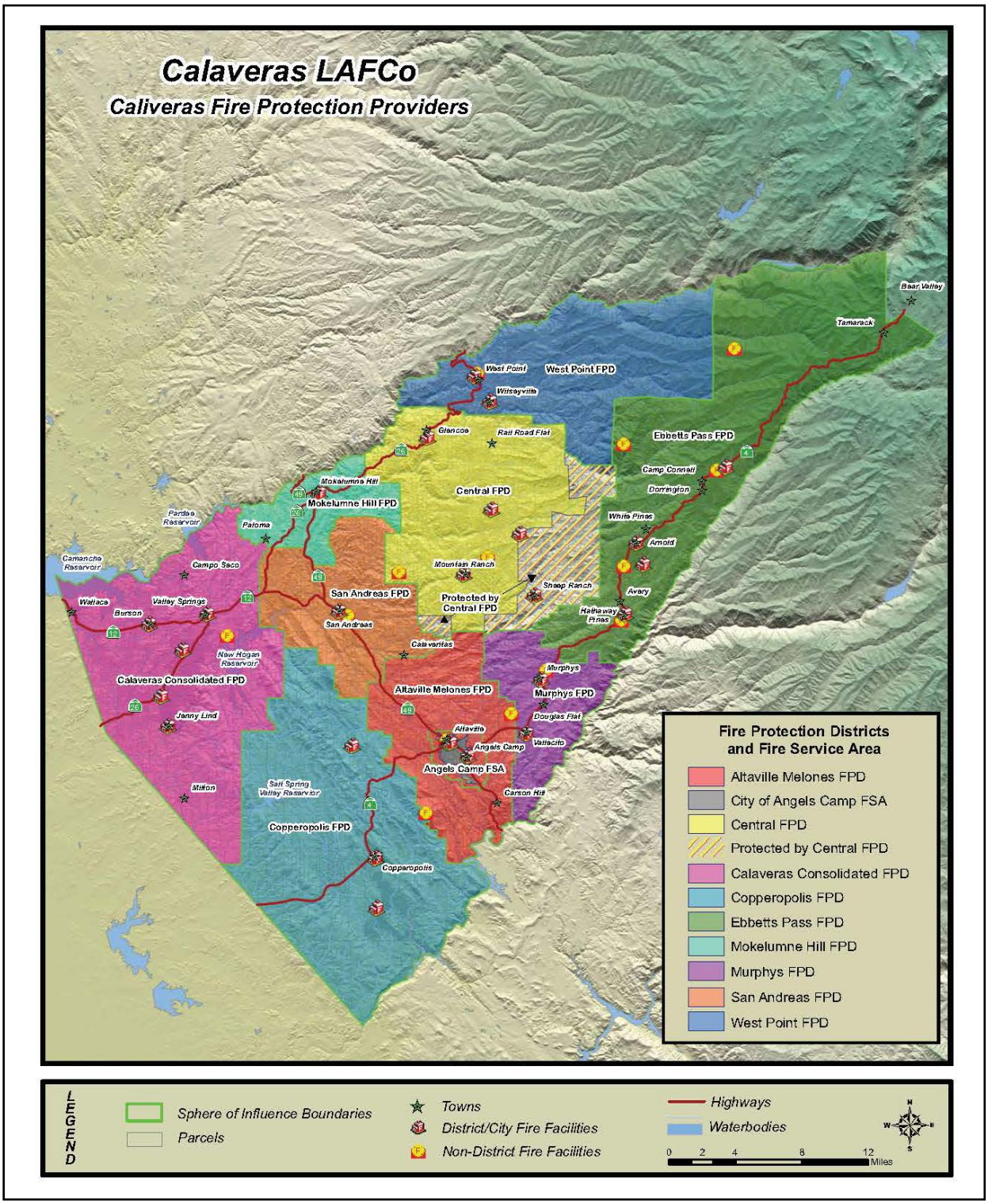
- CDF Regional Unit HQ: The Tuolumne-Calaveras Regional Unit HQ is the only facility in this category. The Tuolumne-Calaveras Regional Unit HQ facility is located in San Andreas and is operated by CalFire.

- U.S. Forest Service: Two U.S. Forest Service facilities are located in the County. The facilities are Stanislaus National Forest Dorrington Fire Station and Stanislaus National Forest Calaveras District Station. Both of the facilities are operated by the United States Forest Service.

*Mokelumne Hill Fire Protection District*

The Mokelumne Hill Fire Protection District (FPD) serves an approximate 34-square mile area. This District includes the towns of Mokelumne Hill and Paloma, as well as subdivisions and the populations east and west on State Route (SR) 26 and north and south on SR 49. The Mokelumne Hill FPD is served by an elected Board of Directors and an appointed Fire Chief.

**Figure 4.12-1**
**Fire Districts and Facilities**




*Source: Calaveras Local Agency Formation Commission. Sphere of Influence Updates. April 21, 2014.*

Mokelumne Hill FPD has one fire station, located at 8160 Church Street in Mokelumne Hill. A second station in the Paloma area was approved in 2016.[2] In addition to the Fire Chief, staffing consists of two part-time paid staff: one Captain and one firefighter. Only one person is on at any time. The remaining staffing is supplied by volunteers. Station equipment includes two Type 3 engines, two Type 2 engines, one Type 1 engine, one Type VI Rapid Response Engine, one 3,000-gallon water tender, one light rescue vehicle, and one command vehicle.[3]

Target response times for the Mokelumne Hill FPD are between three and five minutes for in town areas and five to ten minutes for out of town areas. The Mokelumne Hill FPD currently is able to meet the response time goals. The Mokelumne Hill FPD receives approximately 330 calls for response annually, including rescue, medical response, wildland fire, structure fire, and vehicle accident calls.

The Insurance Service Office (ISO), through their Public Protection Classification Program (PPC), issues ratings to Fire Departments throughout the country for the effectiveness of their fire protection services and equipment to protect their community. The ISO rating is a numerical grading system and is one of the primary elements used by the insurance industry to develop premium rates for residential and commercial businesses. ISO collects information on municipal fire protection efforts in communities throughout the United States. In each of those communities, ISO analyzes data using a Fire Suppression Rating Schedule (FSRS) and then assigns a Public Protection Classification from 1 to 10. Class 1 generally represents superior property fire protection and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. The District's ISO rating is 5 in town and 8 out of town.[4]

The Mokelumne Hill FPD has auto-aid agreements with all other providers in the County, including CalFire.

*Murphys Fire Protection District*

Murphys FPD serves the communities of Murphys, Douglas Flat, and Vallecito and surrounding rural areas, with a total service area of approximately 46 square miles. Murphys FPD is a volunteer organization with a part-time fire chief, part-time secretary, and 35 volunteers. Murphys FPD includes two stations. Station 1 (District Headquarters) is located at 37 Jones Street in Murphys; and Station 2 is located at 3224 Main Street in Vallecito. Equipment consists of the following:

- Two Type I engines;
- One Type II engines;
- One Type III engines;
- Two Type VI Engines;
- Three utility flatbed vehicles;
- 1-Community Emergency Response Team (CERT) Vehicle; and

[2] Cavalli, Skip, Fire Chief, Mokelumne Hill Fire Protection District. Personal communication. April 13, 2012.
[3] Spitzer, Dave, Assistant Fire Chief, Mokelumne Hill Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. January 2018.
[4] *Ibid.*

- Four command vehicles.

Murphys FPD does not have established response time goals, given that all calls for service are responded to by volunteers. Response time average for the Murphys FPD is between seven and eight minutes 80 percent of the time. Murphys FPD receives approximately 470 calls for service annually.

Murphys FPD's current ISO rating is 5 in areas where hydrants are located within 1,000 feet and 8 outside of these areas. Murphys FPD currently has mutual and automatic aid agreements with all neighboring fire agencies, including Ebbetts Pass FD, Altaville-Melones FD, Angels Camp FD, Central Calaveras Fire & Rescue Protection District, and CalFire.[5]

*Copperopolis Fire Protection District*

The Copperopolis FPD provides structural fire protection services (including houses, commercial buildings, and related structures), support for wildland fire protection services, and emergency medical services to an area of approximately 187 square miles. Copperopolis FPD has offered fire protection since 1937 when the Fire District was formed as an independent special district. In addition, Copperopolis FPD maintains an emergency heliport at its Main Street Station. The District also provides advanced life support (ALS) and first response emergency medical service, as well as first response involving hazardous material spills. The Copperopolis FPD owns four stations, and staffs Station 1, located at 370 Main Street, and Station 2, located at 1927 Quiver Street, both of which are in Copperopolis. Station 1 and Station 2 are staffed 24 hours a day, seven days a week. Staff includes four full-time employees, including two captains, a battalion chief, and one engineer. In addition to the four full-time employees, Copperopolis FPD staff includes 20 part-time employees that represent a mix of medical and fire personnel, as well as 19 volunteers. The District obtains its funding primarily from secured taxes, service charges, and special taxes.

The Copperopolis FPD operates out of three stations:

- Station 1 – 370 Main Street Copperopolis;
- Station 2 – 1927 Quiver Street, Copperopolis; and
- Station 3 – 9164 Pool Station Road.

The available equipment for the Copperopolis FPD is as follows:

- One Type I Engine;
- Three Type III Engines;
- One Water Tender;
- 11 Ambulances;
- Two Utility Pick-Ups; and
- One CERT Vehicle.

[5] Billings, Terry, Captain, Murphys Fire Protection District. Personal Communication [phone] with Jacob Byrne, Raney Planning and Management. March 5, 2018.

The Copperopolis FPD has established a goal of a seven-minute response time for incidents. Depending on the type of incident, services could be drawn from one or both of the Copperopolis FPD's stations. The Copperopolis FPD indicated that achievement of the seven-minute response time goal is difficult due to the geographic diversity of the area served. Actual response times vary; however, the district estimates that the average response time is nine minutes, with times much shorter for areas within the town of Copperopolis and adjacent areas, and response times slower for areas in more rural portions of the Copperopolis FPD's service area. Similarly, the location of the incident (i.e., distance to nearest station and fire hydrant) affects the District's ISO rating, which ranges from 7 to 10.

The overall call volume trend has rapidly increased each year for the past 28 years, corresponding with a population increase in the Copperopolis area. Fire calls have not increased as rapidly as medical aid calls. From 1980 to 2017 the total call volume increased from 60 incidents to 652 incidents.[6]

*West Point Fire Protection District*

The West Point FPD provides firefighting and EMT/Medical Response services to the towns of West Point and Wilseyville, with a total service area of approximately 110 square miles. The District includes two fire stations: 195 Spink Road in West Point; and 3910 Railroad Flat Road in Wilseyville. Overall the West Point FPD is operated by 18 staff members, including one Chief, one Battalion Chief, and one Assistant Chief, as well as volunteers and interns. The West Point station is staffed 24 hours a day and seven days a week, while the Wilseyville station is staffed by volunteers who live in the community. The District has not adopted staffing standards. Equipment consists of one Type I engine, one Type II engine, one Type III engine, one water tender, one utility vehicle, two Chief's vehicles, and one CERT vehicle. Funding for this District primarily comes from secured taxes and special taxes.[7]

West Point FPD is able to achieve its adopted three-minute response time goal for emergency calls.[8] In 2017, the West Point FPD received 450 calls for service, which represented a decrease from 2016 when 509 calls for service were received. West Point FPD's current ISO rating is 5 in hydranted areas and 8B in non-hydranted areas. West Point FPD has automatic mutual aid agreements with CalFire, Central Calaveras Fire & Rescue Protection District, and Mokelumne Hill FPD.

6 Polen, Tori, District Secretary, Copperopolis Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 5, 2018.

7 Miller, Terry, Assistant Chief, Public Education Officer. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 12, 2018.

8 Fullerton, Bill, Captain, West Point Fire Protection District. Personal communication. April 3, 2012.

*Calaveras Consolidated Fire District*

Calaveras Consolidated Fire District formed as a result of a joint powers agreement (JPA) between the Foothill FPD and Jenny Lind FPD, which was effective July 1, 2012.[9] Final merging of the two Districts occurred in July 2013, following approval by the Calaveras Local Agency Formation Commission (LAFCo). The resultant service area of the JPA covers approximately 163 square miles.[10]

The Calaveras Consolidated Fire District operates out of three fire stations:

- Station 1- 3255 Helisma Road in Burson;
- Station 2- 129 E SR 12 in Valley Springs; and
- Station 3- 6501 Jenny Lind Road in Jenny Lind.

Station 3 is designated as the District Headquarters and contains the Calaveras Consolidated Fire District's administrative offices, training room, living quarters, as well as emergency equipment. Station 3 and Station 2 are staffed by two personnel 24 hours a day, seven days a week. Station 1 is not currently staffed. Personnel at both staffed stations includes at least one full-time employee and one intern at all times. Districtwide the Calaveras Consolidated Fire District employees six full-time employees and includes approximately 20 interns. The available equipment for Calaveras Consolidated Fire District is as follows:

<u>Station 1</u>
- One Type I Engine; and
- One Type III Engine.

<u>Station 2</u>
- One Type I Engine; and
- One Type III Engine.

<u>Station 3</u>
- One Type I Engine;
- One Type III Engine; and
- One Water Tender.

A majority of the District's funding is provided by fees that are collected with property taxes on a per-parcel basis, with some funding coming from specific ownership taxes, gifts and grants, response fees, other fees, and interest earnings on invested cash balances.

[9] Robitaille, Jason, Deputy Fire Chief, Calaveras Consolidated Fire Authority. Personal communication. August 31 and September 2, 2012.

[10] Calaveras Consolidated Fire. *About*. Available at: https://www.calcofire.org/about. Accessed March 2017.

The District uses a response time goal of four minutes. The actual response time from dispatch to on-scene is approximately nine minutes in rural areas of the Calaveras Consolidated Fire District service area and three to four minutes within the developed areas of Jenny Lind and Valley Springs. The District received approximately 1,400 emergency calls in 2017.[11]

The District's current ISO rating is six in areas where fire hydrants are within 1,000 feet and eight where hydrants are not within 1,000 feet. Calaveras Consolidated has formal mutual aid and automatic mutual aid agreements with neighboring fire districts, including San Andreas FPD (auto aid–structure fires only), Linden, and Clements FD (mutual aid on request). [12]

*Ebbetts Pass Fire District*

The Ebbetts Pass Fire District (FD) covers an approximate 205-square mile area. The western boundary lies at an elevation of approximately 2,000 feet above sea-level east of Murphys and the eastern boundary terminates at the Alpine County line at an elevation of approximately 8,000 feet above sea-level. The southern border adjoins the Tuolumne County border and the North Fork of the Stanislaus River Canyon. California SR 4 bisects the District and runs approximately 40 miles from the eastern boundary to the western boundary. The District provides advanced life support (ALS) service and transport to the western section of Alpine County including Bear Valley, the Carson-Iceberg Wilderness, and Mokelumne River Canyon Wilderness. This adds approximately 400 square miles to the District's response area. Additionally, the Ebbetts Pass Fire District provides mutual aid response to wildland and structure fire to the areas of Alpine County and the Murphys Fire District.

The Ebbetts Pass FD has four fire stations, two of which are staffed 24 hours a day, seven days a week with full-time paid firefighters and firefighter paramedics, which provide structural and wildland fire protection and ambulance service. The Ebbetts Pass FD is a combination fire department with both a paid division and a volunteer division. The paid division has a staff of 24, which consists of 21 firefighter/firefighter-paramedics, a Fire Chief, an Executive Administrator, and a part-time Fire Prevention Officer. Additionally, the District has a five-member Board of Directors. The breakdown of positions is as follows:

- One Fire Chief;
- Two Battalion Chiefs;
- Three Captains;
- Six Engineers; and
- One Executive Administrator.

Additionally, the Ebbetts Pass FD provides the following services to the communities of the Ebbetts Pass FD:

[11] Dickinson, Richard, Fire Chief, Calaveras Consolidated Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 8, 2018.

[12] Calaveras County Local Agency Formation Commission. *Calaveras Fire Municipal Service Review*. Adopted June 17, 2013.

- Fire Suppression – Ebbetts Pass FD provides structural, vehicle and wildland fire suppression.

- Emergency Medical Response – Ebbetts Pass FD provides paramedic level response to medical emergencies from Engine Company Based Paramedics and Paramedic Transport Units. Ebbetts Pass FD equips five fully-stocked paramedic rescue units including Paramedic Level Defibrillators, Medications, Advanced Airway Management Equipment as well as the Basic Life Support Bandaging and Splinting Supplies.

- Technical Rescue Response – Ebbetts Pass FD provides industry standard Water Rescue, Over the Bank Rope Rescue, Structural Collapse Response Rescue as well as Vehicle Extrication Rescue to the diverse response area.

- Hazardous Materials Response – Ebbetts Pass FD provides First Responder Operations level response to Hazardous Materials Response.

- Fire Prevention and Code Enforcement – Ebbetts Pass FD inspects all multi-residential and commercial occupancies on an annual basis for compliance with the California Fire Code.

- Regional Emergency Command and Control – Ebbetts Pass FD main station training classroom is designed to be used as a regional Emergency Operations Center.

- Education of the Community – Ebbetts Pass FD personnel provide First Aid, CPR/AED training for the community. All aspects of the American Heart Association's Chain of Survival are provided by Ebbetts Pass FD.

The Ebbetts Pass FD operates four stations at the following locations:

- Station 1 – 1037 Blagen Road, Arnold;
- Station 2 – 5510 Meko Drive, Camp Connell;
- Station 3 – 40 Canyon View Drive, Hathaway Pines; and
- Station 4 – 2038 Moran Road, Arnold.

The Ebbetts Pass FD operates the following equipment:

- Five Type I Engines;
- One Type II Engine;
- One Water Tender; and
- One Ladder Truck.

In addition to the foregoing equipment, Ebbetts Pass FD maintains at least one ambulance at each station, with several ambulances maintained for back-up or emergency use.

The Ebbetts Pass FD staffing standards are specified in the Ebbetts Pass FD's Policy Manual. However, the District has not determined current or projected firefighter/population service ratios

and does not utilize firefighter/population ratios to determine level of service. Funding for the Ebbetts Pass FD is provided through secured/unsecured taxes, special taxes, and service charges.[13]

Due to the varied topography, elevation and geography of the District, establishing and maintaining response times is difficult. Chain controls are routinely in place along SR 4 during the winter. Per the provider contract with Calaveras County, the District is broken down into 25 separate response zones with response times ranging from eight to 42 minutes. The average response time is not to exceed 13 minutes for the entire District and responses to each zone is monitored on a monthly basis. The Ebbetts Pass FD has not exceeded the contracted average response time.[14]

Service call volumes currently average approximately 1,000 calls per year.

The Ebbetts Pass Fire District maintains an ISO rating of two in hydranted areas (i.e., hydrant within 1,000 feet) and two-X in non-hydranted areas. The District has automatic and/or mutual aid agreements with CalFire, the United States Forest Service (USFS), Alpine County/Bear Valley, Murphys FPD, and all other Calaveras County Fire Districts.

*San Andreas Fire Protection District*

The San Andreas FPD has been providing service to the community of San Andreas since 1858. San Andreas FPD has one fire station consisting of two main buildings. The first building houses the office and headquarters and is located at 37 Church Hill Road. The second building, located at 20 East Saint Charles, is adjacent to the headquarters and houses equipment and apparatus. The San Andreas FPD operates three Type II Engines, two type III wildland engines, one Type VI rescue/fire engine, one 3,000-gallon water tender, one mobile breathing support vehicle, and various administrative vehicles. Staffing for the San Andreas FPD includes one fire chief, one paid administrator, and six paid firefighters. The paid force is augmented by volunteers. Two paid staff are on duty 24 hours a day, seven days a week, with any volunteers in addition to the paid staff. A majority of the funding for the San Andreas FPD comes from fees that are collected with property taxes on a per-parcel basis.

The San Andreas FPD has indicated that actual response times range from three to five minutes in areas with well-maintained access routes and in proximity to the station to much longer times in rural areas where access issues occur. In 2017, a total of 1,200 calls for service were received by the San Andreas FPD.[15]

The San Andreas FPD's current ISO rating is four within five miles of the station and ten beyond five miles. San Andreas FPD has mutual aid agreements with six surrounding communities:

[13] Howard, Cheryl, Administrative Secretary, Ebbetts Pass Fire District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 14, 2018.

[14] Calaveras County Local Agency Formation Commission. *Calaveras Fire Municipal Service Review*. Adopted June 17, 2013.

[15] Young, Erie, Fire Chief, San Andreas Fire Protection District. Personal communication. May 9, 2012.

Mokelumne Hill FPD, Central Calaveras Fire & Rescue, Calaveras Consolidated FPD, Altaville-Melones FPD, and Angels City Fire. Additionally, the San Andreas FPD has a mutual aid agreement with CalFire units within Calaveras County and participates in the State Wide Master Mutual Aid Agreement administered by CAL-EMA.[16]

*Altaville-Melones Fire Protection District*

The Altaville-Melones FPD serves an approximate area of 82 square miles and consists of two fire stations: Station 1 is located at 144 Monte Verde Street, Angels Camp; and Station 2 is located at 3424 Main Street, Vallecito, CA. The District is comprised of one part-time Fire Chief and 23 volunteer/stipend firefighters. The Fire Chief for the Altaville-Melones FPD also serves as the Fire Chief for the City of Angels Camp Fire Department. Equipment consists of one Type I engine, one Type III engine, one Type V engine, one water tender, and five Officer Vehicles. Funding is provided by secured taxes and development impact fees.[17]

The Altaville-Melones FPD indicated that response times vary widely within the service areas, depending on distance from the foregoing stations, access conditions, and the availability of personnel. In 2017, the Altaville-Melones FPD responded to approximately 1,000 calls for emergency service both within the Altaville-Melones FPD service area and within the City of Angels Camp.[18]

The Altaville-Melones FPD's current ISO rating is nine. Altaville-Melones FPD is a signatory to the State Master Mutual Aid Plan. Additionally, the District has auto aid agreements with the City of Angels, Murphys FPD, and San Andreas FPD.

*Central Calaveras Fire & Rescue Protection District*

Central Calaveras Fire & Rescue Protection District has been providing services since 1999 to the communities of Glencoe, Rail Road Flat, Eagle Ridge Ranch/Airport, Mountain Ranch, and Sheep Ranch, with a total service area of approximately 152 square miles.[19] The Central Calaveras Fire & Rescue Protection District provides fire suppression and rescue operations of all types (structural, wildland, aircraft, vehicle, and over-the-bank rescue), as well as EMS, basic life support (BLS), hazardous material response/decontamination support, and has members assigned to the County's fire investigation unit. The Central Calaveras Fire & Rescue Protection District also assists in local fire code enforcement and presents public education and safety programs to local schools and businesses. Secured taxes and special taxes provide funding for the District.

[16] Schabot, Robert, Administrator, San Andreas Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 15, 2018.

[17] Manning, Dennis, Battalion Chief, Altaville-Melones Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 19, 2018.

[18] Rohrabaugh, John, Fire Chief, Altaville-Melones Fire Protection District. Personal communication [phone] with Jacob Byrne, Raney Planning and Management. March 19, 2018.

[19] Grant, Deborah, Administrative Assistant, Central Calaveras Fire & Rescue Protection District. Personal communication. June 18, 2012.

The Central Calaveras Fire & Rescue Protection District has five stations, as follows:

- Station 1: 19927 Jesus Maria Road, Mokelumne Hill (headquarters);
- Station 2: 6338 Swiss Ranch Road, Mountain Ranch;
- Station 3: 8041 Washington Street, Mountain Ranch;
- Station 4: 15815 Hwy 26, Mokelumne Hill; and
- Station 5: 11309 Sheep Ranch Road, Sheep Ranch.

Currently, the Central Calaveras Fire & Rescue Protection District has three full-time paid Fire Captains, four Extra Hire Fire Officers, ten resident volunteers, and 20 other volunteers. Central Calaveras Fire & Rescue Protection District equipment consists of the following:

- Engine (E-121) – 500-gallon water capacity, with a 500 gallon per minute (gpm) pump;
- Engine (E-122) - – 500-gallon water capacity, 1,250 gpm pump;
- Engine (E-124) – 400-gallon water capacity, 380 gpm pump;
- Water Tender (WT-121) 3,000-gallon water capacity, 750 gpm pump;
- Water Tender (WT-123) 1,200-gallon water capacity, 500 gpm pump; and
- Water Supply (WS-125) 500-gallon water capacity, 1,000 gpm pump.[20]

The District has established a 10-minute response time goal for emergencies and 15 minutes for non-emergencies. The District indicated that actual response times average 15 minutes for emergencies and 17 minutes for non-emergencies.[21] In 2017, a total of 430 calls for emergency service and 46 calls for non-emergency service were received by the District.[22]

The District's current ISO rating is five for residential structures. The District currently has mutual aid agreements with San Andreas FPD, Mokelumne Hill FPD, and West Point FPD. [23]

*California Department of Forestry and Fire Protection*

CalFire is responsible for fire protection within State Responsibility Areas (SRA). SRAs are found in 56 of California's 58 counties and total more than 31 million acres. A majority of Calaveras County is located within an SRA. The town of San Andreas and the City of Angels Camp are within Local Responsibility Areas (LRAs). U.S. Forest Service lands in the eastern portion of the County are covered by Federal Responsibility Areas (FRAs). FRA lands in Calaveras County are protected by the Stanislaus National Forest Fire Management Unit. CalFire provides protection against wildland fires, such as forest and grassland fires on areas within the county designated as an SRA. CalFire stations within the County provide a broad range of fire suppression equipment and crews. Station locations are shown in Figure 4.12-1 above.

[20] Central Calaveras Fire & Rescue Protection District. *Fire Protection and ISO Rating*. March 2018.
[21] Calaveras Local Agency Formation Commission. *Calaveras Fire Municipal Service Review*. Adopted June 17, 2013.
[22] Central Calaveras Fire & Rescue Protection District. *Fire Protection and ISO Rating*. March 2018.
[23] Central Calaveras Fire & Rescue Protection District. *Fire Protection and ISO Rating*. March 2018.

**Schools**

The following section provides information on the existing schools within Calaveras County.

Calaveras Unified School District

Calaveras Unified School District is composed of the following schools: Calaveras High School, Jenny Lind Elementary School, Mokelumne Hill Elementary School, Railroad Flat Elementary School, San Andreas Elementary School, Toyon Middle School, Valley Springs Elementary School and West Point Elementary School (see Figure 4.12-2 and Figure 4.12-3).

Additionally, the following Alternative Education Programs are part of this district: Gold Strike High School, Jenny Lind Alternative High School, and Sierra Hills Educational Center.

The current student to teacher ratio is 25 students per one teacher for preschool and grades K-3. The ratio for grades 4-12 is 30 students per one teacher. The recommended ratios are the same as the current ratios. As such, the district is meeting the standard. In terms of new students, the students per household yield factor is 0.5 students per home. The current school developer fee per square foot of residential land use is $3.20 per square foot

*School Enrollment and Capacity*

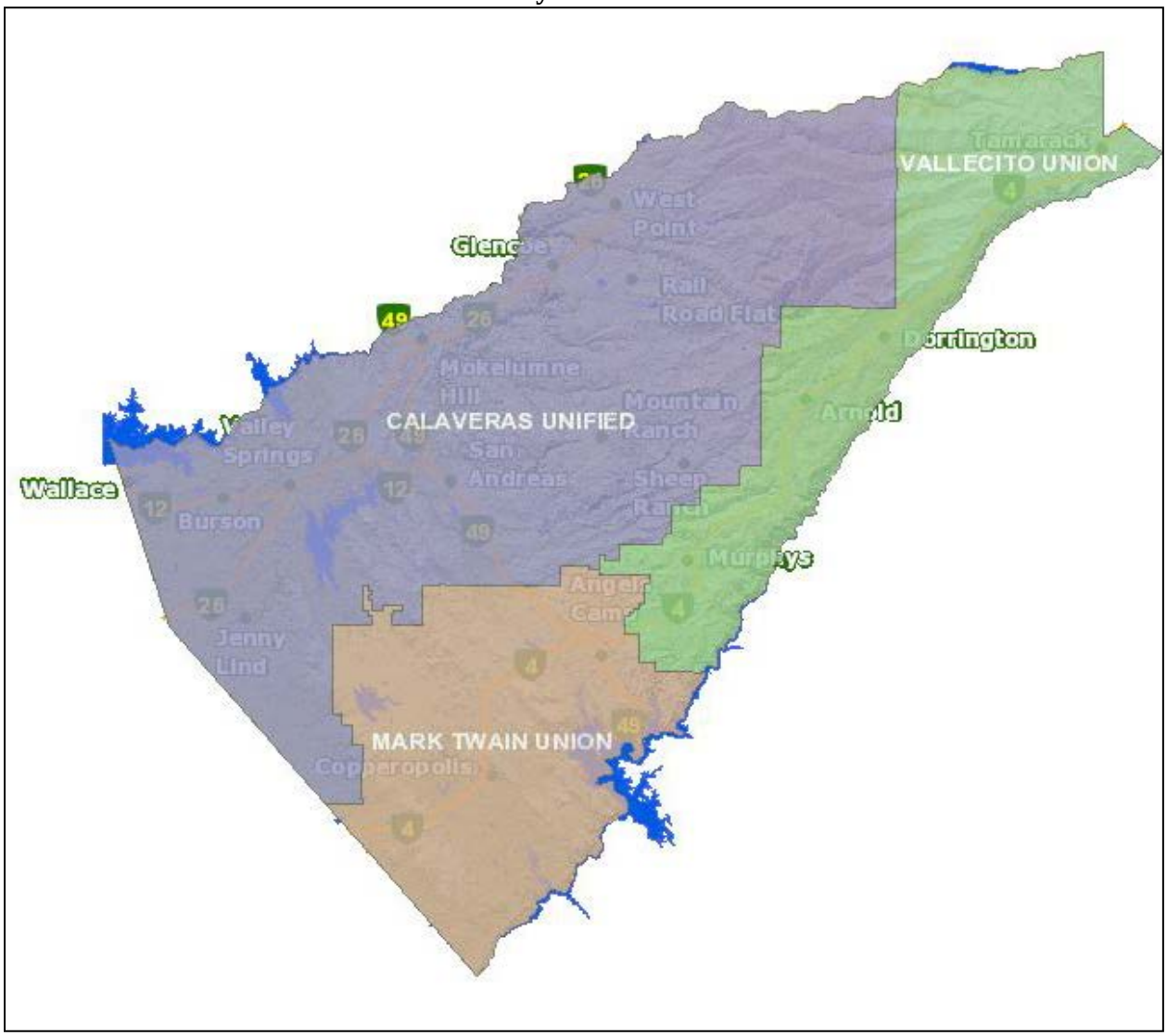
The Calaveras Unified School District currently employs 132 teachers to serve 2,933 students. The Calaveras Unified School District has capacity for 2,543 additional students. The breakdown by school is shown in Table 4.12-3 below.

**Table 4.12-3**
**2016-2017 Enrollment and Additional Capacity for Calaveras Unified School District**

| School | Enrollment | Capacity | Teachers |
|---|---|---|---|
| Jenny Lind Elementary | 519 | 990 | 21 |
| Valley Springs Elementary | 479 | 935 | 18 |
| San Andreas Elementary | 266 | 525 | 9 |
| Railroad Flat Elementary | 65 | 169 | 3 |
| West Point Elementary | 88 | 224 | 4 |
| Mokelumne Hill Elementary | 81 | 254 | 4 |
| Toyon Middle School | 450 | 740 | 21 |
| Calaveras High School | 885 | 1,403 | 46 |
| Gold Strike Alt. High School | 37 | 120 | 3 |
| Jenny Lind Alt. High School | 11 | 56 | 1 |
| Sierra Hills Education Center | 52 | 60 | 2 |
| **Total** | **2,933** | **5,476** | **132** |

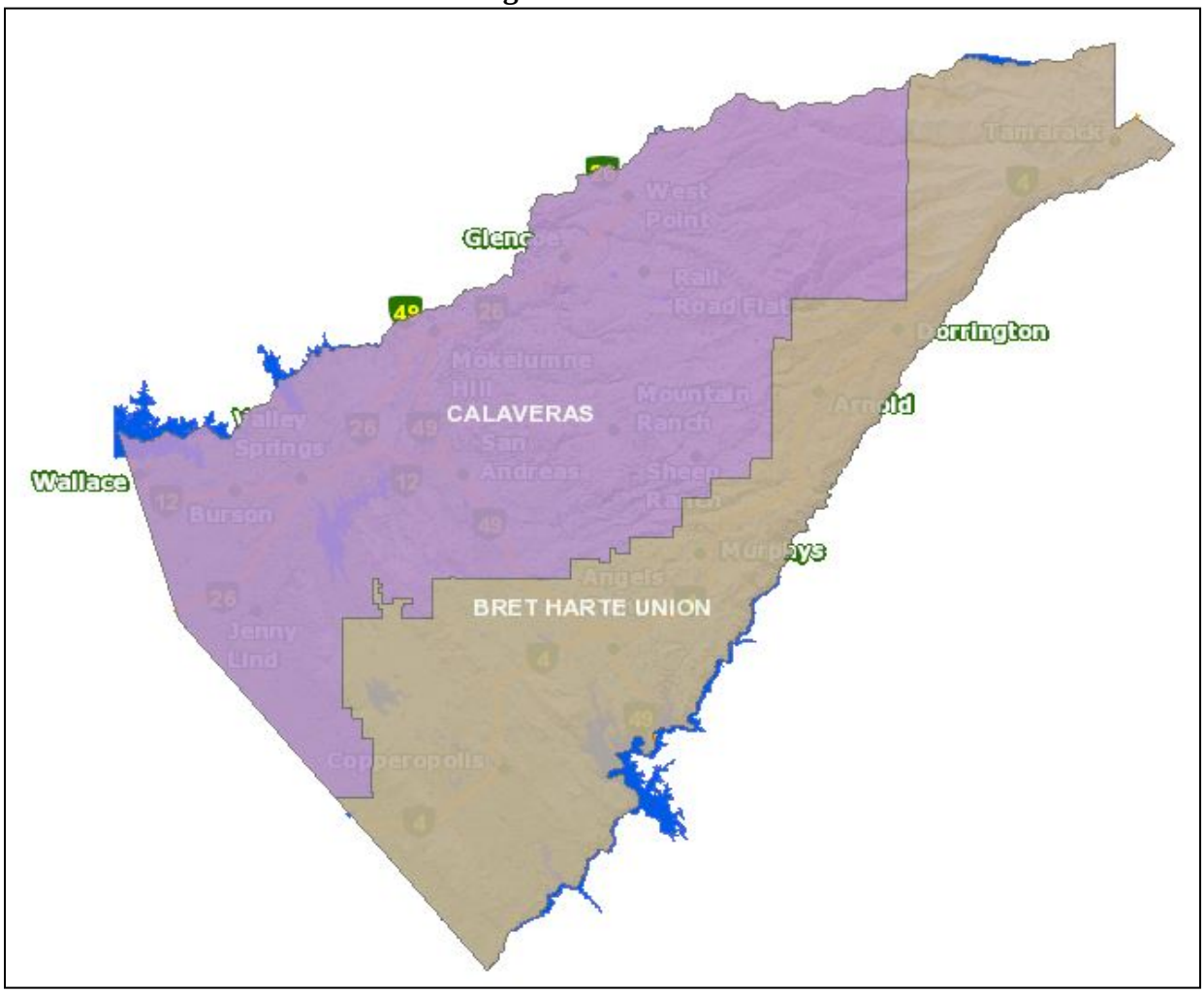
*Sources:*
*California Department of Education. Enrollment by School 2016-2017. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.*

**Figure 4.12-2**
**Elementary School Districts**




*Source: Calaveras County. Calaveras County Map Information System. Available at: http://mapserver.co.calaveras.ca.us/calaveras_pub/index.html. Accessed November 2017.*

**Figure 4.12-3**
**High School Districts**




*Source: Calaveras County. Calaveras County Map Information System. Available at: http://mapserver.co.calaveras.ca.us/calaveras_pub/index.html. Accessed November 2017.*

As indicated in Table 4.12-3, the existing school capacities within the District are adequate to meet the current student population.

Bret Harte Union High School District

Bret Harte Union High School District includes Bret Harte Union High School (comprehensive), Vallecito High School (continuation) and John Vierra High School (independent study).

The current student to teacher ratio within the district is 19 students per one teacher. The District's recommended standard is 27 to one, which is the State standard. As such, Bret Harte Union High School District is exceeding the standard. In terms of new students, the most recent developer fee justification study indicated a 0.2 student generation factor from new home construction. The current school developer fee for residential land use is $2.77 per square foot and for commercial uses the fee is $0.47 per square foot.

*School Enrollment and Capacity*

The current enrollment and capacity statistics for the District are shown in Table 4.12-4 below.

**Table 4.12-4**
**2016-2017 Enrollment and Capacity for Bret Harte Union High School District**

| School | Enrollment | Total Capacity |
|---|---|---|
| Bret Harte High School | 653 | 1,080 |
| Vallecito High School | 18 | 60 |
| John Vierra High School | 23 | 40 |

*Sources:*
*California Department of Education. Enrollment by School 2016-2017. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.*

As indicated in Table 4.12-4, the existing school capacities within the District are adequate to meet current student population.

Mark Twain Union Elementary School District

The Mark Twain Union Elementary School District consists of two major communities: the City of Angels Camp and Copperopolis. The District includes the following two schools:

- Mark Twain Elementary School (K-8): Capacity of approximately 610 students. Currently 537 students[24] with 23 teachers. The Calaveras County Office of Education also operates two classrooms with 23 students and two teachers on campus.[25]

- Copperopolis Elementary School (K-6): Capacity of approximately 290 students. Currently, 296 students[26] with 13 teachers. Copperopolis Elementary School is comprised entirely of portable units.[27] The District's student to teacher ratio goals are 20 students per teacher for grades K-3 and 28 students per teacher for grades four through eight. The K-3 Class Size Reduction program class size limits have been relaxed by the State allowing slightly larger class sizes with graduated funding penalties as class sizes increase. The District currently maintains the ratio in the K-3 grades at or below 25 to one. Recommended standards in upper grades are based on the numbers of special needs students, grade make-up (single grade versus combination grade classrooms), and other criteria. Funding reductions and other factors have required increases in ratios above targeted goals in upper grade classes. The following special programs are offered through the Mark Twain Union Elementary School District at the Mark Twain and Copperopolis sites.[28]

  Learning Center: Students may receive academic support in the Learning Centers under the supervision of our Resource Specialist Teachers. Students are grouped based on academic need and receive instruction in a small group setting. The Learning Centers are very successful in providing students with direct instruction in both reading/language arts and mathematics.

  English Language Development: Students identified as English Learners receive support within their classrooms and additional English Language Development in a small group setting.

  Speech Therapist Services: The speech and language therapist is available on a regular basis to evaluate students to determine needs and provide services when necessary in the speech and language areas.

  Psychologist: The primary purpose of the psychologist is to assess children who may have identified learning needs. Services are provided on an as-needed basis. The psychologist also provides counseling and support services on the Mark Twain Elementary campus.

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[24] California Department of Education. *Enrollment by School 2016-2017*. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.

[25] Mark Twain Union Elementary School District. *Mark Twain Union Elementary School District.* Available at: https://www.mtwain.k12.ca.us/. Accessed 2012.

[26] California Department of Education. *Enrollment by School 2016-2017*. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.

[27] Mark Twain Union Elementary School District. *Mark Twain Union Elementary School District.* Available at: https://www.mtwain.k12.ca.us/. Accessed 2012.

[28] Mark Twain Union Elementary School District. *Mark Twain Union Elementary School District.* Available at: https://www.mtwain.k12.ca.us/. Accessed February 2018.

School Counselor: The school counselor provides services to students, staff, and parents at Copperopolis Elementary School. Such support includes peer support, group and individual counseling, and family consultation. The counselor develops and implements character education programs for the school sites.

Mental Health Services: In collaboration with Calaveras County Mental Health, mental health services are provided to eligible students on the Mark Twain campus.

Vallecito Union School District

The Vallecito Union School District is comprised of two K-5 schools (Hazel Fischer Elementary and Albert Michelson Elementary) and one sixth through eighth middle school (Avery Middle School, located in Avery).

In regards to new housing development within the district, the District uses a student generation factor of 0.5 students per household (0.4 for K through six and 0.1 for seventh through eighth). A fee of $3.20 per square foot for residential construction and a fee of $0.51 per square foot for commercial/industrial construction are currently assessed on applicable permits pulled in the District. The fees were most recently updated based on a 2012 Developer Fee Justification Study.

*School Enrollment and Capacity*

As indicated in Table 4.12-5, the District currently has more than adequate capacity to serve the existing student population.

**Table 4.12-5**
**2016-2017 Enrollment and Capacity for Vallecito Union School District**

| School Facility | Enrollment | Total Capacity |
|---|---|---|
| Grades K through sixth | 386 | 1,177 |
| Grades seventh through eighth | 263 | 351 |

*Sources:*
*California Department of Education. Enrollment by School 2016-2017. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.*
*SchoolWorks, Inc. 2012 Developer Fee Justification Study for Vallecito Union School District. March 2012.*

Calaveras County Community Schools

The Calaveras County Community Schools were established through the cooperative efforts of the Calaveras County Office of Education, Calaveras County School Districts, School Attendance Review Board, and the Calaveras County Probation Department to provide a structured educational opportunity for those students unable to adjust to the programs available in the traditional school. The following Community Schools are currently in use:

- Calaveras River Academy: Located at 150 Old Oak Road in San Andreas. Calaveras River Academy serves as an alternative school for students in grades six through 12 who reside

in the Calaveras Unified School District. The focus of the Community School is to remediate identifiable weaknesses with the students' known strengths while building self-image and personal worth. Emphasis is also placed on community services and numerous activities are organized which involve students directly with community projects.

- Mountain Oaks School: Mountain Oaks School is a K-12 charter school sponsored by the Calaveras County Board of Education, serving families seeking a non-traditional, non-classroom based educational setting. Mountain Oaks' mission is to support homeschooling families so that students develop the academic, personal, social skills and qualities of lifelong learners. The total K-12 population is approximately 481 students.[29] The primary three counties served by Mountain Oaks School are: Calaveras, Amador and Tuolumne. The main resource center is located in San Andreas, with satellite resource centers in Ione (Amador) and Sonora (Tuolumne). The Mountain Oaks staff consists of approximately 25 credentialed teachers and 23 classified staff.

- Oakendell Community School: Located on Hawver Road in San Andreas. Oakendell Community School serves as a resident school for male students grades seven through 12 who are wards of the court and/or the State Social Welfare Department. The young men come from various parts of the State and live on-site at the Oakendell Community Home.

**Library Services**

The Calaveras County Library System is a countywide system consisting of a Central Library located in San Andreas and seven branch facilities located in the communities of City of Angels Camp, Arnold, Copperopolis, Mokelumne Hill, Murphys, Valley Springs and West Point. According to definitions set by the California State Library these seven facilities are "outlets," not branches, where a branch is defined as: an extension library open some part of each of five days a week, has at least 1,400 square feet of floor space, a general book collection of at least 7,000 volumes, and is staffed with the equivalent of at least one librarian and one clerical employee during open hours for service.

Standards on Providing Library Services

The State of California does not have an established set of standards for public libraries. In the document entitled *California Library Statistics 2011* (Fiscal Year 2009-10) comparisons are included that provide goals for the Calaveras County Library System to aspire to:

- Total materials (books, audio, film, etc.) per capita for Calaveras County was noted at 2.31, while the statewide mean was 2.16 and the highest level was 21.58.

[29] California Department of Education. *Enrollment by School 2016-2017*. Available at https://www.cde.ca.gov/ds/sd/sd/filesenr.asp. Accessed March 2018.

- Population served per one full-time employed staff was 6,600 for Calaveras County, while the statewide mean was 3,266 and the lowest ratio was 286.

The current square footage for the Calaveras County Library System is approximately 32,000 square feet.[30]

Library Programs

In addition to providing library materials, the San Andreas Library houses the Calaveras Adult Tutoring Program. Each of the eight library facilities in the Calaveras County Library System serves as a meeting place for students and tutors to meet one-on-one.

The Calaveras County Library System introduces preschoolers and school-age children and their parents to books and reading, providing activities that enhance childhood learning. Such activities include programs for preschool and school age children in addition to programs for adults.

The libraries in the Calaveras County Library System serve a role in providing a "commons" environment in the community. This includes provision of meeting rooms, study rooms, and open space that invite conversation and discussion. Types of groups using the rooms include Calaveras Genealogy, Alcoholics Anonymous, Hospice Support, 4-H, Master Gardeners, Cemetery District, Farm Advisor, computer users group, County government, and Mountain Oaks School.

Anticipated Expansion of Services

The Valley Springs Branch Library is currently co-housed in the Valley Springs Elementary School. This facility is approximately 4,000 square feet and is considered an interim measure to meet the needs of the growing Valley Springs community. A much larger stand-alone facility is needed. Larger library facilities are also needed in the communities of City of Angels Camp, Copperopolis, and West Point.

The following communities presently are not served by library facilities:

- Mountain Ranch
- Railroad Flat
- Sheep Ranch
- Milton

The Calaveras County Library Commission recommended a bookmobile to service underserved areas. The primary constraint to future library system growth is lack of funding for the necessary expansion of facilities and an increase in number of paid personnel.

[30] Hoekstra, Maurie, Librarian, Calaveras County. Personal communication. April 9, 2012.

**Hospital and Ambulance Services**

Calaveras County is served by Mark Twain St. Joseph's Hospital (MTSJH) located in San Andreas. Mark Twain St. Joseph's Hospital was opened in 1951 and is a Catholic Healthcare West (CHW)-affiliated hospital. MTSJH is a 48-bed hospital providing inpatient acute care and emergency services, fully licensed by the California Department of Health Services, and accredited by the Joint Commission on Accreditation of Healthcare Organizations, and the California Medical Association. The hospital's medical staff averages 85 individuals and represents a range of specialties. On average, more than 300 people are employed at the hospital and the hospital's four clinics. In addition, local MTSJH and Sonora Regional Medical Center clinics serve as urgent care during normal business hours. Urgent care services provide unscheduled, walk-in care outside of a hospital emergency department. Urgent care centers are primarily used to treat patients who have an injury or illness that requires immediate care but is not serious enough to warrant a visit to an emergency room.

Ambulance Services

Although the County is divided into three ambulance response areas, ambulance services throughout the entire County, except within the Ebbetts Pass FD, are provided by the American Legion Ambulance Service. This service was formed in Amador County by the members of Amador Post 108 in 1929. On July 1, 2005, American Legion Post 108 Ambulance Service expanded its operations into Calaveras County, almost doubling the size of its operation. Today American Legion Post 108 Ambulance Service employs over 80 Paramedics, EMT-I's and Registered Nurses.[31]

American Legion Post No. 108 Ambulance Service provides Advanced Life Support (ALS) emergency 911 response to Amador and Calaveras Counties. On a daily basis, American Legion staffs six 24-hour units and two 12-hour units for response to 911 calls, covering approximately 1,400 square miles with a population of approximately 75,000.

**Communications**

Communications are provided in the County by various private sector service providers. Telephone service is provided by American Telephone and Telegraph (AT&T), Volcano Communications Group, and Calaveras Telephone ("CalTel"). Cable television service is also provided by AT&T, Volcano Communications Group, and CalTel, as well as by Comcast. Additionally, many residents utilize various satellite dishes for television services. For most of the County, internet service, including broadband service, is provided by the three telephone service providers (AT&T, Volcano and CalTel) as well as by Comcast and other Internet Service Providers such as America Online, Earthlink, and other smaller local companies. Additionally, many of the County's residents are outside of the service areas for these providers and use satellite internet services instead.

[31] American Legion Post 108. *American Legion Ambulance*. Available at: http://www.alpost108.org/. Accessed June 2018.

**Natural Gas and Electric Service**

Natural gas and electric services in Calaveras County are primarily provided by PG&E. PG&E, incorporated in California in 1905, is one of the largest combination natural gas and electric utilities in the United States. Based in San Francisco, the company is a subsidiary of PG&E Corporation. The company provides natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California. PG&E and other utilities in the state are regulated by the California Public Utilities Commission. The California Energy Commission (CEC) lists a total of nine hydroelectric power plants (greater than 0.1 megawatts) in Calaveras County, with a total online megawatt generation of approximately 294.6 MW.[32] These plants are located within PG&E's service area, but are owned and operated by other entities, including but not limited to Calaveras County Water District, Utica Power Authority, and Rock Creek Water District. Two plants are located in Murphys, two plants in San Andreas, one plant in the City of Angels Camp, and one plant in Salt Springs Valley.

Table 4.12-6 below provides data on Calaveras County's electricity and natural gas consumption for 2016 for residential and non-residential uses.

**Table 4.12-6**
**Calaveras County Electricity and Natural Gas Consumption**

| **Electricity** | |
|---|---|
| **Sector** | **2016 kWh (in millions)** |
| Residential | 199 |
| Non-Residential | 117 |
| *Total* | *316* |
| **Natural Gas** | |
| **Sector** | **2016 (Millions of Therms)** |
| Residential | 0.39 |
| Non-Residential | 0.51 |
| *Total* | *0.90* |

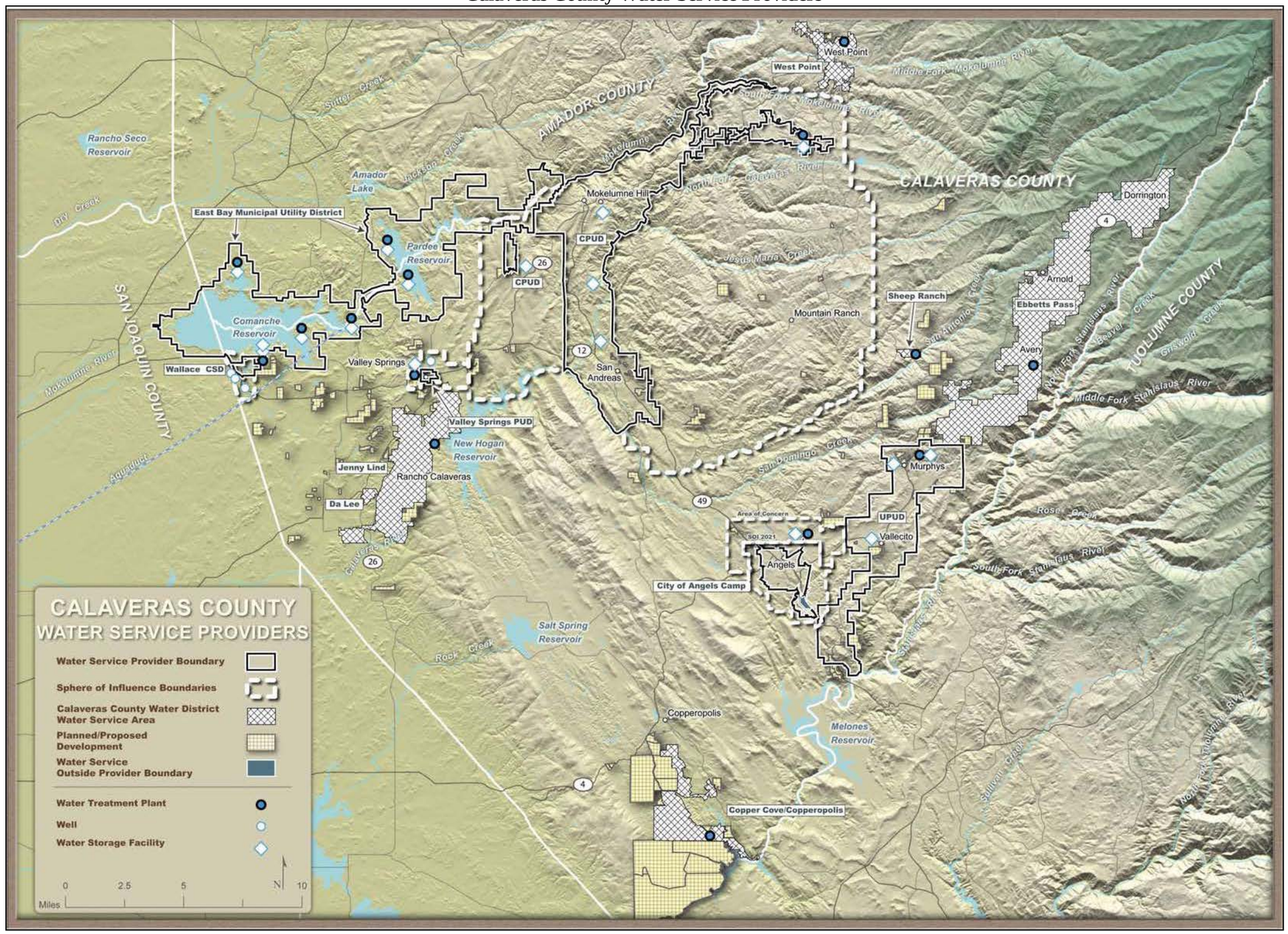
*Source: California Energy Commission. California Energy Consumption Database. Available at: http://ecdms.energy.ca.gov/. Accessed March 2018.*

**Water**

Calaveras County is served by multiple water and wastewater systems, which are depicted in Figure 4.12-4 below. The following section includes a discussion of the water systems within Calaveras County.

[32] California Energy Commission. *California Hydroelectric Statistics & Data*. Available at: http://www.energy.ca.gov/almanac/renewables_data/hydro/. Accessed November 1, 2017.

**Figure 4.12-4**
**Calaveras County Water Service Providers**




*Source: Calaveras Agency Formation Commission. Final Water and Wastewater Municipal Service Review. Adopted June 18, 2012.*

Utica Power Authority

The Utica Power Authority (UPA) was formed in December 1995 as a joint powers authority (JPA) whose members at that time were the City of Angels Camp, CCWD and Union Public Utility District (UPUD). As a JPA, UPA is not under the jurisdiction of LAFCo. The JPA was formed to manage a water conveyance and hydroelectric power system that PG&E was in the process of selling to CCWD at the time of UPA formation.

The UPA infrastructure originated in the nineteenth century as a system of ditches, flumes, a dam and a reservoir built to convey water from the North Fork Stanislaus River to Angels Creek. The Utica Gold Mining Company constructed a powerhouse and conveyance line to transport water to the City of Angels Camp prior to the mine's closure in 1918. PG&E purchased the system in 1946, operating two hydroelectric projects known as the Utica Project and Angels Project, and supplied water to customers in Murphys, the City of Angels Camp and surrounding areas over the ensuing 50 years. PG&E supplied water to irrigation users along the canals and ditches, and to the Dogtown Ditch area northwest of the City of Angels Camp.

In 1996, PG&E sold the system to CCWD. CCWD then sold a portion of the system to UPA, including PG&E's contractual obligations to supply water to Murphys, The City of Angels Camp and surrounding areas.[33]

Calaveras County Water District

Calaveras County Water District (CCWD) was organized in November 1946 under the laws of the State of California as a public agency for the purpose of developing and administering the water resources and wastewater service in Calaveras County. The District's service area includes all of Calaveras County, but the agency is separate from the Calaveras County government. CCWD is the largest public water purveyor in the County in terms of service area, number of customers served, and amount of water delivered. Combined, CCWD provides water and/or wastewater service through 17,000 water and wastewater connections within the County. While the District's boundaries are coterminous with Calaveras County's boundaries, the District does not provide water and/or wastewater services to all communities in the County.

Large sections of the more rural areas of the County are served by private wells; and other towns and developed areas are served by other public or private agencies, which are described below. As of 2015, the District provided 8 water services to nearly 17,000 municipal, residential, and commercial customers (up from approximately 10,000 customers in 2002) through six independent water systems located throughout the County, as follows:

1. Jenny Lind;
2. Copper Cove/Copperopolis;

[33] Calaveras County Water District and Utica Power Authority. *Memorandum of Understanding and Settlement Agreement by and Between Calaveras County Water District and Utica Power Authority*. November 3, 2009.

3. Ebbetts Pass;
4. West Point;
5. Sheep Ranch; and
6. Wallace Service Area.

CCWD also provides wholesale water to Snowshoe Springs, Fly-In Acres, and on an emergency basis to Blue Lake Springs Mutual Water Company and Valley Springs Public Utility District. In addition to the foregoing service areas and wholesale customers, the CCWD provides irrigation water to 92 customers (1,955 acre-feet) and maintains three systems with recycled water that provide water to Saddle Creek, Forest Meadows and La Contenta Golf courses (1,057 acre-feet). Although the latter two golf courses recently closed, CCWD has contractual rights to continue disposing of recycled water at the courses.

*Water System Descriptions*

The following descriptions of CCWD's six independent water systems in Calaveras County are taken from CCWD's *2015 Urban Water Management Plan* (UWMP),[34] which is an update to the District's 2010 UWMP in accordance with California's Urban Water Management Planning Act.

Jenny Lind

The Jenny Lind system, located in the northwest region of the County, receives surface water from New Hogan Reservoir through a non-Central Valley Project (CVP) contract with the United States Bureau of Reclamation (USBR). The diversion point is an infiltration gallery located on the lower Calaveras River, approximately one mile downstream of the New Hogan Dam. The Jenny Lind Water Treatment Plant serves the area with an existing capacity of 6.0 million gallons per day (mgd), with plans to expand the plant capacity to meet near-term and long-term demands. According to the 2015 UWMP, the area's proximity to existing transportation networks is anticipated to encourage large growth within the Jenny Lind system area. The distribution system is divided into five tank service zones and contains two clear wells, six storage tanks, eight booster pumping stations, and 16 pressure reducing valves. The system hydraulic grade line varies from 485 to 918 feet.

Copper Cove and Copperopolis

One connected water system serves the two areas of Copper Cove and Copperopolis, located in the southwest sub-region of the County. The Copperopolis improvement district was formed on April 4, 1952, and the Copper Cove improvement district was formed on July 2, 1969. Both systems are physically connected and as such are treated as one system. The service area is approximately 4,000 acres and serves the communities of Copperopolis, Copper Cove, Conner Estates, Copper Meadows, Saddle Creek, and Lake Tulloch.

[34] Calaveras County Water District. *2015 Urban Water Management Plan*. May 2016.

According to the 2015 UWMP, the planning area is also expected to experience substantial growth through 2023. The service area is predominately new housing developments, with accompanying recreational land uses such as golf courses and open space. As connections increase, water management planning will address wastewater disposal, recycled water opportunities, and the infrastructure necessary to maintain supply and water quality.

Agricultural raw water supply is also under consideration for this area. As interest and requests are made to CCWD, CCWD looks to meet these demands through partnerships to diversify the CCWD's rate base. Such demands are now included in CCWD planning.

The system receives water from the North Fork Stanislaus River through Tulloch Reservoir. One 4.0 million gallon per day (mgd) water treatment plant currently serves the area. The distribution system is divided into 10 pressure zones using one clear well, four storage tanks, two booster pumping stations, and pressure reducing valves. The system hydraulic gradeline varies from 775 to 1,267 feet.

Ebbetts Pass

The Ebbetts Pass service area, located in the southeast sub-region of the County, covers the State Route (SR) 4 corridor from Avery to Arnold. The Ebbetts Pass improvement district was formed on January 28, 1964 to provide water and wastewater services, and includes the Forest Meadows subdivision. The system includes six wholesale connections in addition to approximately 6,000 retail connections. The Ebbetts Pass area has been a second home destination for many of the homeowners. However, trends indicate that year-round residency is increasing, exerting a larger demand for water supply and creating larger volumes of wastewater to discharge. CCWD incorporated these trends in recent updates to facilities plans in the service area and will continue to modify water management strategies to meet the needs of the changing demographics.

The system receives water from North Fork Stanislaus River through the Collierville Tunnel. The existing Hunters Lake Water Treatment Plant capacity is 4.0 mgd. The distribution system contains 17 storage tanks, 10 pumping stations, and over 100 pressure-reducing stations. The upper system hydraulic grade line varies from less than 3,000 feet in elevation to over 5,355 feet.

West Point

CCWD's West Point system serves the communities of West Point, Wilseyville, and Bummerville. The West Point improvement district was formed on May 25, 1954, and the Wilseyville improvement district was formed on May 16, 1974. Approximately 582 existing retail connections are located in the West Point system,[35] with ultimate buildout

[35] Calaveras County Water District. *2015 Urban Water Management Plan*. May 2016.

estimated at over 1,000 retail connections.[36] Although more connections are expected, the West Point improvement district faces management and funding issues for this small area. Facilities are aging and need replacement with the cost per connection difficult to justify financially because of the small population. In addition, the area's economic base is less than the growth of other areas in the County. As a result of its rural nature and low median household income, the West Point improvement district seeks State and federal grant opportunity to fund infrastructure replacement and maintain and improve water quality for the Community of West Point/Wilseyville.

A new demand recently identified through the West Point improvement district's potential agricultural water demand efforts is agriculture located along SR 26 and the Blue Mountain area. Existing agriculture in the area includes apples, vines, blueberries, other fruits, nuts, and vegetable crops. These potential water demands and infrastructure requirements to serve those demands are currently under investigation in collaboration with neighboring water supply providers and are now included in CCWD planning as the County looks to diversify its economic base. It should be noted that cannabis cultivation within the County consumes an unknown quantity of water. However, on January 10, 2018, the Board of Supervisors approved an ordinance banning commercial cannabis cultivation within the County. Considering the County's ban on cultivation within the County, and the Calaveras County Sheriff's on-going Operation Terminus, which seeks to eliminate illegal cultivation of cannabis within the County, cannabis cultivation is not anticipated to play a large role in future water demands.

The water supply for the West Point/Wilseyville area is from the Bear Creek Diversion and the Middle Fork of the Mokelumne River (pumped). The existing West Point WTP capacity is 1 mgd. The distribution system is divided into two tank service zones and contains one clear well, one storage tank, and two booster pumping stations. The system hydraulic grade line varies from 2,910 to 3,230 feet.[37]

Sheep Ranch

Sheep Ranch is a small, rural community near build out. The Sheep Ranch improvement district was formed on March 2, 1960. The service area is approximately 175 acres and serves approximately 51 customers in the rural community of Sheep Ranch. Significant growth is not planned for this area. The Sheep Ranch improvement district faces management and funding issues for this small area. Facilities are aging and need replacement, but the area is not large enough to fund new facilities without significant financial impacts. Additionally, the area's economic base is less than the growth of other areas in the County. Similar to West Point, the Sheep Ranch improvement district must evaluate funding mechanisms that are financially feasible to maintain and improve water quality.

[36] Calaveras County Water District. *Urban Water Management Plan 2010*. June 2011.
[37] *Ibid*.

The Sheep Ranch improvement district's system receives its water supply from water released from White Pines Lake by the CCWD into San Antonio Creek. The water is then pumped to the Sheep Ranch Water Treatment Plant. The treatment plant capacity is 20,000 gallons per day. Water is stored in one storage tank prior to distribution. The service area elevation is approximately 2,300 feet.

Wallace Service Area

The Wallace Service Area was served by the CCWD for many years under an operating contract with the Wallace Community Service District to provide water and wastewater treatment services. However, the CCWD was not responsible for providing water supplies to Wallace, as they owned a system of groundwater wells that remains in operation. In late 2013, the Wallace Lake Estates Community was annexed by the CCWD and is now referred to as CCWD's Wallace Service Area. Located in the far northwestern area of the County along SR 12, the Wallace community water supply originates from two 200 gallons per minute wells that provide groundwater from the Eastern San Joaquin Groundwater Subbasin, which has been listed as "critically overdrafted" for more than 35 years by DWR.[38]

The groundwater from wells within the Wallace Services Area is high in iron and manganese, which causes treatment challenges. The water treatment plant for this service area has a capacity of 273,000 gpd. Treated water is stored a 224,000-gallon clearwell and then pumped to a 60,000-gallon elevated storage tank using three booster pumps. The Wallace Service Area has roughly 100 connections and covers around 380 acres, with large potential for growth. The system hydraulic grade line varies from 250 feet to 438 feet and elevation varies from 328 feet to 338 feet. The long-term reliability of the Wallace Service Area's groundwater supply may be problematic as buildout estimates for the Draft General Plan assume development of the large subdivisions within the Wallace Service Area, and the area overlies the critically-overdrafted Eastern San Joaquin Groundwater Basin. The CCWD has completed high-level conceptual planning in conjunction with East Bay Municipal Utility District (EBMUD) related to utilizing "area of origin" water rights on the Mokelumne River to provide water to serve these planned developments via existing delivery systems in the vicinity of the Wallace and Burson areas. However, growth would need to actualize in order to provide the financial resources needed to implement the infrastructure required for this project to be viable.[39]

*Water Supplies*

The CCWD obtains its water supply from three main watersheds that drain the western slope of the Sierra Nevada and foothills before the water enters the northern San Joaquin Valley.

[38] Calaveras County Water District. *2015 Urban Water Management Plan*. May 2016.
[39] Calaveras County Water District. *2015 Urban Water Management Plan*. May 2016.

Surface Water

The snow fed North Fork Stanislaus River forms the CCWD's southern boundary and serves communities from the Ebbetts Pass area in the east to the Copper Cove/Copperopolis area in the west. The lower elevation Calaveras River watershed is wholly enclosed in the CCWD's boundaries and serves the middle and northwestern portion of the District. The snow-fed Mokelumne River serves as the CCWD's northern boundary and provides the water supply to the West Point/Wilseyville community.

*Calaveras River (Sub-Region A)*

The Calaveras River watershed provides water supply to the Jenny Lind and Sheep Ranch service areas and agricultural users along the lower Calaveras River. The Calaveras River watershed is located entirely within the CCWD's boundary. The headwaters are located in mid-level elevations just north of SR 4 near Arnold. The Calaveras is a unique river for the foothill area in that the watershed is at lower elevation and contains little snowpack. Therefore, the river flow is mostly rain dependent, which gives it an annual runoff pattern much different than other snowpack-based rivers. The Calaveras River flows from central Calaveras County into New Hogan Reservoir, owned by the United States Bureau of Reclamation (USBR). Water released from the reservoir flows westerly in the lower Calaveras River out of Calaveras County and into the San Joaquin Valley. The New Hogan Reservoir is operated by the U.S. Army Corps of Engineers (ACE) for flood control and by the Stockton East Water District (SEWD) (on behalf of itself and CCWD) for water conservation.

Water from the Calaveras River system at New Hogan Reservoir is subject to agreements with the USBR and SEWD. The agreements allocate 43.5 percent of the New Hogan Project yield to CCWD, typically estimated at 30,928 acre-feet per year based on average long-term estimated yield, plus 350 acre-feet per year in riparian flows from New Hogan, for a total of 31,278 acre-feet. The CCWD diverts its consumptive allocation downstream of the New Hogan powerhouse through an infiltration gallery located in the streambed. Private agricultural users divert water pursuant to settlement rights and pay the CCWD for use. La Contenta Golf Course diverts from New Hogan Reservoir under CCWD's water use contract and pays CCWD for such use. La Contenta's primary supply source is CCWD's Title 22 recycled water, with New Hogan raw water as La Contenta's secondary supply to meet La Contenta's agronomic needs.

The CCWD holds water right permits for storage and diversion on the Calaveras. The Calaveras Public Utilities District (CPUD) also holds water rights to the Calaveras River, however, the CCWD is making use of a portion of this source.

White Pines is a 250-acre-foot reservoir owned by CCWD, located in the upper watershed on San Antonio Creek, a tributary to the Calaveras. The CCWD holds a license for 25 acre-

feet per year of storage plus pre-1914 water rights. This supply serves the Sheep Ranch system.

*North Fork Stanislaus River (Sub-Region B)*

The North Fork Stanislaus River provides water to the Ebbetts Pass and the Copper Cove/Copperopolis service areas. The North Fork Stanislaus River watershed is located on the CCWD's southern boundary with its headwaters in Alpine, Tuolumne, and Calaveras counties. The North Fork River forms the Calaveras-Tuolumne County boundary. Water is stored in the upper reaches of the watershed in four main reservoirs as part of the CCWD's North Fork Stanislaus River Project. New Spicer Meadow, Union, Utica, and Lake Alpine are operated for hydropower and consumptive uses by CCWD and the Northern California Power Agency (NCPA). Flows in the lower Stanislaus River are regulated by the 2,420,000 acre-feet multi-purpose storage facility New Melones Reservoir.

The CCWD holds pre-1914 and post-1914 rights for hydropower and consumptive use on the Stanislaus River system. Pursuant to the terms and conditions of its post-1914 water right permits, and agreements with NCPA, the CCWD may be able to divert up to 8,000 acre-feet per year to supply the Ebbetts Pass system, and up to 6,000 acre-feet per year from Lake Tulloch to supply the Copper Cove/Copperopolis system. Additionally, Under State Water Resources Control Board Order WR No. 97-05, an additional 1,000 acre-feet may be diverted through an existing "cement slurry line" right to meet agricultural needs in the SR 4/Murphys area. However, CCWD must demonstrate need, receive approval of the NCPA and receive approval from SWRCB. Some or all of these amounts could be increased if CCWD files a change petition with the State Water Resources Control Board and demonstrates the need for increased supplies within its service area. UPA and CCWD have agreed to use best efforts to transfer some of this water to UPA for consumptive use.

*Mokelumne River (Sub-Region C)*

The Mokelumne River provides water supply to the West Point service area. The Mokelumne River watershed is located on the CCWD's northern boundary with the headwaters in parts of Calaveras, Alpine, and Amador counties. The majority of flow is derived from snowmelt. The watershed above Pardee Reservoir is mostly protected and undeveloped, with a large portion located in the Mokelumne Wilderness. Many tributaries flow into the Mokelumne before it reaches Pardee Reservoir. Reservoirs in the higher portions of the watershed include Lower Bear and Salt Springs, both owned by PG&E. Pardee and its downstream companion, Camanche, are owned and operated by the EBMUD. CCWD, CPUD and EBMUD are the water rights holders in the Mokelumne. Most of the Mokelumne water goes to EBMUD which was acquired years ago.

The CCWD holds water right permits for storage and diversion on the Bear Creek, a tributary to the Mokelumne. The storage right is for 150 acre-feet per year (afy). The

diversion right is a year-round diversion of four cubic feet per second (cfs) with a maximum annual diversion of 1,830 acre-feet. However, Bear Creek cannot support a four cfs diversion during seasonal dry periods. To supplement supply, the CCWD maintains a contract with CPUD to provide 150 afy from the Middle Fork of the Mokelumne through the pre-1914 Schaads Reservoir.

Groundwater (Sub-Region D)

Groundwater has historically not been a long-term reliable source of water supply for large areas of the CCWD. Groundwater that is available is through fractured rock systems that characteristically produce small and unpredictable yields. However, the Camanche/Valley Springs Area and the Wallace Service Area are part of the Eastern San Joaquin County Groundwater Basin (DWR Bulletin 188- 80, California's Groundwater), which is identified by Bulletin 188-80 as being in a state of overdraft. In response to the Eastern San Joaquin County's groundwater basin negatively impacting groundwater levels and groundwater quality in the Camanche/Valley Springs area and the Wallace Service Area, CCWD utilized Assembly Bill No. 3030 (AB 3030, 1992) to adopt a Groundwater Management Plan (GMP) for the Camanche/Valley Springs Area in 2001. The CCWD continues to study the groundwater basin in the Camanche/Valley Springs area and the Wallace Service Area to determine potential management methods to improve the basin and/or its potential for conjunctive use to meet future water supply needs within the region.

Current and Future Water Supply and Demand Estimates

In preparing the 2015 UWMP, CCWD coordinated with the County's General Plan Update process to prepare for new customers and used the California Department of Finance population projections through 2060. Ultimately, CCWD pursued three separate approaches for projecting future water demand presented below:

1. Historical Connection Growth Projection: Future demand was assumed to increase at the same rate as historical growth in the number of new residential connections. The growth between 2011 and 2015 was used to generate a district growth rate, which was then applied to the current baseline demand, defined as the average demand between 2009 and 2013, to attain a baseline demand. District wide demand through this method was projected to be 43,496 afy for 2040.

2. Future Land Use Based Projection: Land use-based demands were calculated based on build out of the 1996 General Plan as well as approved Community Plans and Special Plans. Demand rates for land uses included in the 1996 General Plan were established through the use of existing CCWD demand data. District-wide demands for 2040 using the approach are projected to be 47,964 afy based on land uses within the 1996 General Plan.

3. Department of Finance Population Projections: The baseline demand was established in the same manner as the Historical Connection Growth Projection and applied to projected population growth data from the Department of Finance. The Department of Finance Population Projection approach resulted in an anticipated demand of approximately 45,000 afy for 2040.

It should be noted that all of the above methods included estimation of the growth in agricultural water demand during the demand periods analyzed.

The Department of Finance Population Projection approach was chosen as the most representative of future growth. Thus, the UWMP used the projections based on the Department of Finance Population Projections for analysis within the UWMP.

CCWD assumes for planning purposes that demands remain constant during a single year and multiple dry year scenario.[40] For the UWMP, the CCWD assumed the maximum available supply is equal to the upper limits of its contract and permit values unless otherwise noted.

The range of available supplies is compared to the current and projected demand for each of the CCWD's sub-regions in Table 4.12-7 through Table 4.12-10 below.[41] It should be noted that the demands included in the demand totals of the tables above do not reflect demand from full build-out of the Draft General Plan (i.e., the "carrying capacity"). Rather, the demand estimates reflect the CCWD's estimates for growth within the County during the timeframes presented below. Thus, the CCWD's actual future demands could be higher in all sub-regions. Additionally, groundwater is the only source for sub-region D; however, the CCWD is exploring options to increase supply reliability in the region by meeting a portion of demands with surface water.[42]

The tables indicate that CCWD may experience shortages in the Mokelumne River sub-region and the Wallace Lake Estates area based on the supply and demand assumptions presented in the UWMP. The District is currently investigating its supply reliability and projected demands. CCWD is also evaluating groundwater recharge and conjunctive use opportunities, regional and inter-regional partnerships for improving water supply reliability during dry years, improving water conservation opportunities, rationing measures, and the strategic use of groundwater supply wells to meet peaking and dry year water supply needs. Analysis and results of these studies are ongoing and will be revised and updated as new information and data develops. As part of its water management efforts, CCWD maintains a detailed water shortage contingency plan as discussed below and is continually preparing to manage supplies and demands during droughts and water shortages to ensure a high quality, reliable water supply to its customers.

40 Calaveras County Water District. *2015 Urban Water Management Plan.* May 2016.
41 *Ibid.*
42 *Ibid.*

| Table 4.12-7<br>CCWD Sub-Region A Normal Year (afy) | | | | | |
|---|---|---|---|---|---|
| | **2020** | **2025** | **2030** | **2035** | **2040** |
| **Supply Totals** | 31,864 | 31,898 | 31,932 | 31,966 | 32,001 |
| **Demand Totals** | 4,332 | 5,127 | 5,896 | 6,648 | 7,371 |
| **Difference** | 27,532 | 26,771 | 26,036 | 25,318 | 24,630 |
| *Source: Calaveras County Water District. 2015 Urban Water Management Plan, May 2016.* | | | | | |

| Table 4.12-8<br>CCWD Sub-Region B Normal Year (afy) | | | | | |
|---|---|---|---|---|---|
| | **2020** | **2025** | **2030** | **2035** | **2040** |
| **Supply Totals** | 76,638 | 76,736 | 76,834 | 76,932 | 77,032 |
| **Demand Totals** | 9,761 | 16,141 | 22,433 | 29,469 | 37,952 |
| **Difference** | 66,877 | 60,595 | 54,401 | 47,463 | 39,080 |
| *Source: Calaveras County Water District. 2015 Urban Water Management Plan, May 2016.* | | | | | |

| Table 4.12-9<br>CCWD Sub-Region C Normal Year (afy) | | | | | |
|---|---|---|---|---|---|
| | **2020** | **2025** | **2030** | **2035** | **2040** |
| **Supply Totals** | 2,030 | 2,030 | 2,030 | 2,030 | 2,030 |
| **Demand Totals** | 207 | 217 | 224 | 231 | 237 |
| **Difference** | 1,823 | 1,813 | 1,806 | 1,799 | 1,793 |
| *Source: Calaveras County Water District. 2015 Urban Water Management Plan, May 2016.* | | | | | |

| Table 4.12-10<br>CCWD Sub-Region D Normal Year (afy) | | | | | |
|---|---|---|---|---|---|
| | **2020** | **2025** | **2030** | **2035** | **2040** |
| **Supply Totals** | 65 | 65 | 65 | 65 | 65 |
| **Demand Totals** | 62 | 66 | 69 | 71 | 72 |
| **Difference** | 3 | -1 | -4 | -6 | -7 |
| *Source: Calaveras County Water District. 2015 Urban Water Management Plan, May 2016.* | | | | | |

*Water Shortage Contingency Plan*

During the 1976-1977 drought, the 1987-1992 drought, and more recently the Governor's declaration of drought during 2008-2010 and 2014-2017, CCWD restricted water use in its Copperopolis and Ebbetts Pass service areas once. CCWD employed multiple conservation measures as part of the CCWD's contingency planning, such as voluntary cutbacks in water usage, public information campaign to conserve water, water conservation advertisements, and bill inserts. Records show that despite extreme summer temperatures, demand did not increase as measurably as would have been expected without the conservation program in place. During the 2008-2010 drought, the 100-percent metering and tiered pricing structure suggests that the

CCWD's conservation measures are effective for encouraging water conservation. As part of the CCWD's water contingency program, CCWD adopted Ordinance 77-1. This ordinance constituted a water shortage response plan specifically applied to the Ebbetts Pass and Copper Cove/Copperopolis areas impacted through a Board declaration (Resolution 2160) to address water supply shortages. Ordinance 2010-02 was also adopted to prohibit water waste as part of the CCWD's AB 1420 water conservation compliance program. Since approval of Ordinance 2010-02, CCWD's North Fork Stanislaus project improved the firm yield of the Ebbetts Pass and Copper Cove/Copperopolis areas. The CCWD's water shortage contingency plan and wasteful use of water ordinance are presented in Appendices D and E, respectively, of the 2010 UWMP, which is available at the Calaveras County Planning Department for review (891 Mountain Ranch Road, San Andreas, CA 95249).

On January 14, 2014, the Governor of California declared a drought state of emergency and called on Californians to reduce water use by 20 percent. On April 1, 2015, the Governor set a precedent in California by issuing Executive Order B-29-15 which mandated water use reductions to achieve a 25 percent statewide reduction. To achieve this statewide goal, the State Water Resources Control Board adopted regulations specific to each agency; as a result, CCWD was mandated to reduce water use by 16 percent on a monthly basis in 2015, as compared to corresponding monthly use in 2013. In response, the CCWD's customers reduced water use by 39 percent in July of 2015, as compared to July of 2013.

Recognizing that outside factors beyond supply conditions could generate a need for demand reduction, the CCWD has opted to include an additional trigger in the CCWD's updated Water Shortage Contingency Plan that is not directly related to current water supply conditions. This offers the CCWD added flexibility to address future potential state mandates or any other needed demand reductions that are not directly triggered by the CCWD's local water supply outlook.

Calaveras Public Utility District

The following section presents information on the Calaveras Public Utility District (CPUD) background, the water supply, water quality, infrastructure, emergency plans, needed systems improvements, and water demand estimates for the CPUD.

*District Background*

The CPUD was formed on January 18, 1934 as an independent special district. The CPUD was established to provide water services to the communities of Mokelumne Hill and San Andreas. Shortly after its formation, CPUD acquired a Gold Rush era system of ditches and flumes from the Mokelumne River Power and Water Company.

The boundaries of CPUD encompass approximately 38 square miles and extend from Mokelumne Hill in the northwest along the Mokelumne River to Glencoe, and south to the South Fork Calaveras River including the community of San Andreas. The CPUD boundaries also include an

eastern arm along Ridge Road toward Railroad Flat, as well as a non-contiguous area in the community of Paloma.

The CPUD sphere of influence is substantially more expansive than the CPUD boundary area, encompassing about 159 square miles. Beginning near the Channel Arm of Pardee Reservoir, the northern sphere of influence (SOI) runs along the Mokelumne River. Near Glencoe the SOI runs east along the South Fork Mokelumne River beyond Railroad Flat Road. The SOI extends east beyond Railroad Flat Road, including the community of Mountain Ranch. The SOI runs south along San Antonio Creek, the South Fork Calaveras River and along the north of New Hogan Reservoir.

*Water Supply*

CPUD purchased its original water system from Mokelumne River Power and Water Company in 1939, and with it came water rights on the Middle, Licking and South Forks of the Mokelumne River. The CPUD negotiated an agreement the following years with EBMUD which provides up to 9,125 afy, including rights to store water in Schaads reservoir. A subsequent water right order limits the maximum diversion to 6,656 acre-feet (af); the water right amount is more than adequate to supply the 2,181 af in projected CPUD water demand well past 2030.[43]

CPUD obtains water from the South Fork of the Mokelumne River where the CPUD has a diversion dam. The dam is located just below the confluence of the South and Licking Forks of the Mokelumne River. The dam causes the river water to pool, so CPUD can extract the water from the river through a pump station (3,300 gpm capacity) and transport the water via a three-mile pipeline (9.7 mgd capacity) to the Jeff Davis Reservoir. From there, the water enters the treatment plant and then flows through transmission mains into the distribution system.

The CPUD also has facilities for extracting water from the Middle Fork of the Mokelumne River. CPUD's Schaads Reservoir on the Middle Fork of the Mokelumne River is used to supply CCWD with up to 200 afy. The reservoir capacity is 1,800 afy. Historically, water was moved from Schaads Reservoir through a diversion canal to the Licking Fork of the Mokelumne River (which is upstream from the CPUD pump station). Due to the poor condition of the diversion canal, the Middle Fork water has not been diverted into the Licking Fork for some time. Schaads Reservoir is not connected hydraulically to the CPUD treated water system at this time. Schaads Reservoir needs improvements to remove siltation, install flashboards, and reconstruct the pressure-reducing facility there.

CPUD reported that the CPUD has rights to store 400 afy of Calaveras River water at its Redhawk Reservoir located to the east of the intersection of Ridge Road and Railroad Flat. The water was used in the past to supply downstream agricultural users. CPUD has not supplied those agricultural users since approximately 2002 and is not actively operating the Redhawk Reservoir.

[43] Calaveras Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 173]. June 18, 2012.

*Water System Infrastructure*

The CPUD owns, operates and maintains a treatment plant for surface water. The Jeff Davis Water Treatment Plant (WTP) consists of six dual media pressure filters and has capacity to produce six mgd of treated water. The WTP was designed to allow for expansion to 12 mgd capacity with the addition of six pressure filters. By comparison, average day demand is 1.3 mgd and peak day demand is 3.02 mgd. In short, adequate capacity at the WTP exists to serve current water demand. The WTP is in good condition, having been upgraded recently. When the WTP is expanded, the WTP will need to provide more storage for treated water.

The transmission system consists of 18 miles of mains made primarily from cement, mortar-lined, and coated steel pipe of 16 to 27 inches in diameter. The transmission main runs from the WTP and generally follows SR 26 but crosses open country in some locations. The distribution system consists of 20 miles of pipeline made of steel, PVC, and other materials; some distribution pipelines are 50 years or older in age. The most recent State inspection report indicated that a majority of distribution lines are steel mains installed in the 1940s and 1950s.

*Emergency Plans/Storage*

The CPUD owns and maintains six treated water storage facilities. The storage tanks have a combined storage of 5.66 mg of water. Treated water storage would accommodate 1.9 days of peak demand or 4.4 days of average system demand. Four storage tanks were built in the 1970s, a minor storage tank in Golden Hills was built in the 1980s, and the Railroad Flat storage tank was built in 2002. Storage facilities in Golden Hills and Paloma lack capacity to meet CPUD standards.

*Needed System Improvements*

CPUD infrastructure issues include aging pipelines, water pressure issues, reservoir deficiencies, and storage capacity. The CPUD master plan calls for $795,000 in annual pipeline replacement expenditures to replace aging pipelines. Under this plan, 25 percent of the CPUD pipeline would be replaced by 2030, which will address a portion of the elderly steel mains. Storage facilities in Golden Hills and Paloma lack capacity to meet CPUD standards. Pressure-reducing stations along the transmission main need to be rebuilt to increase capacity.

*Current and Future Water Supply and Demand Estimates*

According to Table 8-4 of the Calaveras LAFCo's *2012 Adopted Water and Wastewater MSR*, CPUD has adequate water rights to supply projected growth in demand well past 2030.[44] In addition, CPUD has adequate treatment capacity to accommodate near-term growth, and plans to initiate WTP expansion planning in the next 10-15 years to accommodate long-term growth needs.

[44] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 314, Table 8-4]. June 18, 2012.

Valley Springs Public Utility District

The following section presents information on the district background, the water supply, water quality, infrastructure, emergency plans, needed systems improvements, and water demand estimates for the Valley Springs Public Utility District (VSPUD).

*District Background*

The VSPUD was formed in April of 1948 as a public utility to provide water to the community of Valley Springs. A separate district, the Valley Springs Sanitary District (VSSD), was formed in January of 1940 to provide wastewater services to Valley Springs. In October of 1998, LAFCO adopted Resolution No. 98-01 approving a reorganization of VSPUD and VSSD. This action and a subsequent action by the County Board of Supervisors consolidated VSSD with VSPUD and designated VSPUD as the successor district to assume the functions of VSSD. The reorganization also provided for the annexation of additional territory to VSPUD.

The boundaries of VSPUD extend from just north of Sequoia Avenue, south to Jean Street in the east and Daphne Street in the west, and from the end of Daphne Street in the west to just west of Lime Creek Road, in the community of Valley Springs. The VSPUD has a boundary area of approximately 0.44 square miles or 190 acres.

*Water Supply*

VSPUD relies entirely on well water for retail water services. The VSPUD owns two wells: Well 4 and Well 6 (completed in 2011). Presently, Well 4 has the capacity to pump approximately 0.36 mgd -- well beyond the existing average daily demand (0.12 mgd in 2009).[45] Well 6 was completed in 2011 and cost approximately $1.3 million. The VSPUD financed the new well with a loan and partial grant from the USDA.

The wells draw water from the East San Joaquin Groundwater Basin, which covers about 70 square miles of the County. According to DWR, the basin has experienced a continuous decline in groundwater levels over the past 40 years leading to an overdraft of the aquifer and leaving groundwater depressions below the City of Stockton, east of Stockton, and east of Lodi. The VSPUD has reportedly not had problems with groundwater levels in the past.[46] The VSPUD recently began groundwater monitoring with a transducer, and prior to that completed an annual draw down test. During the historical draw down tests, the VSPUD estimated that the day following the tests groundwater levels would return to previous levels. The VSPUD has considered finding a surface water source that could be used to supplement the groundwater. Prior to the decline in the housing market, VSPUD approached CCWD regarding a surface water supply to serve proposed large subdivisions in the vicinity of VSPUD; however, these discussions have been put on hold until development activity increases.

[45] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 324]. June 18, 2012.

[46] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 284]. June 18, 2012.

*Water Quality*

In the past, the VSPUD had problems with positive coliform tests and iron and manganese levels in excess of the maximum contaminant limits (MCL). Consequently, the VSPUD closed three wells. Water from Well 4 has never been out of compliance with contaminant limitations.

*Water System Infrastructure*

The VSPUD owns, operates, and maintains well head treatment equipment for groundwater, which treats with chlorination at the site of each active well prior to pumping to the storage tanks. Improvements to the treatment system that were completed with recently awarded United States Department of Agriculture (USDA) funds include installing Supervisory Control and Data Acquisition capability (SCADA) for the whole system and standby generators. Other needs have not been identified for the treatment system.

The well and distribution system have a capacity of approximately 0.598 mgd. Based on the VSPUD's average daily demand, the VSPUD is using on average 20 percent of its capacity; however, during periods of peak demand, the VSPUD uses up to 47 percent of its capacity. Based on the current peak demand rate of use among the existing connections, the system has capacity for approximately 300 additional connections.

The distribution system consists of five miles of mains that were originally installed in 1950 with galvanized steel pipes. Since then the entire system has been replaced with asbestos cement pipes and more recently with PVC pipes. The existing system is composed primarily of asbestos cement with nine percent composed of PVC and three percent of galvanized steel. The pipelines range in size from one to 10 inches in diameter. The system is considered to be in good condition according to California State Department of Health (DPH).

*Emergency Plans/Storage*

The VSPUD owns and maintains three storage facilities. The storage tanks have a combined storage of 0.49 mg of water. The VSPUD reported that the oldest two of the three tanks owned by VSUPD are in good condition and deficiencies have not been identified for either of the two older tanks.[47] The storage facilities would provide approximately 3.4 days of water based on average daily usage, while maintaining at least two hours of commercial fire flow (1,500 gpm).

The VSPUD has an intertie with CCWD's Jenny Lind system for emergency purposes and fire flow needs. The VSPUD can receive up to 0.25 mgd through this intertie during emergency periods. This intertie also allows for CCWD to purchase water from VSPUD, which has occurred in the past prior to the expansion of the Jenny Lind treatment plant.

[47] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 284]. June 18, 2012.

*Needed System Improvements*

According to the Calaveras LAFCo *2012 Adopted Water and Wastewater MSR*, the District has not specified existing needs or deficiencies with respect to the distribution system.[48] According to DPH, the VSPUD water system is well maintained and operated.

*Current and Future Water Supply and Demand Estimates*

According to Table 14-4 of the Calaveras LAFCo *2012 Adopted Water and Wastewater MSR*, VSPUD's current well system can adequately serve existing and future water demand (see Table 4.12-11).[49] However, the VSPUD is in need of a surface water source to supplement the area's groundwater. The VSPUD approached CCWD regarding a surface water supply to serve proposed large subdivisions in the vicinity of VSPUD; however, these discussions have been put on hold until development activity increases.

Union Public Utility District[50]

The following section presents information on the district background, the water supply, water quality, infrastructure, emergency plans, needed systems improvements, and water demand estimates for the UPUD.

*District Background*

The UPUD was formed on July 26, 1946 as an independent special district. The UPUD was formed to provide agricultural and domestic water services. PG&E provided water to the UPUD service area until 1961 when UPUD acquired its water supply and distribution system from the Calaveras Water Users Association.

The boundaries of UPUD extend in the north to the Utica Canal, north of Murphys, and encompass the community of Murphys, Vallecito, and Douglas Flat; then the boundaries extend south along South Ditch to include the community of Carson Hill. The UPUD has a boundary area of approximately 19.1 square miles. The UPUD's SOI is coterminous with its bounds. The SOI presently overlaps approximately 190 acres of the City of Angels Camp's SOI.

*Water Supply*

UPUD provides raw and treated water services. The UPUD relies directly on UPA for delivery of surface water from the North Fork Stanislaus River to UPUD facilities. UPA, in turn, relies on upstream CCWD facilities. The UPUD does not provide recycled water services.

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48 Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 285]. June 18, 2012.

49 Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 284]. June 18, 2012.

50 Calaveras Local Agency Formation Commission. *Resolution 2012-04.* June 8, 2012.

**Table 4.12-11**
**Water Supply versus Water Demand 2010-2030 (AFY)**

| Provider | 2010 | | | 2015 | | | 2020 | | | 2025 | | | 2030 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Supply | Demand | Difference | Supply | Demand | Difference | Supply | Demand | Difference | Supply | Demand | Difference | Supply | Demand | Difference |
| CCWD | 48,917 | 5,165 | 43,752 | 73,606 | 23,840 | 4,766 | 74,296 | 37,571 | 36,725 | 76,983 | 51,362 | 25,621 | Other | 63,903 | - |
| CPUD | 1,469 | 1,469 | 0 | 1,625 | 1,625 | 0 | 1,794 | 1,794 | 0 | 1,973 | 1,973 | 0 | 2,186 | 2,186 | 0 |
| UPUD | 2,114 | 1,865 | 249 | 1,945 | 1,945 | 0 | 2,032 | 2,032 | 0 | 2,112 | 2,112 | 0 | 2,196 | 2,196 | 0 |
| CSPUD | 142 | 142 | 0 | 194 | 180 | 14 | 283 | 262 | 21 | 371 | 344 | 27 | 460 | 426 | 34 |
| WCSD | 67 | 67 | 0 | 82 | 78 | 4 | 150 | 144 | 6 | 277 | 265 | 12 | 511 | 488 | 23 |
| Angels Camp | 1,434 | 1,434 | 0 | 1,615 | 1,454 | 161 | 1,783 | 1,605 | 178 | 1,969 | 1,772 | 197 | 2,174 | 1,957 | 217 |
| EBMUD | 266,340 | 266,340 | 0 | 269,324 | 262,314 | 7,010 | 272,217 | 269,040 | 3,177 | NP | 273,524 | - | NP | 279,129 | - |
| Total | 320,483 | 276,482 | 44,001 | 348,391 | 291,436 | 56,955 | 352,555 | 312,448 | 40,107 | 83,685 | 331,352 | - | 7,527 | 350,285 | - |

Notes:
NP = Not Provided

*Source: Calaveras County. General Plan Background Report [pg. 171]. December 18, 2014.*

The UPUD's primary water source is the North Fork Stanislaus River. Historically, UPUD obtained water from PG&E who held pre-1914 rights to the water until selling off these operations to CCWD in 1996 and 1997. Under UPUD's agreement with PG&E, UPUD obtained 6.75 cfs (equivalent to 4,882 afy) at a rate of $1 per af and can obtain an additional 1,000 af at a rate of $15 per af. CCWD transferred these water rights (for direct diversion and storage) to UPA and NCPA. UPA now holds the rights to the source water delivered to UPUD. UPUD would need additional water supplies to serve build-out of its service area.

UPUD does have adequate contracted water supplies during the irrigation season to meet new demand. There is a limitation on new irrigation connections due to infrastructure limitations in certain locations. Additional upstream storage reservoirs and supplies during the irrigation season would enhance the irrigation water supplies to accommodate growth in service demand.

CCWD conveys the water from its Collierville Tunnel into the UPA Utica Hydroelectric Project. UPA transfers water to a flume that flows into Hunters Reservoir in Avery, then into Lower Utica Canal, and finally into Murphys Forebay, Murphys Powerhouse, and Murphys Afterbay. UPUD's domestic water supply is diverted from UPA above Murphys Forebay and flows into UPUD's Cademorti Reservoir from whence the water flows into the WTP.

UPUD's agricultural water is delivered by UPA to two points of diversion: agricultural water for the Murphys customers is delivered above Murphys Forebay, and agricultural water for Vallecito, Douglas Flat, and Carson Hill customers is delivered below Murphys Afterbay. The majority (70 percent) of UPUD's water demand is irrigation water.

Each year, the water supplied to UPA depends on unimpaired runoff in the Stanislaus River. In the driest of years (i.e., drier than the 1977 drought), UPA would be over-committed during the dry season with deliveries exceeding commitments by 14-24 percent.[51] With no shortage plan to determine how much water each entity would receive, the UPUD's water allocation in such a drought is unknown. The City of Angels Camp has recommended pursuing a shortage plan with UPA to determine safe annual yield during drought conditions.

The UPUD's secondary water source is surface water from Taylor Creek. Taylor Creek flows seasonally. Typically, the creek is dry by late May or early June. A typical annual supply from the creek is approximately 100 af, with actual supplies dependent on rainfall and varying from 60-130 af. This water supply is used exclusively for irrigation purposes and is included in UPUD's contractual allocation from UPA.

*Water System Infrastructure*

The UPUD owns, operates and maintains a water treatment plant (WTP) for surface water, which was upgraded in 2006 and is in good condition. The WTP is located below Cadematori Reservoir.

[51] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 117]. June 18, 2012.

The WTP capacity is two mgd and the UPUD residential demand in 2010 was 1,034 af. As of 2011, the UPUD has 1604 connections, which include 1382 single and multi-family connections, 123 commercial and 99 irrigation meter connections.

Average daily flow treated at the facility is 850,000 gallons. The WTP will need an additional filter at an estimated cost of $0.5 million to expand its capacity in order to accommodate future growth. In addition, installation of a conventional contact clarification would be needed to accommodate future growth due to the effect of higher flows on clogging filters.

The domestic distribution system consists of 33.1 miles of distribution pipeline. UPUD has reported the water loss rate is approximately 7 percent;[52] by comparison the 2004 Master Plan reported the average historical domestic loss rate at 8-11 percent. UPUD's agricultural water delivery system consists of two irrigation ditches, some of which are composed of pipeline. Approximately 17.0 miles exist in the irrigation distribution system. The North Ditch begins at Murphys Forebay and ends at Stephen's Reservoir, and is composed of open ditch and pipeline. Agricultural water is distributed to the Murphys area via pipeline. The South Ditch begins at Murphys Afterbay and flows via open ditch and pipeline to Siebel Reservoir; from there, the water flows via pipelines to Vallecito and then to Airola Reservoir. The irrigation water loss rate is 10 percent, as reported by UPUD.

*Needed System Improvements*

Infrastructure needs or deficiencies in the domestic distribution system include increasing main pipeline size to provide adequate fire flows, replacing 0.5 miles of older mains and service lines, installing additional fire hydrants in the Vallecito area, Douglas Flat, and Murphys Ranch subdivision. The 2004 Master Plan identified $2.5 million in capital needs associated primarily with replacing undersized mains and increasing fire flow. The most significant needs are associated with replacing 3.8 miles of undersized mains between Vallecito Tank and Carson Hill.

UPUD's irrigation system continually needs replacement, with portions of the system more than 60 years old. Projected needs for replacement of the irrigation system (last updated in 1999) indicated annual costs of $104,000 over a 30-year period. Actual replacement needs are greater, as UPUD capital expenditures in recent years have not kept pace with the 1999 plan.

The UPUD's 2004 Master Plan projects zero growth in irrigation use due to a net freeze on irrigation accounts. The UPUD does not consider this freeze to be a "moratorium" as the UPUD connects new irrigation users when prior users disconnect from the system. The UPUD reported in 2008 that it had not been able to extend service to a growing number of vineyards. UPUD's water supplier UPA reported a moratorium on new agricultural connections within UPA's service area.

[52] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 266]. June 18, 2012.

*Emergency Plans/Storage*

The UPUD owns and maintains four treated water storage facilities and four raw water reservoirs. The storage tanks have a combined storage of 3.35 million gallons (mg) of water. Tank locations are near the WTP (0.25 mg capacity), in Murphys on Sheep Ranch Road (one mg), in Vallecito on Redhill Road (0.1 mg), and in Murphys at the WTP (2 mg capacity). The 2 mg tank is in excellent condition, having been purchased recently in 2006. The Murphys tank on Sheep Ranch Road was installed in 1992, and the Vallecito tank was installed in 1989. The tanks were last inspected and cleaned in 2012. The smaller tank at the WTP is relatively old, but was repaired in 2007, and last inspected and cleaned in 2008. Additional storage would be needed to accommodate build-out of the UPUD service area. Treated water storage would accommodate 1.4 days of peak demand or 1.9 days of average system demand.

The UPUD system contains four reservoirs. Cademorti is the most significant based on capacity and function. Cademorti reservoir holds the incoming raw water and is connected directly to the WTP. The other three reservoirs function as storage for raw water deliveries to agricultural customers. Two of the raw water reservoirs are in good condition, and one is in fair condition. Additional storage reservoirs would enhance the irrigation water supplies to accommodate growth in service demand.

*Current and Future Water Supply and Demand Estimates*

According to Table 13-3 of the Calaveras LAFCo *2012 Adopted Water and Wastewater MSR,*[53] UPUD has adequate water supply to serve existing and future water demand within the UPUD (see Table 4.12-11). However, as noted above, the UPUD would need to expand its treatment and distribution systems to serve future growth in its domestic system.

Water Supply and Demand Throughout the County

In 2012, the Calaveras LAFCo compared the available water supply to the anticipated demand for water within the County from 2015 to 2030. The results of LAFCo's analysis are presented in Table 4.12-11 below. It should be noted that for Year 2035, the Draft General Plan horizon year, water supply and demand projections are not available for all water supply service providers in the County. Thus, the analysis within this EIR relies on the 2030 water supply and demand projections, which are assumed to provide the most reasonable available estimate of year 2035 conditions.

**Wastewater**

Eight public agencies are located within Calaveras County that provide wastewater services. These agencies provide wastewater services to the populated areas of the County. The remaining parts of the County rely on individual septic systems. The following section describes the current

[53] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 268, Table 13-3]. June 18, 2012.

conditions of the wastewater providers within Calaveras County, with the exception of EBMUD, which provides wastewater service at its Camanche South Shore recreation area and its upcountry headquarters facility Pardee Center.

Calaveras County Water District (Wastewater Service)

CCWD provides wastewater collection, treatment and disposal services to 14 communities in the County:

1. Arnold: The Arnold Waste Water Treatment Plan (WWTP) receives flows primarily from the Arnold commercial corridor, White Pines, and residences in the area, as well as from a school and mobile home park in Avery just outside the improvement district bounds. This system provides secondary treatment at its activated sludge WWTP and disposal via spray irrigation during dry months and via subsurface disposal beds during wet months. The collection system serves 483 connections through 15 miles of pipe and four lift stations. Existing infrastructure needs are as follows:

    - A second clarifier is needed for redundancy and routine maintenance to occur. A wet weather evaluation of the subsurface disposal bed and spray irrigation areas is needed to assess disposal capacity.
    - To accommodate projected growth, Arnold WWTP needs an additional 22 acres of spray field irrigation, six percolation beds and lift station improvements at an estimated cost of $865,000; this expansion will be needed when average dry weather flow (ADWF) approaches 130,000 gpd.
    - To accommodate buildout, (ADWF of 0.245 mgd) treatment plant expansion and additional improvements will be needed at an estimated cost of $2.4 million.

2. Copper Cove: The largest of CCWD's wastewater systems, the system serves 1,751 connections in the communities of Copper Cove, Conner Estates, Copper Meadows, Saddle Creek and Lake Tulloch. CCWD recently expanded the system capacity to serve this high-growth service area. Copper Cove provides secondary treatment at its older WWTP and tertiary treatment at an adjacent WWTP, and disposal of secondary effluent to sprayfields and tertiary effluent to irrigate a golf course. CCWD's Copper Cove WWTP is operating at 96 percent permitted capacity.

    The collection system consists of about 19 miles of pipeline and 31 lift stations. Existing infrastructure needs are as follows:

    - Storage capacity is inadequate. CCWD plans to expand storage capacity by expanding its storage pond from 205 to 415 af, although the timeline for this $5.6 million improvement is uncertain due to financial hardship.
    - Lift stations need storage to avoid spills.

- To accommodate buildout capacity needs (ADWF 1.8 mgd) would require upgrades at the *secondary* WWTP, expansion of storage pond capacity by 475 af, and expansion of irrigation areas by 300 acres.

3. Country Houses: This small system was built to accommodate a development and provides primary treatment and disposal at onsite leachfields to 25 connections on septic systems located east of Dorrington. Infrastructure needs are not identified for this system.

4. Forest Meadows: This system provides tertiary treatment, storage and disposal to 610 connections in the residential golf course community. The Forest Meadows service area is approximately four miles east of Murphys. The tertiary wastewater treatment facility consists of preliminary screening, sludge-settling storage basin, dissolved air flotation thickeners, sand filters, ultraviolet disinfection and effluent storage pond. Disposal facilities include on-site leachfields, golf course irrigation, and seasonal discharges to Stanislaus River during wet weather. The collection system consists of 11.3 miles of sewer pipe. Existing infrastructure needs are as follows:

   - Construction of a pumping station and force main for discharge to the Stanislaus River is needed. A portion of the design work is completed, but the $2.6 million remaining project cost is not presently funded.
   - To accommodate projected growth, the CCWD needs to add a treatment filter. The $0.7 million project is not presently funded.
   - To accommodate buildout capacity needs (ADWF 0.273 mgd) would require a new sewer trunk (to be paid by developers), treatment plant upgrades, increase of capacity from 58.4 to 66.3 af, and completion of the pipeline for discharge to Stanislaus River.
   - A segment of force main needs replacement due to failures and leaks; the $200,000 capital project is not presently funded.
   - Relatively high infiltration and inflow occurs in spite of a 2002 collection system rehabilitation.

5. Indian Rock: This small system provides secondary treatment via recirculating bed sand filtration and disposal at onsite leachfields to 20 connections on septic systems. The service area is located 1.7 miles southeast of Murphys. Infrastructure needs are not identified for this system.

6. La Contenta: This system provides tertiary treatment, storage and disposal to 960 connections in the La Contenta subdivision, New Hogan and adjacent areas. The service area is located adjacent to Valley Springs. The La Contenta wastewater treatment facility consists of a bar screen, activated sludge, secondary clarifier, sand filters and ultraviolet disinfection. Treated effluent is stored in two reservoirs during wet months and used as golf course irrigation during dry months. The collection system consists of about 18 miles of pipeline in addition to two miles of force main. The CCWD La Contenta WWTP has

an existing ADWF that exceeds permitted plant capacity. Existing infrastructure needs are as follows:

- Relatively high infiltration and inflow (I&I) occurs in the system; a study is needed to determine the extent of the I&I problems in this system.
- Inadequate disposal capacity on the golf course exists to accommodate peak flows and planned growth. If the CCWD gains regulatory approval for discharges to the Calaveras River, construction of a gravity main for said disposal would be needed. The CCWD submitted an application for a seasonal discharge permit. If granted, no additional storage and disposal capacity is needed. If not, the CCWD will need to develop additional land disposal capacity (at a cost of $3.4 million) and/or reclaimed water distribution systems.

To accommodate buildout capacity needs (ADWF of 0.63 mgd, peak wet weather flow (PWWF) of 2.8 mgd) requires $1.5 million in collection system upgrades (replacement of undersized collection pipes construction of parallel force main, and pump station), $6.4 million in treatment upgrades, and $5-13 million in storage and disposal upgrades (cost depends on whether or not surface water discharge is approved by the Regional Water Quality Control Board (RWQCB)).

CCWD staff is pursuing a new permit for La Contenta to allow for an increase in Plant expansion.

7. Millwoods: This system provides secondary treatment via septic tank settling and disposal at onsite leachfields to 194 connections on modified, forced-storage septic tanks. The service area is located in northern Arnold on Manuel Road. The CCWD plans ultimately to connect Millwood to the Arnold system. Existing infrastructure needs are as follows:

   - A considerable amount of solids is being conveyed to the lift station, and leachfield. Installation of a settling basin and septic tanks screens is needed. Alternatively, the CCWD is considering tying the Millwoods system into Arnold to avoid system upgrades.
   - Septic tank lids need to be replaced and fastened directly to the concrete tank.
   - Septic tank discharge pipelines are undersized and subject to overflows, and needed to be replaced with larger diameter pipe, which is estimated to cost about $250,000.

8. Sequoia Woods/Mountain Retreat: This small system provides disposal at an onsite leachfield to 23 connections on septic systems. The system was built in 1974 to accommodate a development and was transferred to CCWD in 1984. The service area encompasses two small subdivisions—Mountain Retreat and Sequoia Woods—with vacation properties located south of Big Trees State Park. Mountain Retreat is a 30-unit

condo complex, and Sequoia Woods is a 10-unit townhouse complex. CCWD plans to expand the Sequoia Woods leachfield to remedy operational issues.

9. Six Mile: A collection system conveys effluent from 66 connections on septic tanks to the City of Angels Camp for treatment and disposal. CCWD contracts with the City of Angels Camp for these services. Existing infrastructure needs are as follows:
    - The force main is in poor condition. Solids tend to accumulate in the line, portions of which require weekly flushing to eliminate clogs and maintain flow capacity. The estimated replacement cost is $265,000 and is not funded.
    - High I&I occurs in the collection system. Leaking septic tank lids are suspected to be a contributing factor. Septic tank discharge pipelines are undersized, subject to clogs and difficult to flush due to lack of access (e.g., cleanouts).

10. Southworth: This small system provides secondary treatment via recirculating sand filters, a storage pond and disposal to an onsite sprayfield. The facility serves 58 connections on septic tanks within the Southworth Ranch Estates subdivision located southeast of Wallace. No infrastructure needs are identified for this system.

11. Vallecito/Douglas Flat: This system provides secondary treatment to 256 connections in the communities of Vallecito and Douglas Flat located near Murphys. Treatment is via activated sludge and extended aeration processes at two separate facilities, two storage ponds and disposal to 26 acres of spray fields. The collection system consists of 10.6 miles of sewer pipe. Existing infrastructure needs are as follows:

    - The system lacks adequate storage and disposal capacity. Minimal space exists to increase disposal storage and funding sources are not identified to cover the estimated $2-5 million in costs to expand storage and disposal for Vallecito.
    - The treatment plant needs $0.8 million in improvements to prevent overloading, control odors and properly convey and screen solids.
    - A new Douglas Flat WWTP was completed in 2012, which treats at tertiary levels.

12. West Point: This system provides secondary treatment to 163 connections on septic tanks in the West Point community. Treatment is through a recirculation sand filter system and disinfection by chlorine, storage in two ponds, and onsite disposal to 45 acres of spray fields. The collection system consists of 13 miles of pipeline. Existing infrastructure needs are as follows:

    - To accommodate irrigation demand the system would require upgrading the WWTP at a cost of $390,000.
    - The collection system is subject to blockage particularly at septic tanks with small-diameter pipes.

- The West Point collection system experiences I&I issues and may need improvements.

13. Wilseyville Camp: This small system provides secondary treatment via an aerated pond and 10-acre spray field disposal system. The system serves 29 connections and is considered at buildout. Wilseyville is located 0.5 miles from the West Point WWTP, but CCWD found it would not be cost-effective to combine the two systems. The only infrastructure need for this small system is the installation of disinfection before spray irrigation.

14. Wallace Service Area: Control of wastewater services within the Wallace Service Area was transferred to CCWD in 2013. The Wallace Service Area is comprised of two zones. Zone 1 encompasses the Wallace Lake Estates subdivision, where the service area provides domestic water and wastewater service, liquid petroleum gas, road and street light maintenance, recreational facilities, and open space services. In Zone 2, the town of Wallace, the service area only provides water and wastewater services. The service area has a boundary area of approximately 381 acres or 0.6 square miles. Key CCWD wastewater infrastructure includes one wastewater treatment plant, a storage reservoir, 12 acres of spray fields, and seven miles of sewer pipes. Each lot within the service area has a private sealed septic tank where effluent collects. The septic tank is used primarily to treat solids while liquid effluent gravity flows or is pumped into the CCWD's collection system to the WWTP. Maintenance and pumping of the septic tanks is the responsibility of the landowner. Sludge needs to be removed from the individual septic tanks every three to five years depending on the amount of use. In addition to the septic tank effluent, the WWTP also treats the WTP backwash. With the WWTP's existing ADWF of 12,000 gpd, approximately 27 percent of the WWTP's permitted capacity is being used. The CCWD reports that the current Plant has capacity to serve a total of approximately 200 equivalent dwelling units; although, the 2012 MSR predicts that the Plant may be able to handle a total of 364 connections.[54]

With the exception of Six Mile Village, CCWD provides collection treatment and disposal services directly with CCWD staff. In addition to these communities, CCWD also operates and maintains Wallace Service District's wastewater facilities by contract and provides back up emergency services to other providers when necessary.

Murphys Sanitary District

The Murphys Sanitary District (MSD) was formed in the early 1960s under the provisions of the California Sanitary District Act of 1923. MSD provides wastewater collection, treatment, and disposal services for the community of Murphys. MSD's current district boundaries cover the area within and around the communities of Murphys and northeasterly along SR 4. The MSD

[54] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 319]. June 18, 2012.

boundaries encompass approximately 1,611 acres (2.5 square miles). The MSD lies within the Murphys Community Plan area with the exception of 80 acres to the north. The 80 acres lies within the County's Ebbetts Pass Highway Plan area.

Key MSD wastewater infrastructure includes three treatment ponds, a storage pond, 13.9 miles of sewer pipes and one lift station. Wastewater is collected in a gravity collection system to a pump station west of Murphys. From the pump station, wastewater enters three treatment ponds and a storage pond where it is treated with aeration and sand filtration. After leaving the ponds, the effluent enters a wastewater treatment facility (WWTF) where the treatment process is completed to secondary standards with a clarifier, filters and chlorine. Treated effluent is used for drip irrigation at Ironstone Vineyards year-round.

*Wastewater Treatment*

The MSD estimated that at the existing irrigation rate there is remaining capacity for approximately 233 new connections based on an average flow of 150 gpd per connection.[55] Should the contract with Ironstone Vineyards be updated to receive the maximum amount of discharge permitted by the State, the MSD anticipates capacity for a total of 333 additional customers. By comparison, based on the actual ADWF of 192 gpd per connection and the existing inflow capacity of the system of 0.183 mgd, the system presently has space for approximately 183 additional connections. It is anticipated that once the contract is updated, space will exist for 260 total additional connections. The MSD is reevaluating its available capacity based on recent flow data.

The treatment facilities were originally built in the 1980s and upgraded in 2002. Improvements included a new filtration system, a clarifier, sludge drying beds, a chlorine detention basin, electrical upgrades, and expansion of the storage pond. According to a later report, the aim of the 2002 improvements was to upgrade the facility to tertiary treatment; however, the existing system is not able to treat to tertiary standards due to a failure to provide Department of Health-approved components. Other needs and deficiencies identified in a 2007 treatment facility evaluation included 1) poor drainage for the backwash solids basin, 2) an overflowing chlorine contact chamber riser, and 3) inadequate consideration of maintenance needs for the chlorine contact chamber.

In addition to these deficiencies that need to be corrected to reach tertiary treatment, numerous issues exist that are currently undergoing review, including proper disposal of accumulated biosolids and the lack of an influent flow meter.

The MSD was issued a Notice of Violation (NOV) in 2012. The NOV was the result of violations which included bypass of treatment units, on-site storage of biosolids, and improper sampling and instrument calibration procedures. Additionally, the MSD reported an increasing trend of nitrate in groundwater. In April 2012, the MSD met with RWQCB staff and proposed corrective steps to

[55] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 226]. June 18, 2012.

address the aforementioned violations. The stockpiles of biosolids were to be removed by October 2012. To address the groundwater quality issue, MSD committed to redeveloping the wells, remove biosolid stockpiles, and perform eight quarters of groundwater monitoring with an expanded parameter list. Additionally, to ensure proper groundwater sampling and calibration, MSD committed to contracting with a private groundwater sampler and train all field employees on proper methods and documentation for sampling and calibration. RWQCB also ordered that MSD submit a Groundwater Quality Corrective Action Plan, a Storage Capacity Evaluation Report, and Biosolids Removal Monthly Status Reports.

The MSD completed excavation and removal of sludge storage areas. Groundwater monitoring has been completed by Condor Earth, under the supervision of a California Licensed Professional Geologist. On-going monitoring of groundwater quality has shown a downward trend in nitrate levels within the groundwater, indicating that excavation and removal of stored sludge is resulting in remediating affects.[56]

*Collection System*

The system is a standard gravity collection system that flows to a single pump station adjacent to Angels Creek. According to the MSD's capital improvement plan, the MSD plans to replace 300 linear feet of force main annually. Of the total collection system, the MSD reported that approximately 10 percent of the piping needs to be replaced as it is older and composed of clay. Specifically, six outstanding problem areas were identified in the MSD's Master Plan - manholes 31 and 27 that only have access from private property; a sewer line that crosses the bottom of Angels Creek; a length of main located between manholes 40 and 25 that is prone to backups due to a slight upwards slope; manhole 172 that has many recorded overflows in the past; and the manholes and lines directly above the lift station that are difficult to access. These projects were estimated to cost a total of $1.3 million.

<u>San Andreas Sanitary District</u>

The San Andreas Sanitary District (SASD) provides wastewater collection, treatment, and disposal services for the community of San Andreas and surrounding area. San Andreas is the County seat of Calaveras County. The SASD was formed in July 1948 under the Sanitary District Act of 1923. The SASD's wastewater system was constructed in the 1950s with significant improvements made in 1969 and in 1982. Additional improvements to the system were made in 1992 and 1994. SASD's current district boundaries include approximately 1,387 acres (about 2.2 square miles) and cover the areas within and around the community of San Andreas.

Key SASD wastewater infrastructure includes one wastewater treatment plant, leach fields, 23.5 miles of sewer pipes and five lift stations.

[56] Murphys Sanitary District. *Monitoring Report Submittal Transmittal Form*. January 5, 2017.

*Wastewater Treatment*

Wastewater is treated to tertiary levels, discharged into an effluent storage reservoir and then pumped to two miles of on-site evaporation, transpiration and percolation ditches. The SASD WWTP was upgraded in 2011. Under the SASD's former waste discharge requirements permit (R5-2003-0151), treated effluent was discharged exclusively to the percolation ditches during the dry months from May 1 to October 31. During wet weather, from November 1 to April 30, treated effluent was discharged to the land disposal area to the extent possible; however, treated effluent that could not be discharged to the land was discharged into the San Andreas Creek. The former permit required that discharges to the San Andreas Creek, as well as the North Fork Calaveras River, be diluted to a daily average of 20:1 (receiving water flow: treated effluent flow) or receive tertiary treatment after April 1, 2006. SASD has since constructed an outfall pipeline to the North Fork Calaveras River, to discharge excess secondary treated effluent from November 1 to April 30, and has discontinued discharging to San Andreas Creek. Dried sludge is disposed of at the Forward Landfill.

The WWTP has a design capacity of 0.4 mgd ADWF. While the SASD's current ADWF is 0.29 mgd or 73 percent of the SASD WWTP's capacity, the SASD reported that due to high flows during work periods, the SASD WWTP is essentially at capacity.[57] Based on the design capacity of 0.4 mgd, the SASD can treat approximately 277 gpm; however, during work hours on weekdays the Plant treats up to 350 gpm. During evening hours, the SASDs flow can be as low as 90 gpm. The SASD estimates that it can accept a maximum of 22 new connections. Due to limitations on capacity expansion at the existing SASD WWTP, the SASD reported it will need a new plant to serve projected growth. The SASD reported that reserve capacity does not exist for in-fill development.

*Collection System*

The collection system was originally constructed in the 1950's. Significant improvements have been made since then in 1969 and 1982. The system consists of 23.5 miles of pipes ranging in size from four to 24 inches in diameter. The SASD reported a problem with inflow and infiltration, as peak wet weather flows exceed permitted wet weather capacity of the Plant of 0.9 mgd and permitted wet weather discharge of 1.5 mgd. A storm by-pass device allows the diversion of excess storm inflow to a high-flow treatment system and storage reservoir, which has a capacity of six million gallons. However, in 2005, during a 40-year rain event, the SASD experienced a peaking factor of 12. Since then, the SASD replaced approximately 600 feet of main which corrected those areas with the most significant inflow and infiltration problems.

The SASD's Master Plan outlines the need for a formalized rehabilitation and replacement plan that identifies and prioritizes deficiencies and establishes a short- and long-term replacement schedule. The SASD reported that at least 2,000 feet of main needs to be replaced.

[57] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 247]. June 18, 2012.

Mokelumne Hill Sanitary District

Mokelumne Hill Sanitary District (MHSD) was formed on August 20, 1945 as an independent special district. MHSD provides wastewater collection, treatment and disposal services to the unincorporated community of Mokelumne Hill. Unserved areas with septic systems do not exist within the MHSD. All operation and management services are provided directly by the agency through MHSD staff, with the exception of billing which is provided by CPUD. CCWD provides backup emergency response in the event that the MHSD does not have the necessary tools or equipment to repair a problem.

Key MHSD wastewater infrastructure includes one wastewater treatment plant, irrigation fields, 3.2 miles of sewer pipes and two lift stations. Effluent is treated to a secondary level at the WWTP, discharged into a storage pond and then used to irrigate a 10-acre field on the WWTP property during summer months.

*Wastewater Treatment*

The MHSD WWTP has a permitted capacity of 0.15 mgd ADWF. As of 2010, the MHSD WWTP had an ADWF of 0.035 mgd or 23 percent of the MHSD WWTP's permitted capacity. However, during wet weather months, the limiting factor of the treatment system is the MHSD's treated effluent storage capacity, as the MHSD is restricted from irrigating during those months and must store the effluent until the dry months. The MHSD estimated that during wet weather months, sufficient capacity exists to treat and store on average 0.06 mgd. Consequently, during the wet weather months, the MHSD uses approximately 58 percent of its capacity. The MHSD does not presently have any will serve letters but reports that sufficient capacity exists to serve infill and future development.[58]

MHSD's treatment infrastructure needs and planned improvements include:

- The MHSD reported that there is a need to upgrade the chlorination system, which has occasionally stopped working in the past. An upgrade to a commercial unit would ensure reliable operation. A new chlorination system would cost approximately $500,000.
- Additional facility and equipment needs that may contribute to MHSD efficiency are an on-site space with a computer, internet connection, and printer and a company vehicle. The plant operator presently completes administrative work at his residence.

*Collection System*

The collection system was originally installed in 1947 and extended and updated in 1974, the 1990s and 2005. Of the 3.2 miles of existing pipeline, approximately 6,800 feet (40 percent of the total system) remain of the original clay piping. The MHSD identified the collection system as

[58] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 205]. June 18, 2012.

generally being in good condition, with the exception of the 6,800 feet of original clay piping that is in poor condition and needs to be replaced. The MHSD is in the process of applying for funding to replace this portion of the system and estimates that it will cost approximately $1.6 million. Once this section is completed, the collection system would not have infrastructure needs or deficiencies.

Valley Springs Public Utility District

The Valley Springs Public Utility District (VSPUD) primarily serves the community of Valley Springs and surrounding area with water supply, wastewater collection, treatment, and disposal services. VSPUD provides these services to single-family residential, multi-family residential and commercial customers. The VSPUD current district boundaries cover an area of 190 acres or 0.44 square miles.

The VSPUD's key wastewater infrastructure include 3.5 miles of sewer pipelines, the VSPUD WWTP, which includes a headworks and an aeration tank, two aeration ponds, a polishing pond, and a 92 af clay lined effluent storage reservoir. Effluent is disposed of by spray irrigation on 33 acres of land. Dried sludge is disposed of at a local landfill.

*Wastewater Treatment*

The VSPUD WWTP and ponds were constructed in 1956. Influent enters the VSPUD WWTP through a comminutor, which automatically cuts coarse sewage solids into small settable solids that settle out in a settling tank. After sewage goes through the comminutor, the sewage enters an Aeration Tank. Sewage discharged from the Aeration Tank enters two treatment ponds (Aeration Pond Nos. 1 and 2) and a polishing pond (Pond No. 3) in succession and finally stored in the storage reservoir. VSPUD historically disposes of wastewater on approximately 15 acres of hillside east of the wastewater treatment and storage system. To increase its disposal capacity, the VSPUD expanded the spray disposal area to approximately 22 acres in 2004 and then to 33 acres in 2006. The VSPUD has a lease agreement with a local farmer to allow horses to graze within the sprayfield boundaries.

As of 2009, ADWF at the Plant was 60,000 gpd. Based on the ADWF, the VSPUD is using 77 percent of the system's permitted capacity.[59] The VSPUD's permitted capacity is 78,500 gpd per existing RWQCB permit. The VSPUD's Wastewater Facilities Master Plan outlines four phases to increase the VSPUD WWTP and disposal area capacity to 120,000 gpd. As of May 2012, the first two phases of the plan are completed. The VSPUD reported that the timing for Phases 3 and 4 would depend upon the rate of future growth and demand, as the VSPUD is presently operating within its permitted capacity. Phase 3 improvements will increase capacity to 100,000 gpd. Phase 3 was estimated to cost approximately $234,000 in 2003 dollars. Improvements will include modifying a portion of the spray field area to a trench system, enlarging Aeration Pond 2, replacing

[59] Calaveras Local Agency Formation Commission. *Final Water and Wastewater Municipal Service Review* [pg. 290]. June 18, 2012.

the aerators, modifying the headworks and grit chamber, and modifying the spray field pump system at the storage reservoir. Completion of Phase 4 projects will expand the system to a capacity of 120,000 gpd. Phase 4 projects were estimated to cost a total of $246,000 in 2003. Improvements will include expansion of the spray irrigation fields to the maximum of the existing VSPUD property, construct pond 5, and modify the existing sludge drying beds.

Infrastructure needs and deficiencies at the treatment plant and ponds include improvements to the storage reservoir to allow the VSPUD to keep pH and Biological Oxygen Demand levels within required levels. Presently, the VSPUD reported that the size of the reservoir makes it difficult to control levels, and consequently, RWQCB issued a Notice of Violation to the VSPUD for multiple months in excess of mandated maximum levels. In FY 09-10, the VSPUD budgeted $107,500 for a lift station upgrade and fencing, a roof blower room, painting the VSPUD WWTP, and other VSPUD WWTP improvements.

In addition, a shortfall of land area currently exists, which will limit the system's long-term growth potential. Potential options to resolve this issue include 1) collecting and discharging to CCWDs La Contenta WWTP although capacity does not presently exist at the VSPUD WWTP to accept VSPUD's effluent, 2) discharging into Cosgrove Creek during winter months, which is challenging given increasing regulations, and 3) acquisition of additional land, which may be financially implausible.

*Collection System*

The collection system was originally installed in 1940. The system is composed of a combination of six and eight diameter mains consisting of vitrified clay (90 percent) and the remaining is primarily plastic with small amounts of asbestos cement and galvanized steel. In the past, the VSPUD had issues with I&I; however, a smoke test of the entire system was completed in 2002 and improvements made to the 51 identified locations of infiltration by 2005. The VSPUD instituted a regular replacement schedule for the collection system and budgeted $150,000 in FY 09-10 for collection system repairs, which consisted of replacement of 630 feet of mains and installation of four manholes.

Countywide Wastewater Treatment Plant Capacities

Each wastewater treatment plant has permitted capacity as determined by the RWQCB. Permitted capacity is typically defined as ADWF. As shown in Table 4.12-12 below, as of 2014, dry weather flows of nearly all of the wastewater providers were within the capacity of their treatment plants. The exception was CCWD's La Contenta WWTP, (ADWF exceeded plant capacity) and CCWD's Copper Cove WWTP (at 96 percent capacity). However, as a result of recent capital facilities improvements at the La Contenta WWTP, permitted treatment capacity has been increased from 0.15 mgd to 0.2 mgd.[60]

[60] Calaveras County Water District. *La Contenta Wastewater System Master Plan.* December 2017.

**Table 4.12-12**
**Average Dry Weather Permitted Capacity for Wastewater Treatment Providers**

| Treatment Plant | Remaining Capacity (gpd) | ADWF Per Connection | Remaining Capacity in Connections |
|---|---|---|---|
| Angels | 250,000 | 223 | 1,121 |
| CCWD – Arnold | 89,000 | 168 | 531 |
| CCWD – Copper Cove | 10,000 | 126 | 80 |
| CCWD – Country Houses/d/ | /d/ | /d/ | /d/ |
| CCWD – Forest Meadows | 125,000 | 107 | 1,173 |
| CCWD – Indian Rock | 4,000 | 150 | 27 /d/ |
| CCWD – La Contenta | -16,000 | 173 | -92 |
| CCWD – Millwoods | 75,000 | 67 | 1,125 |
| CCWD – Sequoia Woods/d/, /e/ | 1,000 | 217 | 5 /d/, /e/ |
| CCWD – Southworth/d/ | 5,000 | 207 | 24 /d/ |
| CCWD – Vallecito, Douglas Flat | 14,000 | 193 | 72 |
| CCWD – West Point | 43,000 | 91 | 470 |
| CCWD – Wilseyville Camp | 6,000 | 107 | 56 /d/ |
| EBMUD – Camanche SS | 23,000 | 84 | 275 |
| EBMUD – Pardee Center | 750 | 139 | 5 |
| Mokelumne Hill Sanitary District (MHSD) /a/ | 25,000 | 100 | 249 a/a |
| Murphys Sanitary District (MSD) /b/ | 50,000 | 192 | 261 /b/ |
| San Andreas Sanitary District (SASD) /c/ | 3,960 | 180 | 22 /c/ |
| Valley Springs Public Utilities District (VSPUD)/g/ | 18,500 | 230 | 80 /g/ |
| Wallace Community Services District (WCSD) | 33,000 | 124 | 267 /f/ |

Notes:

/a/ MHSD is permitted to dispose to land 0.15 mgd during the dry season, but the system capacity is constrained by the amount of effluent that can be stored in the storage reservoir during the rainy season. Therefore, the MHSD estimates that during wet weather months, it has sufficient capacity to treat and store on average 0.06 mgd (60,000 gpd).

/b/ MSD remaining capacity is based on actual capacity of the WWTF as reported by the MSD (0.185 mgd), which is less than the permitted capacity of the system (0.2 mgd) due to the existing contract for irrigation with Ironstone and the 100-year pond water balance.

/c/ Based on existing ADWF, it appears that SASD has the capacity to serve 340 additional connections; however remaining capacity reported by SASD is based on peak demand periods (during peak demand periods on workdays, the WWTP reaches maximum capacity and consequently only has space for approximately 22 additional connections). The SASD has no reserve for in-fill development. There are 351± proposed or planned new dwelling units within or neighboring the SASD's boundaries, based on interest indicated by developers. The SASD does not have sufficient capacity to serve these proposed developments, and reports that capacity

*(Continued on next page)*

**Table 4.12-12**
**Average Dry Weather Permitted Capacity for Wastewater Treatment Providers**

at the existing WWTP cannot be increased and a new plant would be necessary to accommodate the proposed developments.

/d/ The Country Houses, Sequoia Woods and Southworth communities are essentially built out, and additional connections are not anticipated. Similarly, Indian Rock and Wilseyville Camp facilities, are built-out with little or no growth potential

/e/ Sequoia Woods has some remaining treatment capacity, but reportedly no remaining disposal capacity. The CCWD plans to expand the Sequoia Woods leachfield.

/f/ Should development occur at the pace that WCSD anticipates, an additional mirror plant to double treatment capacity would be necessary by approximately 2020.

/g/ VSPUD has reserved capacity for 12 connections for in-fill and 63 will serve letters for the Charboneau Estates development (2006). Consequently, the WWTP only has space to serve three connections in addition to those for which capacity was reserved.

*Source: Calaveras County. General Plan Background Report. December 18, 2014.*

Similarly, capital facilities improvements have increased design capacity at the Copper Cove WWTP; however, the permitted capacity has not yet been increased. Improvements to the Copper Cove WWTP will increase permitted capacity from 0.23 mgd to 0.35 mgd.

On-site Wastewater Treatment Systems

Approximately 19,000 residents within Calaveras County use on-site wastewater treatment systems (OWTS) for wastewater management. A common form OWTS is the septic system. Septic systems located on individual properties treat wastewater, collect sludge, and discharge effluent into a leach field. Property owners are responsible for septic system maintenance and sludge disposal. Septic systems are allowed in most areas of the County if there is no nearby public sewer system subject to the standards established in the *Calaveras County Rules and Regulations for Onsite Wastewater Treatment Systems*.

**Solid Waste**

Several solid waste facilities and transfer stations exist within the County. Existing facilities include the Rock Creek Solid Waste Facility, as well as transfer stations at Avery, Copperopolis, Paloma, Red Hill, San Andreas, and Wilseyville.

Rock Creek Solid Waste Facility

The Rock Creek Solid Waste Facility encompasses an active Class II landfill, a transfer station, several recycling programs, and a household hazardous waste facility. Rock Creek accepts garbage, recyclable toxics, household hazardous waste (temporary storage only), and several categories of recyclables including: appliances, cardboard, concrete and rubble, mixed construction and demolition waste, mixed recyclables (containers and paper), sheetrock, stumps, tires, and wood and yard waste. Rock Creek is open daily from 8:00 AM to 4:40 PM and accepts waste only from Calaveras and Alpine County sources.

The vast majority of the solid waste generated within the County is disposed of at the Rock Creek Solid Waste Facility within the County. As of 2013, the landfill had a remaining capacity of 6,657,862 cubic yards, or 76 percent of total design capacity remaining. The Calaveras County Department of Public Works estimates 26.8 years of capacity remains. Solid waste and recycling is not considered to be a limiting factor for growth in Calaveras County. The County has ample disposal capacity to accommodate growth.

Transfer Stations

Six transfer stations are located within the County. Transfer stations are facilities where municipal solid waste is unloaded from collection vehicles and briefly held while the waste is reloaded onto larger long-distance transport vehicles for shipment to landfills or other treatment or disposal facilities. Transfer stations have variable hours spanning Fridays through Tuesdays, and all accept garbage and recycling of cardboard, containers, and mixed paper to be transported to a disposal facility. Additionally, some transfer stations also accept appliances, tires, scrap metal, yard waste and wood and recyclable toxics. The transfer stations do not accept hazardous waste, animal carcasses, stumps or construction and demolition wastes from contractors. Daily disposal allowances and total disposal for years 2010 and 2011 are shown in Table 4.12-13 below.

**Table 4.12-13**
**Transfer Station Disposals**

| Transfer Station | Permitted Daily Tons | 2010 Total (Tons/year) | 2011 Total (Tons/year) |
|---|---|---|---|
| Avery | 54 | 2,797 | 2,848 |
| Copperopolis | 38 | 2,073 | 1,966 |
| Paloma | 38 | 610 | 588 |
| Red Hill | 80 | 2,470 | 2,453 |
| San Andreas | 38 | 1,974 | 2,088 |
| Wilseyville | 38 | 1,653 | 1,788 |

*Source: Knapp, Cynthia, Interim Integrated Waste Manager, Calaveras County Department of Public Works. Personal communication. July 9 and September 23, 2012.*

Waste Generation

According to CalRecycle, total disposal in Calaveras County in 2010 was 36,447 tons. The per capita waste generation in 2010 was 1.19 tons per person. Table 4.12-14 below, shows the change in total County waste generation in relation to population growth and also shows the change in per resident waste generation. In 2010, California's statewide disposal was 30.4 million tons and population was 37.2 million residents. This resulted in a per resident disposal rate of 4.5 pounds/resident/day.[61]

[61] CalRecycle. *California's 2015 Per Capita Disposal Rate*. Available at: http://www.calrecycle.ca.gov/LGCentral/GoalMeasure/DisposalRate/MostRecent/default.htm. Accessed March 2017.

**Table 4.12-14**
**Waste Generation Trends**

| Year | Total Waste Generation (Tons) | Per Capita Waste Generation (Tons) |
|---|---|---|
| 2005 | 53,195 | 0.75 |
| 2006 | 49,477 | 0.77 |
| 2007 | 49,489 | 0.83 |
| 2008 | 39,706 | 0.91 |
| 2009 | 34,121 | 0.98 |
| 2010 | 36,447 | 1.19 |

*Source: CalRecycle. Disposal Reporting System: Multi-year Countywide Origin Summary. Available at: http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Origin/WFOrginAnnual.aspx. Accessed March 2017.*

Waste Diversion

Calaveras County has been working since 1990 to meet the requirements of the Integrated Waste Management Act of 1989 (AB 939). However, the County has yet to reach the State-mandated diversion rate of 50 percent. The County's diversion rate peaked at 42 percent in 2001 and has since steadily declined. As of 2005, the County had a diversion rate of 29 percent. Recognizing that all preceding diversion plans are fully implemented and the diversion rate is not met, the Calaveras County Public Works Department initiated the Calaveras County Ten-Year Diversion Plan program (June 4, 2007) to identify programs with which the County may achieve the 50 percent diversion goal (Calaveras County Solid Waste 2007).

Recycling and Garbage Collection

Curbside recycling and garbage collection are provided by private firms and are available to all Calaveras County Residents, including City of Angels. An estimated 22 percent of residents subscribe to curbside recycling and garbage services and an estimated 80 percent of businesses subscribe to pickup services. Additionally, Calaveras County has numerous drop-off sites (including local transfer stations) available for trash, toxic materials and recyclables. All six transfer stations described previously accept various types of recyclables and toxics from residents.

Household Hazardous Waste (HHW)

Rock Creek Landfill contains a permanent household hazardous waste facility within the Waste Recovery and Transfer Center Building. Although hazardous wastes are not accepted for disposal at Rock Creek Landfill, the on-site household hazardous waste facility will temporarily accept used petroleum oil, antifreeze, lead-acid batteries, water-based paint, and other household hazardous waste materials for transport off-site for proper disposal, reuse, or recycling.

Household hazardous waste is any material used in your home that may threaten human health or the environment when improperly discarded. Hazardous waste usually has one or more of the following characteristics:

- Flammable: The material may burst into flames easily.
- Toxic: The material may be poisonous to humans or other living things.
- Corrosive: The Material may eat or wear away at many materials.
- Reactive: In contact with air, water, or other substances, the material may produce heat or harmful vapors.

Calaveras County currently offers the following programs for HHW disposal:

- Drop-off Service: The Permanent Household Hazardous Waste Collection Facility at Rock Creek, which is open seven days a week, offers free off-site disposal of household hazardous wastes. State law limits transportation to a maximum of 15 gallons of liquid hazardous waste or 125 pounds of solid hazardous waste per trip. Containers must be adequate to contain materials and must be sealed to minimize spills.
- One-day Collection Events: Calaveras County Public Works sponsors one-day collection events at five locations throughout the County once each year.

Businesses that generate small quantities of hazardous waste (less than 220 pounds per month) may also use the services described above, either the Permanent Household Hazardous Waste Collection Facility at Rock Creek or the one-day collection events throughout the County.

**County Recreation Resources**

Calaveras County offers an abundance of outdoor recreation opportunities given the County's proximity to the Sierra Nevada Mountains and historic gold rush towns. The County is located in the foothills of the Sierra Nevada Mountains, between Sacramento and Yosemite, on SR 49, which links the towns of the California Gold Country. To the north and south, the County is bordered by two major rivers, Mokelumne and Stanislaus, respectively, and has a number of public lakes. Calaveras County also has a state park, a national forest, and a small portion of a wilderness area, as well as multiple large caverns. Yosemite National Park and Lake Tahoe, which offer additional recreational activities, are a short distance away. As a result, the County offers a variety of recreational activities including, gold mining and panning, camping, biking, hiking, rafting, kayaking, horseback riding, and fishing. Information regarding recreational facilities within the County is drawn from the *Calaveras County Profile* prepared by the Calaveras County Economic Development Company,[62] and the *Calaveras County Interim Parks and Recreation Plan*.[63]

The various recreational facilities located within Calaveras County, including federal, state, and local public and private facilities, are described below. Approximately 147,451 acres (or 22 percent) of land within the County is owned by different federal, State, or other agencies.

[62] Calaveras County Economic Development Company. *Calaveras County Profile*. 2011.
[63] Calaveras County Parks and Recreation Commission. *Calaveras County Interim Parks and Recreation Plan.* January 8, 2008.

Federal Resources

The U.S. Bureau of Land Management (BLM), U.S. Army Corps of Engineers (USACE), and U.S. Forest Service (USFS) administer public lands within the County. Additionally, a National Scenic Byway exists within the County.

*U.S. Bureau of Land Management*

The BLM manages 35,000 acres of land in various locations throughout Calaveras County. The USACE owns 19,581 acres in association with the BLM for the operation of reservoirs. Residents near BLM land often use the areas informally for hiking. In addition, the lands serve as habitat for wildlife species in the area.

*Stanislaus National Forest*

The USFS manages the Stanislaus National Forest, which is one of California's oldest national forests, established in 1897. Substantial acreage of the Stanislaus National Forest (78,000 acres) is located within the eastern portion of the County, including a small portion of the Mokelumne Wilderness area (see Figure 4.12-5). The Stanislaus National Forest also includes substantial portions of land within Alpine, Mariposa, and Tuolumne Counties. The Calaveras Ranger District encompasses the SR 4 corridor within the County and also within Alpine County. Over 20 campgrounds and recreational facilities are within the Calaveras Ranger District (see Table 4.12-15).

*Ebbetts Pass National Scenic Byway*

The 58-mile stretch of SR 4 and 89 known as the Ebbetts Pass National Scenic Byway is located in the counties of Calaveras and Alpine, including 24 miles of road within Calaveras County from east of Arnold to the Alpine County line, between Arnold and Markleeville, and is considered the longest of all routes over the Sierras.

Calaveras Big Trees State Park and Grover Hot Springs State Park are located in close proximity to portions of the Pass, and the Pass proceeds through the Stanislaus and Humboldt-Tioyabe National Forests. Expansive views of granite outcrops, basalt columns, ancient volcanic peaks, deep river canyons, glacially carved valleys, majestic stands of conifers including giant sequoias, open meadows, clear mountain lakes, and flowing streams and rivers are afforded along the Ebbetts Pass National Scenic Byway. In addition, the area, which was home to Native Americans and pioneer emigrants alike, provides a rich historic background.

Ebbetts Pass was designated as a California State Scenic Highway in 1971 and was granted a national designation by the U.S. Department of Transportation on September 22, 2005, which is meant to preserve the unique scenic, natural, historical, cultural, archaeological, and recreational resources along the scenic byway. The Ebbetts Pass Scenic Byway Association works to protect this scenic and recreational resource through preservation and enhancement programs.

**Figure 4.12-5**
**Recreational Resource Landowners**

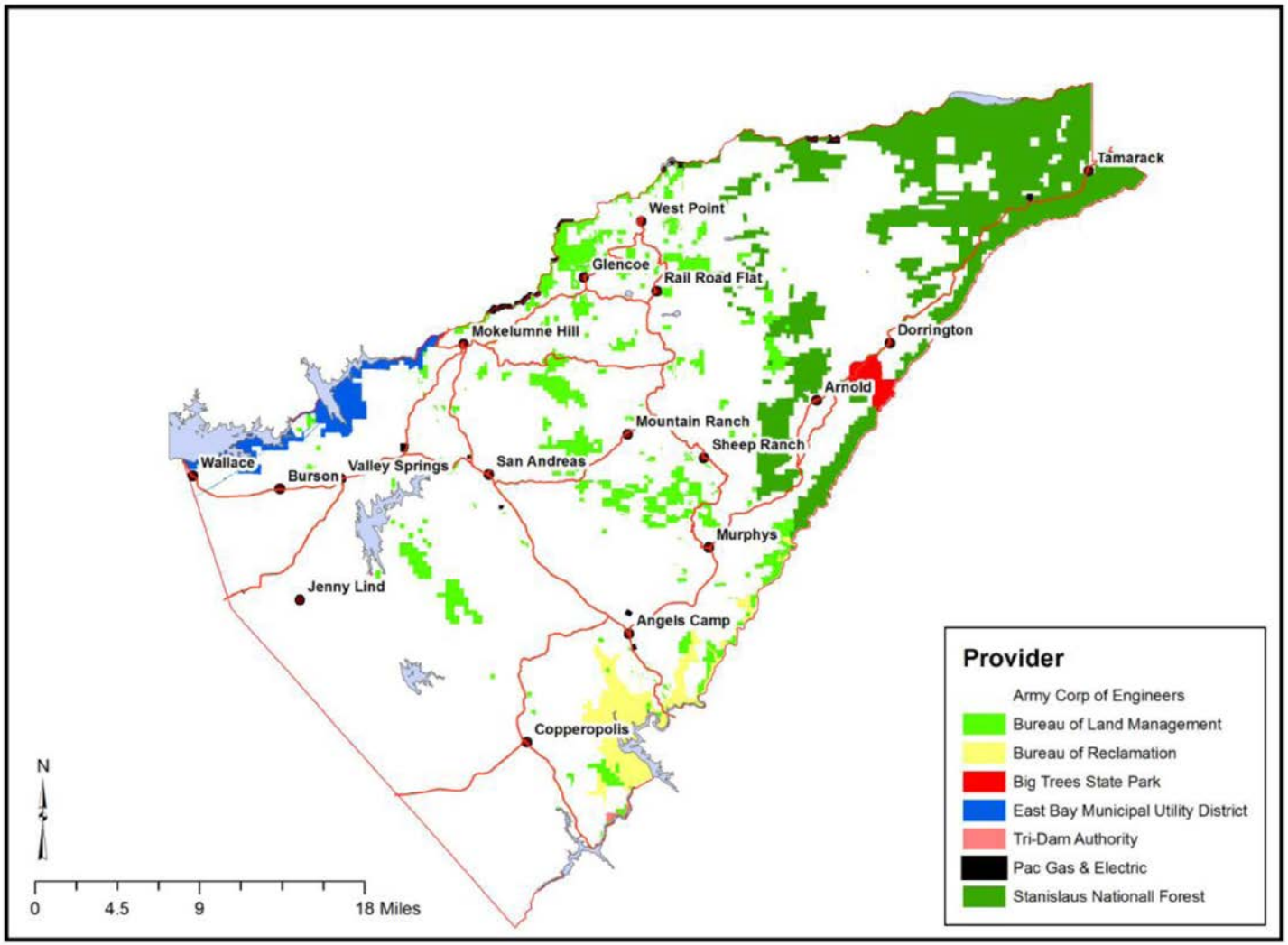


**Table 4.12-15**
**Recreational Facilities within the Calaveras Ranger District in Calaveras County**

| Recreational Facility | Description |
|---|---|
| Big Meadow and Big Meadow Group | A scenic campground located within a mature conifer forest of red fir and lodgepole pine, with scattered quaking aspen, adjacent to SR 4, nine miles southwest of Lake Alpine, 20 miles east of Arnold. The group campground is located in an open, grassy meadow surrounded by granitic outcrops and mature conifer forest of red fir, lodgepole pine, and quaking aspen. |
| Cottage Springs Day Use | A day use picnic area located four miles east of Camp Connell on SR 4. |
| Crescent Cove Day Use | A day use picnic area located one mile west of Hathaway Pines on SR 4. |
| Sourgrass Day Use | Day use area for picnicking, fishing, and hiking located outside Dorrington on North Fork Stanislaus river at Sourgrass/Board's Crossing Road, across river from Wa Ka Luu Hep Yoo (Wild River) Campground. |
| Stanislaus River | Campground with 25 campsites and picnic tables in a mature conifer forest on the North Fork Stanislaus River near Spicer Reservoir, southwest of SR 4 on Spicer Reservoir Road. Rafting trips are available along the North Fork Stanislaus River, which provides a five-mile stretch of Class IV whitewater rapids between Sourgrass, near Dorrington, and Calaveras Big Trees State Park, just east of Arnold. |

*Source: U.S. Department of Agriculture, Forest Service. Stanislaus National Forest Recreation. Available at: http://www.fs.usda.gov/recmain/stanislaus/recreation. Accessed November 2017.*

State Resources

The principal State agency that manages recreational resources within the County is the California Department of Parks and Recreation.

*Frogtown*

Located approximately one mile south of Angels Camp, Frogtown is the site of the annual Calaveras County Fair and Jumping Frog Jubilee. The State of California owns the 68-acre site. Numerous public activities are held at Frogtown throughout the year, including the annual frog jump competition. Camping is also available at the site.

*Calaveras Big Trees State Park*

Calaveras Big Trees State Park is bisected by the North Fork Stanislaus River and straddles the Calaveras-Tuolumne County line, with 45 percent of the 6,000 acres (or 2,697 acres) within Calaveras County. Calaveras Big Trees park became a State Park in 1931 to preserve the North Grove of Sierra Redwoods (*sequoiadendron giganteum*), commonly known as the giant sequoia. The North Grove includes the "Discovery Tree", also known as the "Big Stump", which is the first Sierra redwood noted by Augustus T. Dowd in 1852 and has been a major tourist attraction ever since. Over the years, other parcels of mixed conifer forests have been added to the park, and potential for expansion of the park within Calaveras County still exists. According to the California

Department of Parks and Recreation, Calaveras Big Trees State Park is considered the longest continuously-operated tourist facility in California.

The most significant natural features and most popular tourist attractions of Calaveras Big Trees State Park are the North Grove, which is within Calaveras County, and the South Grove, which is within Tuolumne County, of giant sequoias. The tallest tree in the park is over 300-feet tall and some of the older trees are estimated to be around 3,000 years old. A five-mile hiking trail through a grove of giant sequoias is offered at the South Grove. Other attractions in the Park include the Stanislaus River, Beaver Creek, the Lava Bluff Trail, and the Bradley Trail. Recreational activities offered at the Park include evening ranger talks, numerous interpretive programs, environmental educational programs, junior ranger programs, hiking, mountain biking, bird watching, and more. In addition, two main campgrounds, with 129 campsites, six picnic areas, and several miles of established trails, are located within the Park along SR 4.

*Mokelumne Coast to Crest Trail*

The Mokelumne Coast to Crest Trail is one of 27 official California State Park trail corridors that form a statewide trail system linking mountain, valley, and coastal communities to recreational, cultural, and natural resources throughout the State. A non-motorized and multi-use trail bisecting California, the Mokelumne Coast to Crest Trail roughly follows the Mokelumne River from the river's headwaters at the Sierra Crest down to the river's mouth near Martinez on the Carquinez Strait. The trail is split into five segments that spread over six counties. The Upper and Middle Mokelumne segments of the trail run from Tiger Creek Reservoir at the western end of the Stanislaus National Forest east along the northern boundary of Calaveras County, continue to Ebbetts Pass in Alpine County, and end at the SR 49 bridge. West of SR 49, the Mokelumne Coast to Crest Trail continues west and traverses land managed by EBMUD. Over 29 miles of continuous Mokelumne Coast to Crest Trail exist within EBMUD land, which can be used to bring hikers from SR 49 to the San Joaquin County line. A non-profit corporation called the Mokelumne Coast to Crest Trail Council stewards the public input process, design, and maintenance of the trail, in partnership with public and private organizations in the six-county cross-section of California between San Francisco and the Sierra Nevadas.

Reservoir Recreation Areas

Local reservoirs offer many recreational activities within Calaveras County. Brief descriptions of these local reservoir recreational resources are presented in Table 4.12-16 below.

**Table 4.12-16**
**Local Reservoir Recreation Areas**

| Reservoir | Description |
|---|---|
| Pardee Reservoir | Owned and operated by the EBMUD. Receives water from the Mokelumne River and serves as an important source of domestic drinking water. Only non-contact recreational activities (e.g., fishing, camping, and picnicking) are allowed. |
| Camanche Reservoir | Owned and operated by the EBMUD. Located downstream of Pardee within the Mokelumne River watershed. Contact recreational activities (e.g., swimming and boating are permitted. Campgrounds and other recreational activities available as well. |
| New Hogan Reservoir | Owned and managed by the United States Army Corps of Engineers (USACE). Receives water from the Calaveras River. Recreational activities include boating, swimming, fishing, picnicking, and camping. |
| Tulloch Reservoir | Owned and operated by the Tri-Dam Authority for irrigation and domestic water supply. Located in Copperopolis it is a central focal point and asset for the community. Boating and swimming is permitted. |
| New Melones Reservoir | Owned and operated by the U.S. Bureau of Reclamation. Located behind the 625-foot New Melones Dam on the Stanislaus River. Recreational activities include boating, fishing, swimming, camping, and other use. |
| Salt Springs Reservoir | Owned and operated by the Pacific Gas and Electric Company (PG&E) for hydroelectric power purposes. Located at a high-elevation within the Stanislaus National Forest along the Mokelumne River. Fishing, boating, swimming, rock climbing, and camping are permitted. |
| Salt Spring Valley Reservoir | Privately owned campground and reservoir. Located in the lower foothills of Calaveras County, north of Copperopolis. Fishing, boating, swimming, hunting, and camping are permitted. |
| Spicer Reservoir | Owned by the Calaveras County Water District and operated by the Northern California Power Agency for power generation. Located at a high-elevation on the Stanislaus River system, eight miles southwest of SR 4. Recreational activities include boating, camping, fishing, hiking, and equestrian opportunities. |

*Source: Calaveras County, Calaveras County Interim Parks and Recreation Plan, 2008.*

Other Recreation Facilities Within the County

Several other agencies own acreage within Calaveras County, and provide recreational resources. EBMUD owns 11,244 acres in the northern portion of the County adjacent to the Amador County line and Comanche Reservoir. Recreation lands owned by the EBMUD are accessible to the public by permit. Tri-Dam owns 455 acres in the Lake Tulloch area and PG&E owns 474 acres of lands within the Mokelumne watershed.

Private Parks and Recreational Facilities

Many private developments throughout the County provide on-site parks and recreational facilities to serve project residents. The County encourages placement of such facilities in private

developments, as well as integrated pathways located and designed to be near adjacent projects, shopping areas, and other public facilities.

Public Parks and Recreational Facilities

Major recreational facilities are geographically dispersed throughout the County and provide substantial recreational opportunities to County residents and tourists alike. Although the major facilities provide a large range of activities, they do not adequately meet the needs of more localized, small-scale parks and community meeting places. Local public parks are scattered unevenly across the County (see Figure 4.12-6), the majority of which are operated and maintained by dedicated citizens and community groups. Table 4.12-17 presents the local parks and recreation facilities within Calaveras County and the local community each park serves. Calaveras County has a passive involvement in the local parks program and does not directly maintain a system of park and recreation facilities.

The County owns Murphys Park, which is located in the town of Murphys; however, the Community Club takes responsibility for park maintenance. Ownership of other publicly accessible recreation facilities in Calaveras County is divided among public agencies, such as school districts, and private foundations/clubs, such as veteran's districts. Facilities operated by the veteran's districts for their communities are a major component of the local park system. Boundaries of the local veteran's districts that offer recreational activities are shown in Figure 4.12-7. The boundaries of the San Andreas Recreation and Parks District, the only parks and recreation district within the County, are shown in Figure 4.12-8. Community halls provide local community event facilities on County land as well. Playgrounds provided by elementary, middle, and high school sites throughout the County contribute to the local facilities network. As shown in Figure 4.12-9, these school facilities are found throughout the developed communities within the County. In addition, the Calaveras County Water District also provides or allows for park facilities on their land.

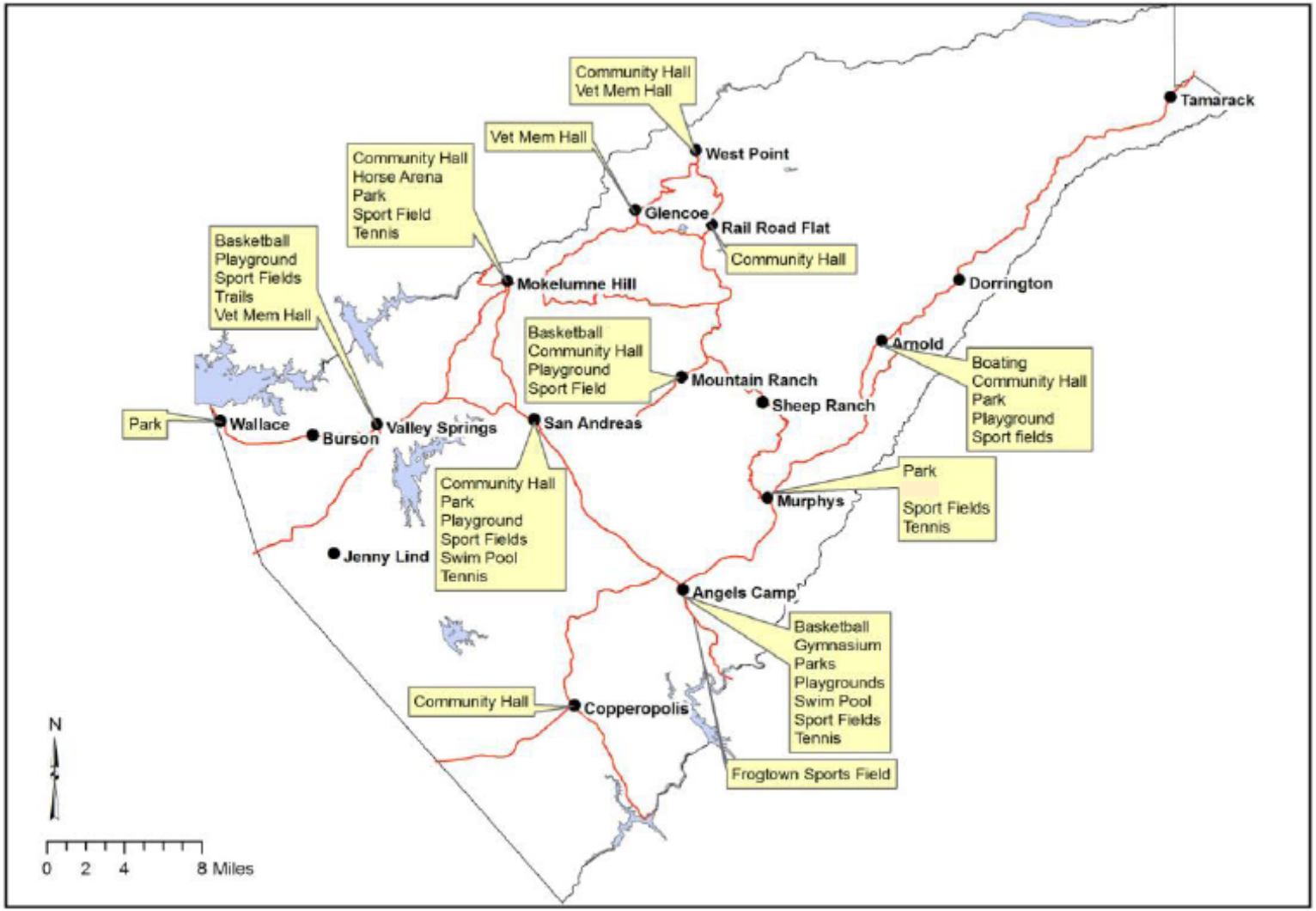
Other Recreational Resources

Various other recreational facilities exist within Calaveras County, including those discussed in further detail below, such as commercial facilities, trails, scenic byways, historical facilities, and more.

*Limestone Caves*

The several large limestone caves that exist within the County represent a significant and unique recreational feature within the County. The three major private commercial cavern facilities operating within the County are the Mercer Caverns, Moaning Cavern Park, and California Cavern.

**Figure 4.12-6**
**Public Parks and Recreation Facilities**



| Table 4.12-17<br>Local Parks and Recreation Facilities | | |
|---|---|---|
| **Park/Recreation Facility Name** | **Community** | **Street** |
| Tryon Park | Angels Camp | SR 4 |
| Frogtown Baseball Fields | Angels Camp | SR 49 |
| Utica Park | Angels Camp | Utica Lane |
| Gateway Park | Angels Camp | Greenhorn Creek Road |
| Copello Park Ball Fields | Angels Camp | Copello Drive |
| Bret Harte Sports Complex | Angels Camp | Murphys Grade Road |
| Emmerson Courtright Field | Arnold | Blagen Road |
| Calaveras Timber Trails Park | Avery | Sheep Ranch Road |
| Black Creek Park | Copperopolis | Black Creek Drive |
| Jenny Lind Veterans Memorial District Park | Jenny Lind | Daphne Road |
| C. B. Hobbs Field | Mokelumne Hill | Lafayette Street |
| Horse Arena | Mokelumne Hill | Lafayette Street |
| Barry's Tennis Courts | Mokelumne Hill | Marredda Street |
| Shutter Tree Park | Mokelumne Hill | Main and Center |
| Mountain Ranch Community Park | Mountain Ranch | Whiskey Slide Road |
| Murphys Tennis Courts | Murphys | School Street |
| Feeney Park | Murphys | Pennsylvania Gulch Road |
| Murphys Community Park | Murphys | Algiers Street |
| Gerald Turner Park | San Andreas | Treat Avenue |
| San Andreas Community Park | San Andreas | Park Drive |
| Nielsen Park | San Andreas | California Street |
| Calaveras Pool | San Andreas | Calaveras High School |
| Tennis Courts | San Andreas | Calaveras High School |
| The Clay Pits Ball Fields | Valley Springs | Paloma Road |
| Veterans Memorial Park | Valley Springs | Daphne Street |
| White Pines Lake and Park | White Pines | Blagen Road |
| Independence Hall | White Pines | Blagen Road |

**Figure 4.12-7**
**Veterans Districts Boundaries**

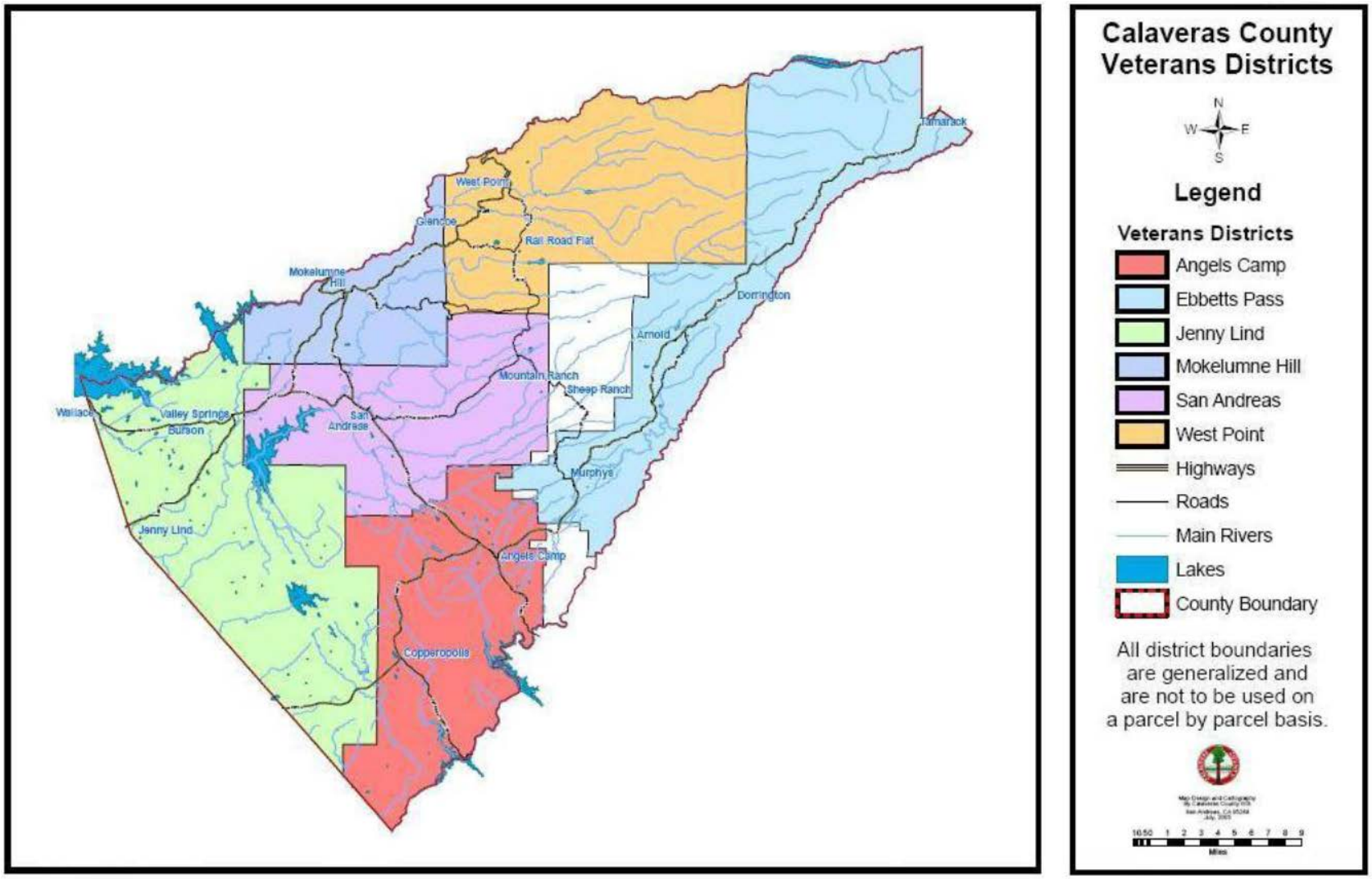


**Figure 4.12-8**
**Local Park and Recreation District**

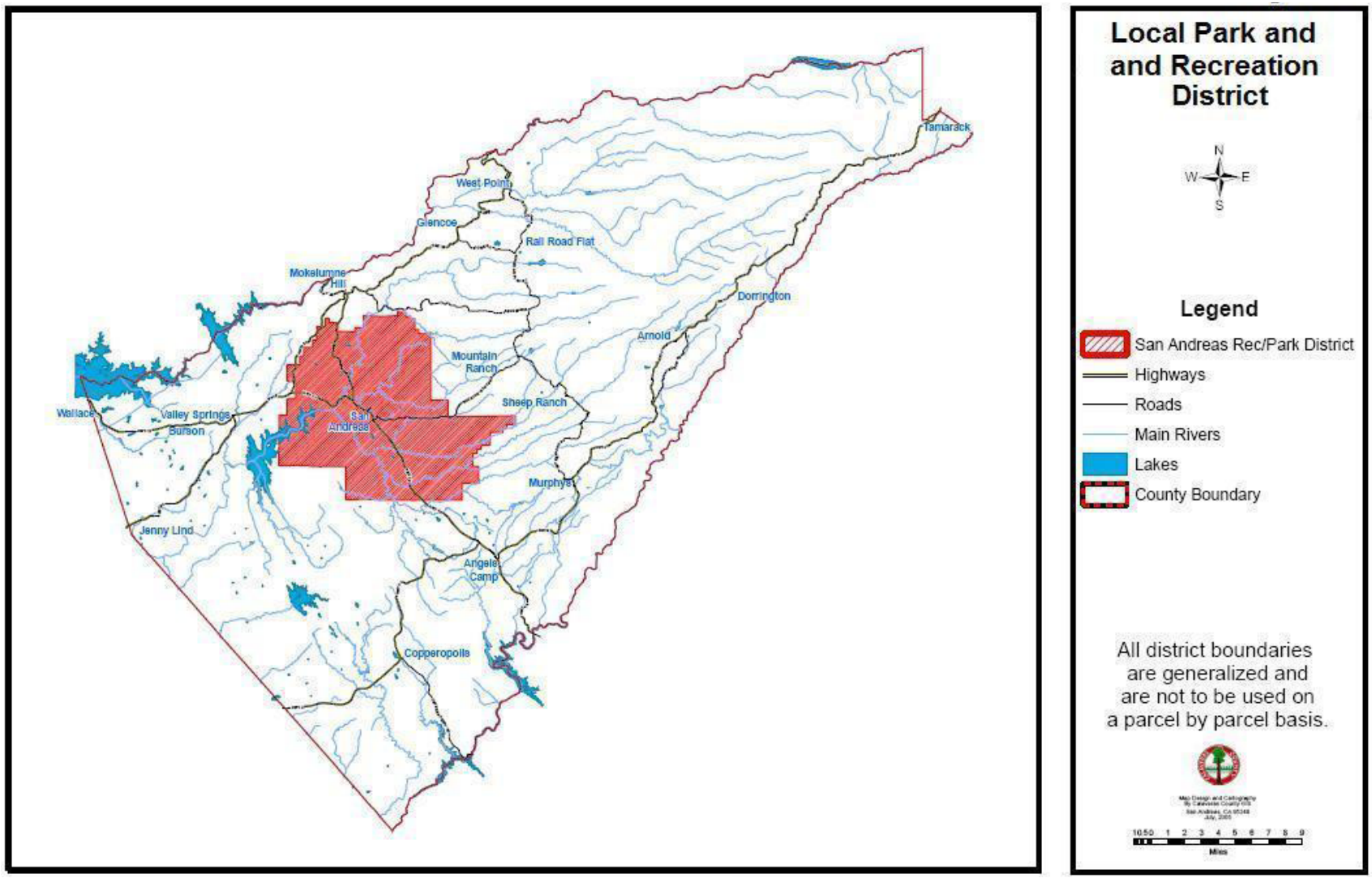
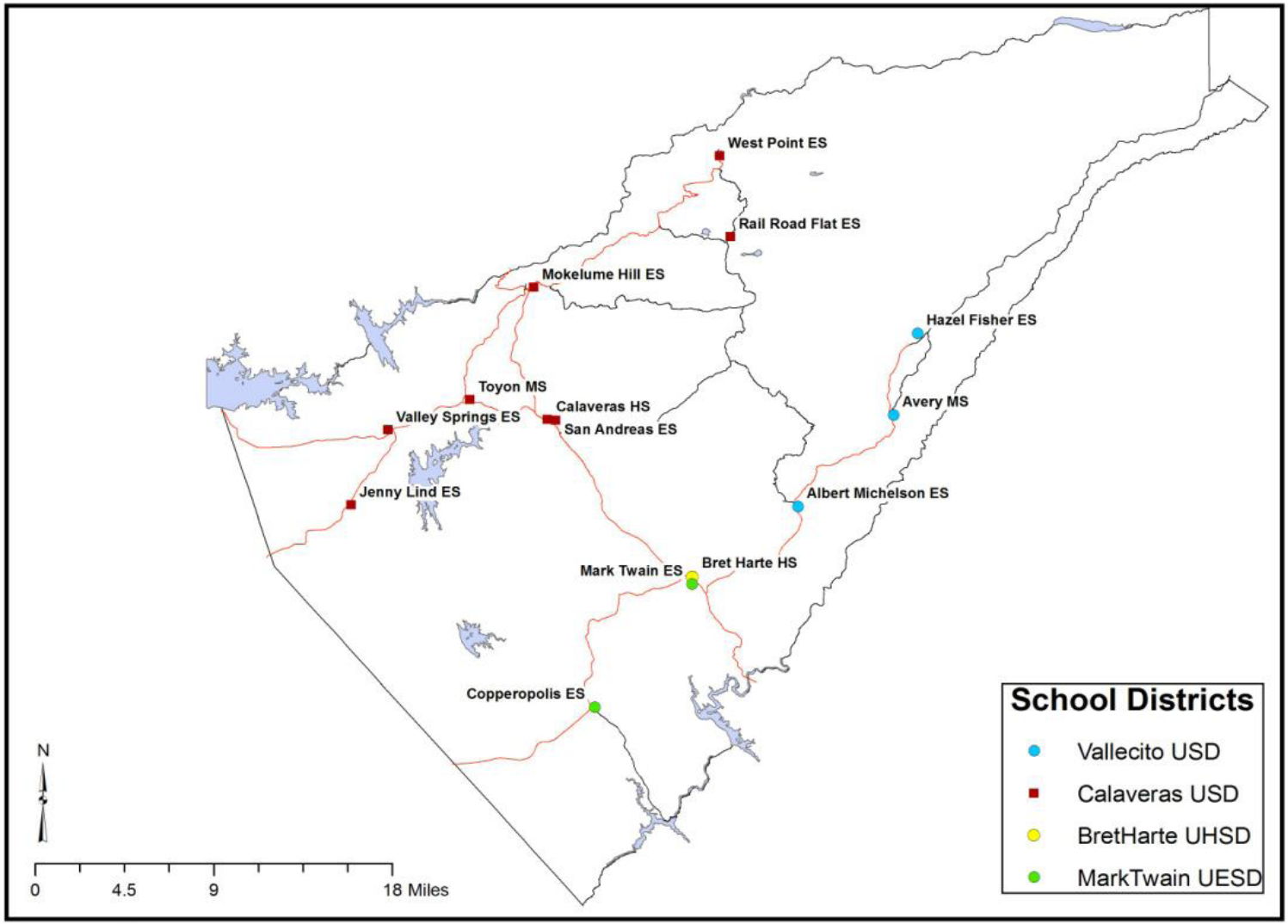


**Figure 4.12-9**
**Local Schools with Recreation Facilities**



The Mercer Caverns, located in the Sierra Foothills just outside of Murphys, is a privately owned and operated facility that was discovered and opened to the public in 1885. The owners of the facility claim that the cavern is the oldest continually-operating commercial cavern in California. Numerous unusual and beautiful calcite formations are found within the three-million-year-old cave, including some of the five rarest calcite formations. The cave was used as a mortuary site by a Native American Tribe called the Yokuts in prehistoric times.

Moaning Cavern Park, located near the town of Vallecito, holds the largest public cave chamber in California. Many recreational activities are offered at Moaning Cavern, such as guided walk tours, descending down 165-feet below ground on a spiral staircase, rappelling into the cave, zip lining, and others. Human remains discovered in the Moaning Cavern are believed to be among the oldest ever found in North America.

California Cavern, a State historic landmark, is the oldest commercial cave in Calaveras County, being the first show cave in the State that opened to the public in 1850. Numerous chambers, passageways, and lakes up to 200-feet deep can be found at the California Cavern, which is located at Cave City near Mountain Ranch. Activities available at California Cavern include guided walking tours and spelunking.

In addition to the three major, commercially-operated caverns, other caves in Calaveras County are of recreational interest, particularly to spelunkers, including the large Crystal Palace Cave, which is home to an unusual species of spider.

*Shared-Use Trails*

The Calaveras Council of Governments prepared and adopted the Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan in June, 2015. The plan identifies various existing Class I shared-use pathways are located throughout the County. For example, existing continuous walkways or trails are present in parts of San Andreas, Angels Camp, Murphys, and Arnold. Potential for further connectivity development exists in these areas, as well as the more rapidly developing areas such as those in Copperopolis.

*Historic Ditches*

Calaveras County is home to numerous ditches built during the Gold Rush era for irrigation and mining purposes, including Kadish Ditch, Poverty Bar Ditch, Jupiter Ditch, Utica Ditch, Fricot Ditch, Rock Creek Ditch, and others. The ditches are important historical landscape features within the County and provide walking trails and habitat value.

## 4.12.3 REGULATORY CONTEXT

Existing laws, and regulations related to public services and utilities that would apply to the Draft General Plan are summarized below.

**Federal Regulations**

The following are the federal environmental laws and policies relevant to public services and utilities.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA), which was enacted in 1974, gives the U.S. EPA the authority to set standards for contaminants in drinking water supplies. The EPA was required to establish primary regulations for the control of contaminants that affected public health and secondary regulations for compounds that affect the taste, odor, and aesthetics of drinking water. Accordingly, the U.S. EPA set a maximum contaminant level or treatment technique for each of the 83 contaminants in drinking water listed in the SDWA. Under the provisions of SDWA, the California Department of Health Services (DHS) has the primary enforcement responsibility. Title 22 of the California Administrative Code establishes DHS authority, and stipulates State drinking water quality and monitoring standards.

**State Regulations**

The following are the State environmental laws and policies relevant to public services and utilities.

California Green Building Code

Part 11 of the California Code of Regulations is known as the California Green Building Code or CALGreen. The CALGreen code is a set of mandatory and/or voluntary requirements for residential and nonresidential structures. Requirements of the CALGreen code are focused on reducing construction waste, promoting the use of efficient materials and reducing the energy demand of new structures. CALGreen is updated on a triennial basis, as a result, the current 2016 CALGreen code became effective January 1, 2017. The current 2016 CALGreen code requires that construction activity must divert at least 65 percent of the construction waste generated during new construction, additions, alterations, and demolition through reuse or recycling.

California Integrated Waste Management Act – Assembly Bill 939

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's capacity AB 939 plan will be integrated within the respective county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to $10,000-per-day fines.

*Senate Bill 1016*

In 2007, SB 1016 amended portions of AB 939, which allows the California Integrated Waste Management Board (CIWMB) to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle.

Mandatory Commercial Recycling Regulation

In 2011, AB 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The resulting Mandatory Commercial Recycling Regulation requires that on and after July 1, 2012, certain businesses that generate four cubic yards or more of commercial solid waste per week shall arrange for recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to a recycling service that includes mixed waste processing.

AB 341 also established a statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939.

Mandatory Commercial Organics Recycling – Assembly Bill 1826

In October of 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. In addition, AB 1826 requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. AB 1826 phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means that an increasingly greater proportion of the commercial sector would be required to comply.

Solid Waste Reuse and Recycling Access Act – Assembly Bill 1327

The Solid Waste Reuse and Recycling Access Act (AB 1327) requires jurisdictions to adopt ordinances requiring development projects to provide adequate storage area for collection and removal of recyclable materials.

Senate Bill 610

The California Water Code requires coordination between land use lead agencies and public water purveyors. The purpose of this coordination is to ensure that prudent water supply planning has

been conducted and that planned water supplies are adequate to meet both existing demands and the demands of planned development.

Water Code Sections 10910 – 10915 (inclusive), sometimes referred to as SB 610, require land use lead agencies: 1) to identify the responsible public water purveyor for a proposed development project, and 2) to request from the responsible purveyor, a "Water Supply Assessment" (WSA). The purposes of the WSA are (a) to describe the sufficiency of the purveyors' water supplies to satisfy the water demands of the proposed development project, while still meeting the current and projected water demands of customers, and, (b) in the absence of a currently sufficient supply to describe the purveyor's plans for acquiring additional water. Water Code Sections 10910-10915 delineate the specific information that must be included in the WSA.

Sustainable Groundwater Management Act

The DWR has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA). The expanded responsibilities include the following:

1) Developing regulations to revise groundwater basin boundaries;
2) Adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements;
3) Identifying basins subject to critical conditions of overdraft;
4) Identifying water available for groundwater replenishment; and
5) Publishing best management practices for the sustainable management of groundwater.

Proposition 1A/Senate Bill 50

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) is a school construction measure authorizing the expenditure of State bonds totaling $9.2 billion through 2002, primarily for modernization and rehabilitation of older school facilities and construction of new school facilities. $2.5 billion is for higher education facilities and $6.7 billion is for K-12 facilities. Proposition 1A/SB 50 implemented significant fee reforms by amending the laws governing developer fees and school mitigation, including the following:

- Establishes the base (statutory) amount (indexed for inflation) of allowable developer fees at $1.93 per square foot for residential construction and $0.31 per square foot for commercial construction.

- Prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.

- Suspended for a period of at least eight years a series of court decisions allowing cities and counties to deny or condition development approvals on grounds of inadequate school facilities when acting on certain types of entitlements.

Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act […] involving […] the planning, use, or development of real property." (Government Code 65996[b]) Additionally, a local agency cannot require participation in a Mello-Roos for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos. Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a "needs analysis," eligibility for State funding, and satisfaction of two of four requirements (post-January 1, 2000) identified in the law including year-round enrollment, general obligation bond measure on the ballot over the last four years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt. Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of costs where the State match is unavailable. District certification of payment of the applicable fee is required before the city or county can issue the building permit.

Department of Education Standards

The California Department of Education published the Guide to School Site Analysis and Development to establish a valid technique for determining acreage for new school development. Rather than assigning a strict student/acreage ratio, this guide provides flexible formulas that permit each district to tailor its ratios as necessary to accommodate its individual conditions. The Department of Education also recommends that a site utilization study be prepared for the site, based on these formulas.

Office of Emergency Services

Title 19, Chapters 1 through 6, of the California Code of Regulations (CCR) establishes regulations related to emergency response and preparedness under the Office of Emergency Services (OES). The OES serves as the lead State agency for emergency management. OES coordinates the State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the State through the State-wide Mutual Aid System. In California, the Standardized Emergency Management System (SEMS) provides the mechanism by which local government requests assistance. OES is the lead agency for mobilizing and obtaining State and federal resources, overseeing the mutual aid system, and, during an emergency, coordinating response efforts. In addition, during an emergency, the OES is responsible for collecting, verifying, and evaluating information about the emergency, facilitating

communication with local government and providing affected jurisdictions with additional resources when necessary. If necessary, OES may task State agencies to perform work outside their day-to-day and statutory responsibilities.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, including regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, and fire suppression training.

Uniform Fire Code

The Uniform Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Code contains specialized technical regulations related to fire and life safety.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) manages all water rights and water quality issues in California under the terms of the Porter-Cologne Water Quality Control Act (1969). The California Department of Health and Safety has been granted primary enforcement responsibility for the SDWA (see above). Title 22 of the California Administrative Code establishes DHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the federal standards.

Quimby Act

California Government Code Section 66477 of the Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

State Public Park Preservation Act

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resources Code, cities and counties may not acquire any real

property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

**Local Regulations**

The following are the local government's environmental policies relevant to public services and utilities.

Calaveras County Code Chapter 8.08 – Hazardous Fire Areas

Calaveras County identifies that some uses of grass, grain, brush, or forest-covered lands can cause fire hazards, which pose a threat to life and property from fire and resulting erosion. As such, Chapter 8.08 of the County's Code of Ordinances establishes safeguards and regulations related to recreational, residential, commercial, industrial, and other activities, which could increase the threat of fire hazard. For instance, Chapter 8.08 prohibits smoking, open flames, and outdoor fires in certain situations, and allows the County fire warden to prohibit entry into hazardous fire areas. Penalty for violations of such regulations are considered misdemeanors, which are punishable by fine, imprisonment, or both.

Calaveras County Code Chapter 8.10 – Fire and Life Safety

Chapter 8.10 of the County's Code of Ordinances addresses minimum wild fire protection standards and building construction standards for developments within the unincorporated areas of the County. This chapter also incorporates the requirements of Public Resources Code Section 4290 and Title 14, Section 1270 et seq. of the California Code of Regulations (State Fire Safe Regulations). The chapter applies to various permitting activities, such as the approval of new parcels or lot line adjustments, construction permit applications, use permit applications, the siting of manufactured homes, and road construction. Guidelines included in Chapter 8.10 relate to the design and construction of new structures and roadways, as well as the maintenance of defensible space, location of greenbelts, and the disposal of waste material. Additionally, the Fire and Life Safety chapter allows for the County to require new developments to prepare a fire management plan, if the development would have a significant effect on the provision of fire protection services.

Calaveras County Code Chapter 12.02 – Road Construction Standards

Chapter 12.02 of the County's Code of Ordinances establishes standards for the construction of new roads within the County. Specifically, Chapter 12.02 includes provisions related to road construction for emergency and fire access.

Title 13 – Public Services

Title 13 of the Calaveras County Code of Ordinances includes various chapters relating to stormwater quality, county service areas, underground utility districts, inspection of sewage, gas, and flood drainage systems, and sewage disposal. The purpose of Title 13 is to protect public

health, welfare, and property, while also preserving the environmental and providing the County with the authority to fulfill the obligations places on the County by the CVRWQCB.

Chapter 15.07 – Public Facilities Fees

To mitigate potential impacts caused by new development within the Count, Chapter 15.07 allows for the development and implementation of public services fees. Fees imposed on new developments pursuant with Chapter 15.07 may be used for the construction, expansion, or improvement of public facilities to accommodate new development within the County.

Chapter 15.08 – Calaveras Fire Mitigation Fee Ordinance

The Calaveras Fire Mitigation Fee Ordinance is contained in the County's Code of Ordinance as Chapter 15.08. Chapter 15.08 allows for the implementation of fees related to fire prevention, suppression, and emergency response within unincorporated portions of the County. The Calaveras Fire Mitigation Fee Ordinance is enacted pursuant to the State Mitigation Fee Act.

Chapter 16.24 – Park and Recreation Facilities, Dedications, Fees

The Calaveras County Board of Supervisors has codified the need to grow recreational facilities in tandem with future development within the County through Chapter 16.24 of the County's Code of Ordinances. Chapter 16.24 states that approval of tentative and final subdivision map and parcel maps include requires the dedication of land and/or the payment of fees for park and recreational facilities.

## 4.12.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to public services and utilities.

**Standards of Significance**

Consistent with Appendix G of the CEQA Guidelines, a public services impact would be considered significant if implementation of the Draft General Plan would:

- Increase the demand for additional fire or police services beyond the ability of the existing departments to provide adequate service, resulting in substantial adverse physical impacts associated with the provision of new or physically altered fire or police facilities;
- Increase the demand for additional educational facilities beyond the capacity of the local school district, or the ability of the existing facilities to provide adequate service, resulting in substantial adverse physical impacts associated with the provision of new or physically altered educational facilities;

- Result in the need for a new system or substantial alteration to power or natural gas utilities, resulting in substantial adverse physical impacts associated with the provision of new or physically altered power or natural gas utility facilities; or
- Require or result in the construction of new telecommunication infrastructure, the construction of which could cause significant environmental effects.

Consistent with Appendix G of the CEQA Guidelines, an impact related to utilities would be considered significant if implementation of the Draft General Plan would:

- Exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater delivery, collection or treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Not comply with federal, State, and local statutes and regulations related to solid waste;
- Result in significant adverse impacts on energy facilities; or
- Result in substantial physical deterioration of existing recreational facilities or result in substantial adverse physical impacts associated with the provision of new or physically altered recreation facilities, and/or the need for new or physically altered recreation facilities, the construction of which could cause significant environmental impacts in order to maintain performance objectives for recreation facilities.

Issues Not Discussed Further

It should be noted that impacts related to stormwater are discussed in section 4.8, Hydrology and Water Quality of this EIR. Please refer to section 4.8 for a detailed discussion of this topic.

**Method of Analysis**

Determination of public services and utilities impacts is based on information from the Calaveras County Draft General Plan.

**Impacts and Mitigation Measures**

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

**4.12-1 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, and/or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Buildout of the proposed Draft General Plan would increase the total population of the County to up to 117,045 people, which would increase the demand on the County's Sheriff Department due to the expected increase of crime and traffic. In response to the anticipated growth within the County, the Sheriff's Department anticipates increasing their staffing levels from the current level of five officers per shift to six officers per shift by 2020. Increasing the number of officers per shift would most likely require expanding the sworn officer staff of the Department. Beyond 2020, the Sheriff's Department would continue to evaluate potential changes to staffing in response to ongoing changes in demand for services.

In addition to providing officers for law enforcement, the Sheriff's Department also operates the 911 call center for the County. The increased call volume that would result from population growth under the Draft General Plan could require hiring additional dispatch staff.

Although buildout of the Draft General Plan may require the Sheriff's Department to expand the existing staff, the Sheriff's Department recently completed construction of a new administrative structure and continues to operate sub stations in Arnold, Camanche South Shore, Copperopolis, Valley Springs, and West Point. Considering the recent construction of the new administrative structure and the existing substations, expansion of the Sheriff's Department to meet increased police service demand due to buildout of the Draft General Plan is not anticipated to result in the need for new or physically expanded police service facilities. Furthermore, as discussed in greater detail below, the Draft General Plan includes policies to ensure that new development within the County does not adversely affect service ratios and response times of the Sheriff's Department.

Efficient communication is essential to law enforcement activity; however, as discussed above, the current radio technology does not currently meet the Sheriff Department's needs. New technologies are being adopted by the Sheriff's Department and may require construction of new repeater towers or infrastructure in the future.

The Draft General Plan includes the following goals and policies regarding law enforcement issues:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 4 Adequate law enforcement, communications, and public safety services & equipment to meet the growing demand associated with increasing population and commercial and recreational development in the County.

Policy PF 4.1 Provide sufficient funding for law enforcement to improve service levels and response times as new development occurs. (IM PF-4A, PF-4B and PF-4C)

Policy PF 4.2 New development shall pay its fair share of costs to support law enforcement staffing, equipment and communications demands caused by the increase in population and business activity. (IM PF-4A, PF-4B and PF-4C)

Policy PF 4.3 Establish an effective interoperable communication system to provide sufficient voice and data communications between law enforcement and emergency service providers to serve the County. (IM PF-4D)

Goal PF 6 Discourage crime and minimize demands on law enforcement resources.

Policy PF 6.1 Incorporate crime-reducing design elements in new development. (IM PF-6A and PF-6B)

Policy PF 6.2 Ensure adequate funding is provided for law enforcement and crime prevention activities. (IM PF-4A, PF-4B and PF-4C)

Goal PF 7 Effective communications, high quality schools, and adequate libraries and other public facilities and services to expand the economy and serve the needs of the county's residents, businesses, and visitors.

Policy PF 7.6 Support collocation of communication system to facilitate private cellular service and emergency communications. (IM PF-7E)

Goal C-1 A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character.

Policy C 1.13 Strive to increase roadway connectivity, particularly in Community Areas, to reduce trip lengths, enhance emergency response, encourage opportunities for trips to be made by walking and bicycling.

In addition to the goals and policies presented above, the Draft General Plan includes the following Implementation Measures (IMs) related to law enforcement.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire,

libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-4A Staffing Levels/Levels of Service. The County shall establish:

- An adequate level of service for officer staffing levels and response times within the unincorporated areas of Calaveras County.
- Staffing levels adequate to meet the demands of an increasing inmate population within the County jail.
- Staffing levels adequate to meet the demands of increasing calls for service made to the Sheriff's 911 Call Center.

IM PF-4B Monitor Levels of Service. Monitor and review Deputy Sheriff, Correctional Officer and 911 Telecommunicator staffing levels in comparison to population growth to ensure resources are available to serve local needs.

IM PF-4C Funding Law Enforcement and Emergency Services. Establish a development impact fee to fund capital costs and operations of law enforcement, communications, and emergency services to serve new development and maintain existing levels of service.

IM PF-4D Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public.

IM PF-5A Multi-Agency Coordination Group (MAC). Continue to participate in the MAC Group to facilitate coordination between agencies to optimize limited resources and assist in the provision of emergency services.

IM PF-7E Communication Facilities. Require review of new cellular communication towers by emergency service agencies and coordinate with cellular companies when new towers are installed to facilitate collocation.

As discussed in the Existing Environmental Setting portion of this section of the EIR, the rural nature of Calaveras County presents significant challenges to law enforcement throughout the County. Emergency response times and emergency communications are of particular concern within the County. As shown above, the Draft General Plan incorporates various goals, policies, and IMs to maintain and improve the performance of law enforcement throughout the County.

Addressing Increased Demand on Police Protection Services

The Draft General Plan would require the County to establish standards for the staffing levels and desired levels of service for law enforcement throughout the County (IM PF-4A). Establishment of such standards would allow for a countywide assessment of the law enforcement currently provided by the Sheriff's Department, and future monitoring of such standards (IM PF-1B and IM PF-4B). New development within the County would have the potential to affect the Sheriff Department's level of service, if such development outpaces the available services. However, the Draft General Plan includes numerous goals and policies to ensure new development would not degrade law enforcement throughout the County. For instance, Goal PF 1 requires that growth in the County does not exceed the capacity of the Sheriff's Department to provide law enforcement service, and Policy PF 1.1 prohibits the County from taking discretionary actions involving new development, which would reduce law enforcement services below the level of service established following IM PF-4A. The Draft General Plan requires that law enforcement services are expanded (Policy PF 1.5), and new developments must pay their fair share of such expansion (Policy PF 1.3 and IM PF-1C). Such expansion would require the service providers to be involved in the planning process for new development within the County, which is provided for by IM PF-1G. Expansion of law enforcement services within Calaveras County would require proper funding; thus, the Draft General Plan includes multiple policies to ensure that adequate funding exists to improve response times, maintain law enforcement service, and expand law enforcement services with new development (Policy PF 1.3, IM PF-1C, IM PF-4C, Policy PF 4.1, Policy PF 4.2, and Policy PF 6.2).

Police Protection Services Demand Reduction

While addressing the need for expanded law enforcement services throughout the County, the Draft General Plan also includes goals, policies, and IMs to reduce the total demand

for law enforcement and increase the efficacy of the existing law enforcement services. Draft General Plan Goal PF 6 and Policy PF 6.1 require the County to establish design guidelines focused on reducing the potential law enforcement demand of new developments. Efficacy of the existing law enforcement services would also be improved by Draft General Plan Goal C-1 and Policy C 1.13, which encourage the improvement of the County's transportation network to aid in emergency response.

Emergency Communications

In addition, the Draft General Plan includes various goals, policies, and IMs to address the current communications system within the County, which is considered deficient. Goal PF 4 requires that the County provide adequate law enforcement and emergency communications throughout Calaveras County. In order to provide such communication service, Policy PF 4.2 requires the County to establish development fees, which would be used to fund improved communication services. The County identifies that such communication technology improvements are needed for emergency response and non-emergency communication throughout the County, and Goal PF 7, Goal 7.6, IM PF-1D, and IM PF-4D encourage the co-location of such infrastructure, which would help the County achieve effective communications. Furthermore, the Draft General Plan requires review of new non-emergency communications towers by emergency service providers, and where possible co-location of non-emergency and emergency communications towers should be pursued (IM PF-7E).

Conclusion

Considering the inclusion of goals, policies, and IMs related to law enforcement services, and the recent construction of expanded facilities for the Sheriff Department, implementation of the Draft General Plan is not anticipated to result in the need for new or physically altered Sheriff Department facilities. However, as discussed above, existing deficiencies in the emergency communication network within the County would result in the need for future alteration and expansion of the communication network facilities. The development of such communication facilities could potentially result in physical impacts to the environment, thus the Draft General Plan would result in a ***significant*** impact related to substantial adverse physical impacts due to the provision of new or physically altered law enforcement facilities.

Mitigation Measure(s)

Buildout of the Draft General Plan would likely require construction of new emergency communication infrastructure, which could result in substantial adverse physical impacts to the environment. The following mitigation measure would alleviate the impacts due to such development. However, because the location of future emergency communication infrastructure is currently unknown, the potential impacts related to buildout of such infrastructure is also unknown. Thus, feasible measures to ensure that impacts associated with the construction of new emergency communication infrastructure are reduced to a

less-than-significant level do not exist. Therefore, even with implementation of the following mitigation measure, the above impact would remain *significant and unavoidable*.

*4.12-1 Implementation Measure PF-4D of the Draft General Plan shall be revised as follows:*

*IM PF-4D Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public. The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new emergency communications facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new emergency communications facilities.*

**4.12-2 Development associated with the General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, and/or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Fire hazards within Calaveras County include wildland fires and structure fires. Local fire districts, the Angels Camp Fire Department (ACFD), CalFire, the State Office of Emergency Services, and the United States Forest Service work together to provide mutual aid for structure fires, wildland fires, vehicle accident extrication, and mass casualty incidents.

Over 89 percent of the County is classified, by CalFire, as having either a high or a very high risk of wildfire. Over 15,000 improved parcels and $2.2 billion in improvements, including schools, medical centers, water/wastewater facilities, fire stations, police stations and evacuation sites, are in a Very High fire hazard zone. Additionally, as previously noted in this section, the County's rural nature makes providing consistent fire protection services to all areas of the County difficult, and many of the fire districts within the County do not meet the adopted response time goals.

Population growth anticipated to occur under buildout of the Draft General Plan would be anticipated to increase demand for fire protection throughout the County. In recognition of the existing high fire hazard throughout most of the County, the anticipated increase in demand with development under the Draft General Plan, and the current shortfalls in fire protection service, the County has incorporated the following goals and policies regarding fire protection into the Draft General Plan:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.4 Coordinate with LAFCo and special districts to ensure annexations to service districts will be consistent with the General Plan policies prior to project approvals and/or annexations to special districts. Establish clearly defined service areas and spheres of influence to identify where service providers will and can provide future service. (IM PF-1C, PF-1E, PF-1F, PF-1G, PF-1H, FP-2A and PF-2G)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 4 Adequate law enforcement, communications, and public safety services & equipment to meet the growing demand associated with increasing population and commercial and recreational development in the County.

Policy PF 4.3 Establish an effective interoperable communication system to provide sufficient voice and data communications between law enforcement and emergency service providers to serve the County. (IM PF-4D)

Goal PF 5 Prepared for and be able to respond to and recover from the effects of natural and manmade disasters and other emergencies.

Policy PF 5.1 Support and encourage interagency coordination and cooperation to prepare for and in response to disaster and emergency situations. (IM PF-5A and PF-5B)

Policy PF 7.6 Support collocation of communication system to facilitate private cellular service and emergency communications. (IM PF-7E)

Goal S-1 People, property, economy, and natural resources safe from the risks of natural and man-made hazards.

Policy S 1.2 Require new development to incorporate design features that minimize vulnerability to natural and man-made hazards. (IM S-1A)

Policy S 1.3 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service provided by emergency responders. (IM S-1B, PF-1A, and PF-1B)

Policy S 1.4 Prior to approving new development in identified hazardous areas, evaluate the public costs that would be incurred if emergency or remedial actions become necessary. (IM S-1B)

Policy S 1.6 Enhance communications systems to facilitate emergency response and for post-disaster recovery. (IM S-1H and S-3U)

Policy S 1.7 Locate new essential public facilities, utilities, and services away from identified hazard areas.

Goal S-3 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from fires.

Policy S 3.1 Apply consistent standards for new development commensurate with the severity of the fire hazard as reflected in designated fire hazard zones and as necessary to reduce potentially significant adverse impacts related to structural (urban) and wildland fires. (IM S-3A, S-3B and S-3W)

Policy S 3.2 Ensure that new development, including essential public facilities, complies with adopted fire codes and standards for fire protection. (IM S-3A)

Policy S 3.3 Review new development proposals in coordination with CalFire and individual fire districts to ensure that impacts to fire protection districts are identified and, where necessary, require new development to mitigate those impacts consistent with state law. (IM S-3C, S-3D and S-3W)

Policy S 3.4 All new development shall meet any applicable standards for access by emergency vehicles and egress by residents. (IM S-3A, S-3B, S-3C, S-3D and S-3W)

Policy S 3.5 Include professional fire planning experts in the planning review process for projects located in High and Very High Fire Hazard Areas to consistently evaluate fire safe design, potential impacts related to fire safety, and to identify effective measures to minimize potential impacts related to wildland fire. (IM S-3A and S-3S)

Policy S 3.6 Support the review and update of fire district impact fees to adequately fund minimum levels of service and staffing to meet the fire protection needs of existing and future residents and businesses. (IM S-3H)

Policy S 3.9 Require property owners to maintain wildlands in a fire-resistant manner consistent with Section 4291 of the Public Resources Code in conjunction with new development and including ongoing maintenance after project construction. Assist fire protection agencies in their efforts to enforce PRC 4291. (IM S-3E, S-3G, S-3I, S-3O, S-3Q and S-3S)

Policy S 3.10 Coordinate with local, state and other fire agencies to improve community fire safety to the extent that such actions may fall within the County's legislative authority. (IM S-3G, S-3I, S-3P, S-3R and S-3T)

Policy S 3.11 Facilitate the education of landowners, residents, visitors and business owners about the risks of living in the wildland urban interface including applicable regulations, prevention measures and pre-planning activities. (IM S-3I, S-3O and S-3Q)

Goal C-1 A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character.

Policy C 1.13 Strive to increase roadway connectivity, particularly in Community Areas, to reduce trip lengths, enhance emergency response, encourage opportunities for trips to be made by walking and bicycling.

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to fire protection.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-

term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-4C Funding Law Enforcement and Emergency Services. Establish a development impact fee to fund capital costs and operations of law enforcement, communications, and emergency services to serve new development and maintain existing levels of service.

IM PF-4D Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public.

IM PF-5A Multi-Agency Coordination Group (MAC). Continue to participate in the MAC Group to facilitate coordination between agencies to optimize limited resources and assist in the provision of emergency services.

IM PF-7E Communication Facilities. Require review of new cellular communication towers by emergency service agencies and coordinate with cellular companies when new towers are installed to facilitate collocation.

IM S-3A Calaveras Code Consistency with State Fire Safety Standards. Review the County Code and Highway Design Manual for consistency with state fire safety regulations. Amend the Code and design manual as may be necessary to conform to state law, which may include provisions for defensible space exceptions, maintenance, reduced fuel zones, and establishing building setbacks or easements for all new construction to allow for adequate defensible space. Continue to update Title 15 of County Code to incorporate fire protection measures required by the current editions of the California Building Code and the California Fire Code for new construction.

IM S-3B Local Fire Safety Standards. Review applicable fire safety standards adopted by local fire districts and assess their consistency with adopted County fire safety regulations.

IM S-3C Comprehensive Fire Safety Standards. Create a comprehensive fire safety standard(s) reference for use by planners and applicants to facilitate incorporating these standards in new development, including new essential public facilities, to the extent feasible. References shall include, at a minimum: the current versions of the Tuolumne-Calaveras Unit Strategic Fire Plan and Calaveras County Community Wildfire Protection Plan.

IM S-3F Fire Safety Committee. Consider forming a Fire Safety Committee, or equivalent, bringing together the multiple local, state and federal fire districts and agencies countywide to review the effectiveness of the fire protection policies in the General Plan and Calaveras County Code at least once every five years. Alternatively, provide County staff representation on equivalent committees formed by CalFire or other local fire agencies for the same purpose.

IM S-3H Fire Protection District Funding. Assist, as needed, with local fire protection district impact fee review and adoption to support minimum levels of service.

IM S-3O Non-Regulatory Voluntary Stewardship-Based Efforts. In conjunction with Program S-1H (Public Safety Information), provide links from the County website to, or provide copies at public counters of, Firewise Communities Program publications related to wildfire preparedness actions (www.firewise.org). Acknowledge the efforts of the County's existing Firewise Communities in conjunction with evaluating fire safety in planning documents. Consider encouraging communities to become

Firewise communities-especially in conjunction with the formation of Homeowner's Associations for new development. Encourage community plans to include, in updates, applicable provisions of Community Wildfire Protection Plans and to consider including plans to become a Firewise Community to improve community fire safety.

IM S-3P Existing Housing Stock. The County will evaluate the fire safety and preparedness of buildings or properties receiving local, state or federal funds administered by Calaveras County to rehabilitate existing housing stock for affordable housing. As funding permits, and where permitted per the granting or lending agency guidelines, substandard fire safe housing deficiencies shall be addressed in rehabilitation activities to bring existing buildings up to current fire safety standards to the maximum extent feasible (e.g., building materials, vegetative hazards, perimeter access) without diminishing the cultural integrity or visual quality of the structure and its surroundings.

IM S-3S Fuel Management New Development. In conjunction with the approval of new subdivisions, require preparation and implementation of a fire fuel management plan including provisions for ongoing fuel maintenance throughout the life of the project. The plans should be reviewed and approved by the local fire district or CalFire, as applicable. The plan should include provisions for completing fuel reduction activities within common areas and any perimeter fuel reductions prior to filing a final map (or providing adequate assurances to complete the work). The plan should address the necessity for recording fire fuel management easements on parcels to ensure sufficient area is provided between housing units to permit adequate defensible space. Developers should be encouraged to have projects become recognized as Firewise Communities.

IM S-3W Fire District Review. Prior to approval of new development, refer development applications to the responsible fire district for review of applications to determine the ability of the district to provide fire protection service. Recommendations regarding the need for access, signage, water supply, fuel breaks and other design features should be incorporated into the project.

The Draft General Plan includes various regulations that would improve the current functioning of fire protection services within the County and provide for services to be expanded with further development within the County.

Increasing Efficiency of Existing Fire Protection Services

Current fire protection services could be made more effective through various goals, policies, and IMs within the Draft General Plan. IM S-3P, of the Draft General Plan, applies State and federal funds to evaluation of the existing housing stock to identify measures that can be taken to reduce the fire hazard in existing developments. Additionally, Goal C-1 and Policy C 1.13 direct the County to make improvements to the existing circulation system that would aid emergency response. Draft General Plan Policy S 3.10, Policy S 3.11, and IM S-3O focus on public outreach and education regarding fire safety, prevention, and preparedness, all of which could contribute to a reduction in the existing demand on fire protection services. By reducing the fire hazard related to the existing housing stock, improving the County's circulation system, and educating County residents, the County's Draft General Plan would improve the efficacy of the existing fire protection services.

Moreover, the Calaveras County Code currently includes several ordinances that seek to protect new developments from fire hazards related to wildland fires and structural fires. Calaveras County Code Chapter 8.08 and Chapter 8.10 establish safeguards and regulations related to activities within fire hazard areas and related to various permitting activities. For instance, Chapter 8.08 prohibits smoking, open flames, and outdoor fires in certain situations within hazardous fire areas. Meanwhile, Chapter 8.10 addresses minimum wild fire protection standards and building construction standards for new developments. Both Chapter 8.08 and 8.10 reduce the demand on fire services by increasing the fire safety of existing and new development, and by reducing the likelihood of fires related to new developments.

Along with identifying means of increasing the efficiency of existing fire services, the Draft General Plan identifies the need to clearly define the existing service areas (Policy PF 1.4). Defining the current service areas for fire protection providers would aid in the determination of where services should be expanded, where deficiencies in service may currently exist, and where opportunities for interagency coordination exist (Policy PF 1.5 and Policy PF 5.12). To support such analysis, the Draft General Plan includes IM S-3F, which directs the County to consider forming a Fire Safe Committee, which would coordinate between fire protection agencies throughout the County.

The foregoing County Code and Draft General Plan goals and policies would serve to increase the efficiency of the existing fire protection services provided within the County. However, as discussed in Impact 4.12-1, emergency communication within the County continues to be deficient. The deficiency in the ability of emergency service providers to effectively communicate throughout the County impedes the efficient provision of emergency services, including for fire protection service. In order to improve emergency communication within the County, an expansion of communication infrastructure may be necessary.

Addressing Increased Fire Demand from New Development

Although numerous measures within the Draft General Plan concern the improvement of existing fire protection services, the further development of the County would increase the demand of existing fire protection services through the increase in residents within the County as well as increases in commercial, industrial, and public development. Draft General Plan Goal PF 1 directs the County to synchronize the expansion of the existing fire protection services with the future development of the County. Such synchronization would begin with the establishment of level of service targets and thresholds per IM PF-1A. Once the level of service and thresholds are established, Policy PF 1.1, Policy S 1.3, and IM PF-1B would require the County to maintain the established levels of service, and prohibit the County from taking discretionary actions that would reduce fire protection services below the thresholds established in accordance with IM PF-1A. Maintenance of the level of fire protection service within the County would likely occur through the establishment of impact fees and fire protection district funding measures ( IM PF-1C, IM PF-4C, and IM PF S-3H). In addition, the Calaveras County Code allows for the assessment of fire mitigation fees through the Calaveras Fire Mitigation Fee Ordinance. Such mitigation fees are meant to ensure that funding for fire protection increases in proportion to increased demand caused by new developments.

Another method of maintaining the levels of the fire protection level of service standards established in accordance with IM PF-1A would be the goals, policies, and IMs included in the Draft General Plans related to the reduction of demand on fire protection services from new developments. Future demand reductions would principally occur through design requirements placed on new development throughout the County. For instance, the Draft General Plan would require the most up-to-date local and state fire protection standards to be applied to all new development throughout the County (Goal S-1, Policy S 1.2, Policy S 3.1 and IM S-3A). The Draft General Plan would further require developments meeting the fire protections standards to adhere to fuel management and property management guidelines and regulations (Policy S 3.3 and IM S-3S). Additionally, new development would be subject to varying degrees of evaluation based on the development's location in respect to fire hazard severity zones (Policy S 1.4). New developments could be reviewed by CalFire, the fire district, or other fire planning professionals to ensure that the projects were designed to minimize the danger of fire hazard, which would also reduce the demand on fire protection services (Policy S 3.3, Policy S 1.4, and IM S-3W). Design review would include consideration of emergency access to the development (Policy S 3.4), the aforementioned Draft General Plan Policies, as well as design compliance with other relevant existing Calaveras County regulations. Such regulations would include sections 8.08, 8.10, and 12.02 of the County's Code of Ordinances, which are related to hazardous fire areas, fire and life safety, and road construction, respectively.

Conclusion

The Draft General Plan includes goals, policies, and IMs that would increase the efficiency of existing fire protection services, decrease the current and future demand on fire protection service, and provide for mitigation of future impacts related to increased demand on fire protection services. However, as discussed above, the rural nature of Calaveras County creates a difficult environment for fire protection services, and such services are often deficient throughout the County. Further development within the County could exacerbate the existing deficiencies and require the construction of new or physically altered fire protection service facilities. Given that increases in demand would depend on the type and intensity of new development, as well as the proximity of new development to existing fire stations, the specific demands for new fire protection facilities cannot be evaluated at this time. Fire protection service facilities could include emergency communication facilities, which are currently considered to be insufficient within the County. The construction of new or physically altered fire protection service facilities such as new fire houses located in and around the future developments would have the potential to result in substantial adverse impacts to the environment; thus, implementation of the Draft General Plan would result in a ***significant*** impact.

Mitigation Measure(s)

Buildout of the Draft General Plan would involve construction of new fire protection facilities and emergency communication infrastructure, which could result in substantial adverse physical impacts to the environment. The following mitigation measures would alleviate the impacts due to such development. However, because the location of potential future fire protection facilities and emergency communication infrastructure is currently unknown, the potential impacts related to buildout of such infrastructure is currently unknown. Thus, feasible measures to ensure that impacts associated with the construction of future fire protection facilities and new emergency communication infrastructure are reduced to a less-than-significant level do not exist. Therefore, even with implementation of the following mitigation measures, the above impact would remain *significant and unavoidable*.

*4.12-2(a)* *Implement Mitigation Measure 4.12-1.*

*4.12-2(b)* *Policy S1.7 of the Draft General Plan shall be revised as follows:*

*Policy S 1.7* *Locate new essential public facilities, utilities, and services away from identified hazard areas. The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for new fire protection facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for development of new fire protection facilities, and, where feasible, existing facilities shall be upgraded to increase the efficacy of fire protection*

*service without the need for the construction of new facilities.*

**4.12-3 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, and/or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable performance objectives for school facilities. Based on the analysis below, the impact is *less than significant.***

Four school districts with 21 schools and one countywide charter school exist within the County. As the population of the County ages and the number of families with children decreases, Calaveras County schools have experienced ongoing declines in student enrollment.[64] Between 1996 and 2014, student enrollment declined by more than 1,600 students from the 1996 level of 7,496 students enrolled countywide. Although the Draft General Plan anticipated further development in the County, the Calaveras County office of Education does not anticipate the future population growth to substantially increase the number of school-aged children within the County. Nevertheless, new school sites have been set aside in Copperopolis should the need for expanded education services arise.

The County's Draft General Plan includes the following goals and policies related to schools:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

[64] California Department of Education. *Dataquest*. Available at: http://dq.cde.ca.gov/dataquest/DQ/. Accessed March 2018.

Goal PF 7 Effective communications, high quality schools, and adequate libraries and other public facilities and services to expand the economy and serve the needs of the county's residents, businesses, and visitors.

Policy PF 7.1 Support the expansion of high quality internet access (broadband) throughout the county to serve households, businesses, and educational, medical, and government facilities. (IM PF-7A)

Policy PF 7.2 Support efforts by school districts, community college districts, and private institutions to create a skilled workforce to enhance employment opportunities and support economic development. (IM PF-7B and PF-7C)

Policy PF 7.3 Ensure that adequate school facilities are available to support new development. (IM PF-1F)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to school services.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in

prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-7B Workforce Development. Support and coordinate with the Mother Lode Workforce Investment Board, Mother Lode Job Training, Calaveras County Economic Development Company, Community College districts, school districts, and other interested organizations to develop education and workforce training programs to increase worker skills that meet the changing employment needs of businesses in the County.

IM PF-7C Schools. Work with school districts, community college districts and other entities to establish satellite campuses in the county.

The recent trend of declining student enrollment has left all four school districts with ample capacity to accommodate increased student populations throughout the County. Although adequate capacity exists to accommodate increased student populations within all districts in the County, schools within the Mark Twain Union Elementary School District currently operate at a student-teacher ratio in excess of the adopted standard. However, considering that the capacity for more students exist at the schools within the Mark Twain Union Elementary School District, the cause of the student-teacher ratio exceeding the adopted standard is not an issue of limited classrooms or physical school facilities. Rather, the issues creating the excess student-teacher ratios are related to funding reductions and factors other than physical capacity.

Based on the anticipated additional units within the County and student generation rates, buildout of the Draft General Plan could result in an additional 9,990 new K-8 students and an additional 3,996 high school students. While the existing school districts have capacity for new students currently, additional school facilities would need to be built to accommodate full buildout of the Draft General Plan. The Draft General Plan includes goals, policies and IMs to ensure that new development within the County does not interfere with the provision of adequate school services. The Draft General Plan also instructs the County to establish level of service thresholds for public services, so that the County can ensure that public service levels remain adequate with future development of the County (Policy PF 1.1, Policy PF 7.7, IM PF-1A, and IM PF-1B). One method for

maintaining the established level of service standards included in the Draft General Plan is the payment of impact or development fees (Policy PF1.3 and IM PF-1C). Payment of such fees would occur under the provisions of SB 50. Payment of SB 50 fees by future projects is considered to fully mitigate any potential impacts on school facilities in accordance with Government Code Section 65995.

The Draft General Plan also encourages the efficient use of existing public facilities through IM PF-1D, which supports the coordination between public service providers for the establishment of joint use facilities. Using existing facilities more efficiently through coordination and co-location would reduce the need for new or physically altered school facilities. Finally, the Draft General Plan ensures that school districts within the County participate in future planning and development activity through IM PF-1G, which would help to reduce any potential future impacts related to development associated with implementation of the Draft General Plan.

Considering the above discussion, implementation of the Draft General Plan would result in the need for new or physically altered school facilities, the construction of which could result in impacts to the environment. However, the location of the future facilities cannot be determined at this time. Future development of schools would be overseen by the California Division of the State Architect (DSA) and would typically be required to obtain permits that comply with applicable regulations intended to protect environmental resources, and each project would be subject to independent review under CEQA to determine significant environmental effects and implement required mitigations when feasible. In addition to the County policies and IMs above, existing regulations (SB 50) would ensure that development facilitated by the implementation of the Draft General Plan would be served by adequate public school facilities and would not adversely impact school services. Therefore, the Draft General Plan would result in a ***less-than-significant*** impact.

Mitigation Measure(s)
*None required.*

**4.12-4 Development associated with the Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered other public facilities, and/or the need for new or physically altered other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Other public services and facilities within Calaveras County include those related to library services, public health, human services, and other services. The Draft General Plan includes the following goals and policies related to such services:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.6 Coordinate with the City of Angels Camp in development proposals and planning issues in the sphere of influence to ensure compatible development and timely provision of facilities and services. Areas of interest where the City and County should coordinate are:

- Encouraging infill in the City prior to expanding into the sphere of influence
- Expanding into the sphere of influence when there is a demonstrated need for additional land for planned growth in the city
- Coordinating with special districts and the city for the provision of public water and sewage disposal, fire protection, and other services
- Utilizing City standards for development within the sphere of influence
- Avoiding duplication of services (IM PF-1H and PF-2A)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 7 Effective communications, high quality schools, and adequate libraries and other public facilities and services to expand the economy and serve the needs of the county's residents, businesses, and visitors.

Policy PF 7.1 Support the expansion of high quality internet access (broadband) throughout the county to serve households, businesses, and educational, medical, and government facilities. (IM PF-7A)

Policy PF 7.4 Provide access to library services in communities throughout the county where practicable. (IM PF-7D)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to other public facilities and services.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-7D Libraries. Consider establishing a secure funding source for public libraries.

The County does not currently maintain level of service goals or thresholds for libraries or other public services. However, Draft General Plan IM PF-1A and IM PF-1B direct the County to establish and maintain level of service standards where applicable. In the absence of such standards, Calaveras County has identified a need to expand library services in the areas of Angels Camp, Copperopolis, Mokelume Hill, Valley Spring, Westpoint, Mountain Ranch, Railroad Flat, Sheep Ranch, and Milton (Policy PF 1.5, Policy PF 1.7, and Policy PF 7.4). Such expansion could involve the provision of new services, such as a library bus, expanded computer access, increased collections, and/or expanded hours of operations (Goal PF 7 and Policy PF 7.1). However, in some cases, the County has identified the need for new or physically altered library facilities to meet the need of expanded service populations. Such needs would be anticipated to grow with implementation of the Draft General Plan and resulting development. It should be noted that the Draft General Plan encourages the co-location of public services (IM PF-1D), which could reduce the need for new or expanded public facilities for libraries and other public services. Funding for new facilities could be attained through development impact fees (Policy PF 1.3), capital financing plans (IM PF-1E) or, in the case of libraries, through establishment of a permanent funding source (IM PF-7D). In addition, Chapter 15.07 of the Calaveras County Code currently provides for the assessment of public facilities fees.

Because implementation of the Draft General Plan would lead to further development of the County, and an increase in the County's population, implementation of the Draft General Plan would increase the demand on other public services including libraries. As such, the Draft General Plan could result in the need for new or physically altered public facilities, the construction of which could result in substantial physical impacts to the environment. Therefore, implementation of the Draft General Plan would result in ***significant*** impacts related to the provisions or construction of new or physically altered public service facilities.

Mitigation Measure(s)

Buildout of the Draft General Plan would involve construction of new or expanded public facilities, which could result in substantial adverse physical impacts to the environment. The following mitigation measures would alleviate the impacts due to such development by ensuring that future public facilities would be co-located, to reduce the amount of land developed for such uses, and that such facilities be located on sites that are not considered environmentally sensitive, to the extent practicable. However, the specific use, intensity, and location of potential future public facilities is currently unknown. Because such details for potential future facilities is unknown, feasible measures to ensure that impacts associated with the construction of new public facilities are reduced to a less-than-significant level do not exist. Therefore, even with implementation of the following mitigation measures, the above impact would remain *significant and unavoidable.*

*4.12-4(a) Implementation Measure PF-1D of the Draft General Plan shall be revised as follows:*

*IM PF-1D* *Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources. The County shall consider the environmental benefits of facilitating joint use and facility co-location when evaluating the expansion of public service facilities.*

*4.12-4(b)* *The following new policy shall be added to the Draft General Plan:*

*Policy PF 1.8 The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for installation of new public facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new public facilities.*

**4.12-5 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Growth associated with the Draft General Plan would include increased demand for water services by residential, commercial, industrial, and agricultural water users. Various water districts and water systems currently provide water service to the County.

The Draft General Plan includes the following goals and policies related to water services within the County:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.2 New development shall plan and provide for the long-term maintenance of infrastructure necessary to support the new development. (IM PF-1C)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.4 Coordinate with LAFCo and special districts to ensure annexations to service districts will be consistent with the General Plan policies prior to project approvals and/or annexations to special districts. Establish clearly defined service areas and spheres of influence to identify where service providers will and can provide future service. (IM PF-1C, PF-1E, PF-1F, PF-1G, PF-1H, FP-2A and PF-2G)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 2A Adequate water, water storage capacity, fire flow, and wastewater treatment for new and existing development, with no decline in service levels to existing County residents.

Goal PF 2B Efficient use of water resources.

Policy PF 2.1 Require new development and expansions of existing developments to demonstrate that sufficient, sustainable water supply and wastewater capacity exist to support the proposal including during times of severe drought. (IM PF-2B, PF-2C and PF-2E)

Policy PF 2.2 Facilitate water conservation and recycling efforts, including the use of reclaimed water and stormwater retention, for irrigation, mining, and compatible agricultural, public, commercial, and industrial applications. (IM PF-2H)

Policy PF 2.3 Support efforts to allow agriculture use of raw surface water and/or recycled water consistent with state and federal water quality laws protecting public health and safety. (IM PF-2I)

Policy PF 2.4 Design new development to encourage groundwater recharge in appropriate locations. (IM PF-2J)

Policy PF 2.5 Protect ground and surface water quality. (IM PF-2F)

Policy PF 2.6 Encourage regional collaboration between water and wastewater providers in the West County, including efforts to reduce reliance on well water. (IM PF-2F, PF-2G, PF-2K, PF-2L and PF-2M)

Policy PF 2.7 Encourage connections to public sewage treatment and disposal systems where they are available and have the capacity to serve new connections. (IM PF-2C and PF-2D)

Policy PF 2.8 Coordinate with public service providers and LAFCo where growth will be reliant upon public water and public sewer in areas in and around existing communities. (IM PF-2B, PF-2C, PF-2G and LU-3C)

Policy PF 2.10 New development shall pay its fair share of infrastructure costs for water and wastewater treatment. (IM PF-1A and PF-1C)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to water services within the County.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1F Consistent Growth Projections for Long-Range Planning. Coordinate with public facility and service providers, LAFCo, regional transportation planning agencies, and others as may be identified, to establish consistent and coordinated growth projections for long-range planning for infrastructure and service needs.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-2A Define Provider Service Boundaries. Coordinate with LAFCo to establish focused growth and service area boundaries (spheres of influence) for water and sewer districts to encourage development in and around existing communities consistent with the General Plan and service capacity.

IM PF-2B LAFCo Municipal Services Review. Reflect the findings and recommendations of LAFCo's most-recently approved Municipal Services Review (MSR) when considering the availability of public water and public sewer for jurisdictions subject to LAFCo. Ensure that planning staff provides input on draft MSRs to ensure consistency with General Plan goals, policies and programs and that projects that have the potential to affect a district's ability to serve are routed to LAFCo for review and comment.

IM PF-2C Public Water and Sewer Availability. Adopt standards for determining when public water and public wastewater service shall be deemed "available" for the purposes of consistency with the General Plan. For LAFCo regulated providers, standards should ensure that the project site is, or will be prior to development, located within the proposed provider's LAFCo-approved service district boundary. For both LAFCo and Non-LAFCo[65] regulated providers standards should ensure that the provider has, or will have, prior to development, adequate capacity (including fire flow) to serve the proposed project. Where public water and wastewater treatment are not available and development of treatment plants are unfeasible, allow for alternative forms of wastewater treatment, especially in order to serve disadvantaged legacy communities.

IM PF-2D Public Water and/or Public Sewer/Wastewater Requirements for I, PR, PI and CR. Amend the Calaveras County Code to allow land designated as Industrial (I), Parks and Recreation (PR), Public Institutional (PI), Commercial Recreation (CR) or similar land use designations to be served by an individual on-site water or sewer system subject to the approval of the Environmental Health Department when public water and public sewer

[65] Non-LAFCo regulated providers include: Blue Lake Springs MWC, Snowshoe Springs Association, Fly-In Acres MWC, Lili Valley Water Company, Mineral Mountains Estates MWA, and Utica Power Authority.

service are not otherwise available in close proximity or where the extension of public facilities will result in the potential for significant adverse impacts related to growth inducement outside of existing communities.

IM PF-2E Prolonged Project Delay. Establish a procedure and standards for determining when entitlements requiring the provision of adequate infrastructure may expire due to a prolonged delay in project initiation or inactivity. Incorporate a process for declaring entitlements expired, when appropriate. Include time limits after which the County will require re-verification of adequate infrastructure to ensure that infrastructure-related CEQA findings remain valid. Include procedures and criteria for allowing a limited number of extensions.

IM PF-2F Regional Water Management Planning Efforts. Participate in and keep apprised of Integrated Regional Water Management planning efforts and identified mutually beneficial solutions for regional water management.

IM PF-2G Coordinate Water Use and Wastewater Service Planning. The County will work with local water and wastewater agencies and provide land use or other data in the County's possession where such data will provide information necessary to prepare and update water and wastewater master plans, agency master plans and similar water and wastewater planning documents.

IM PF-2H Facilitate Water Conservation. Amend the County Code to recognize appropriate uses for reclaimed water as an alternative for various land uses and keep apprised of the latest developments in the use of reclaimed water. Revise the County's landscaping standards and incorporate those standards as conditions of project approval to facilitate the use of gray water systems for landscape irrigation.

IM PF-2I Recycled Water for Agricultural Use. The County will work with wastewater service providers to expand the use of recycled wastewater for agricultural uses.

IM PF-2J Protect Groundwater Recharge Areas. Adopt standards for the protection of groundwater recharge areas including, but not limited to, limiting the extent of impervious surfaces in project design. Integrate existing information available from water providers to identify natural groundwater recharge areas associated with the Northeastern San Joaquin Groundwater Basin within the County.

IM PF-2K Water Rights. Coordinate with water districts and other agencies to protect water rights for the use of water originating in Calaveras County for use in the county.

IM PF-2L Groundwater Management. Work with other agencies in the East San Joaquin Groundwater Basin to develop a management plan consistent with the Sustainable Groundwater Management Act, protecting the water resource for productive use in Calaveras County.

IM PF-2M Groundwater Monitoring. Continue groundwater monitoring efforts and expand them where feasible to include utilities, groundwater basin managers, and willing property owners to share groundwater monitoring results regarding water quality, yields, and contamination data.

IM PF-2N Connection to Public Sewer. Review existing ordinance relating to mandatory connection to public sewer and amend as necessary.

Water Supply

The Draft General Plan seeks to ensure the adequate provision of water services for existing and new development through the efficient use and management of water resources (Goal 2A and Goal 2B). To accomplish the aforementioned goals of the Draft General Plan, the County must adopt standards for water service, including making determinations regarding the maximum feasible capacity of existing systems (Goal PF 1, IM PF-1A, IM PF-2C).

Additional supply sources could include surface water through new pumping facilities and pipe conveyance infrastructure. Optionally, groundwater supplies could be sought, which would involve wells, pump stations, and conveyance infrastructure. Without knowing the location of these future facilities or the timing as to when the demand within the County would warrant their construction, a project-specific analysis of the potential impacts cannot be completed at this time. However, the impacts of the future infrastructure associated with the allowed development of the Draft General Plan are addressed throughout this EIR.

The continued provision of adequate water services requires the protection of surface and ground water quality (Policy PF 2.6). Ground water within the County would be administered and protected by Draft General Plan IM PF-2J, IM PF-2L, and IM PF-2M. In addition, water quality throughout the County would be protected through combined planning efforts (IM PF-2F, IM PF-2G, and Policy PF 2.6). Service providers are further required to coordinate with LAFCo to ensure that district boundaries are clear, demand within established districts is being met, and any annexation areas could be served (Policy PF 1.4, Policy PF 2.8, IM PF-2A).

Although growth in water service demand is anticipated to continue under the Draft General Plan, Goal PF 2A would require that new developments prove that adequate water capacity exists to meet the anticipated demand (Policy PF 2.1 and IM PF-2B), without compromising existing services. Where new developments would require the expansion of existing services, the developments would be required to pay fair-share and impact fees or construct improvements related to the expansion of services (Policy PF 1.3, Policy PF 2.10, and IM PF-1). In addition, the County intends to meet some of the increased demand through increased water use efficiency, conservation and recycling (Goal PF 2B). The Draft General Plan identifies the potential for increased use of recycled or gray water for agricultural purposes (Policy PF 2.2, Policy PF 2.3, and IM PF-2I). Expanded use of recycled or gray water could alleviate some of the water constraints currently faced by water service providers, such as UPUD. Furthermore, IM PF-2I directs the County to review the Code of Ordinance to ensure that water efficiency is required throughout the County.

Another approach to meeting future water service demand within the County involves protecting the water rights of County residents (IM PF-2K) and allowing on-site water systems (IM PF-2D). Such on-site systems would be regulated by the County Code, Chapter 8.20, which controls well construction and destruction within the County.

Considering the above, future development within the County under the Draft General Plan would only occur where adequate water supplies exist to serve the development. Therefore, impacts related to water supply are anticipated to be less than significant following implementation of the Draft General Plan.

Water Conveyance

The conveyance of water requires the construction and maintenance of water conveyance infrastructure. Water conveyance infrastructure currently exists throughout the County to serve existing developments with water service. As such infrastructure ages, improvements to, or refurbishment of, existing conveyance infrastructure may become necessary. Future development within the County that would rely on private water supply systems (IM PF-2D), such as on-site wells, would only require the construction of water conveyance infrastructure within the site to be served by the well. However, much of the future development within the County under the Draft General Plan would rely on existing public water supplies and would require conveyance infrastructure for the delivery of water. As such, the provision of water to new development under the Draft General Plan would require the construction of new or expanded water conveyance infrastructure. Construction of new or expanded water conveyance infrastructure would require ground-disturbing activity, which would have the potential to result in physical environmental impacts. Because the specific future developments that would occur under the Draft General Plan are not currently known, the location and nature of conveyance infrastructure improvements needed to meet future demand is also unknown. Thus, the extent to which

infrastructure improvements would be needed, and the potential for such improvements to occur in environmentally sensitive areas, cannot be determined at this time.

Conclusion

The Draft General Plan contains goals, policies, and IMs directed at preserving the quality of water throughout the County and ensuring future water supplies continue to meet the demand of existing and new development. Although, the rural nature of the County, aging infrastructure, and expanding demand present large challenges to meeting the existing and future water service demand, the goals, policies, and IMs included in the Draft General Plan would protect existing water resources and regulate new connections. Consequently, while buildout of the Draft General Plan is anticipated to result in increased water demand throughout the County, Draft General Plan goals, policies, and IMs would ensure that future development adequately plans for and provides water services, and such services would not reduce the County's ability to provide water service to existing customers. While the County's Draft General Plan would ensure that the County has adequate water supplies to accommodate future development, future development is anticipated to require the construction of new or expanded water conveyance infrastructure. Given that the construction of new or expanded water conveyance infrastructure would have the potential to result in physical impacts to the environment. As such, the Draft General Plan could result in a ***significant*** impact related to the construction of new water infrastructure within the County.

Mitigation Measure(s)

The following mitigation measure would alleviate the impacts from future development demands by ensuring that the environmental sensitivity of sites is considered during the design and approval of water conveyance infrastructure projects. However, the specific intensity and location of potential future water conveyance infrastructure is currently unknown. Because such details for potential future infrastructure is unknown, feasible measures to ensure that impacts associated with the construction of new or expanded water conveyance infrastructure are reduced to a less-than-significant level do not exist. Therefore, the above impact would remain *significant and unavoidable*.

*4.12-5 The following new policy shall be added to the Draft General Plan:*

*Policy PF 2.11 The County shall consider the environmental sensitivity, as well as the efficacy of the sites chosen, for construction of new or expanded water conveyance infrastructure. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new water conveyance infrastructure.*

**4.12-6 Would implementation of the Draft General Plan 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, and that project wastewater would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or the capacity of existing conveyance infrastructure. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

As with water service demand, wastewater demand primarily is affected by growth in residential population and commercial development, and secondarily by factors such as water use and conservation efforts. Thus, implementation of the Draft General Plan would involve increased development throughout the County. Demand for wastewater conveyance and treatment services would increase in kind with future development activities. As discussed previously, multiple agencies are involved in providing wastewater treatment services throughout the County. Wastewater service providers operate integrated systems which serve a wide range of customer demands, from as few as 20 connections to more than 1,000 connections. All wastewater providers supply collection, treatment, disposal and maintenance services. The small service area of many providers, and large geographic separation between service providers often inhibits the opportunity for systems to connect or centralize.

The Draft General Plan includes the following goals and policies related to wastewater services within the County:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.2 New development shall plan and provide for the long-term maintenance of infrastructure necessary to support the new development. (IM PF-1C)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.4 Coordinate with LAFCo and special districts to ensure annexations to service districts will be consistent with the General Plan policies prior to project approvals and/or annexations to special districts. Establish clearly defined service areas and spheres of influence to identify where service

providers will and can provide future service. (IM PF-1C, PF-1E, PF-1F, PF-1G, PF-1H, FP-2A and PF-2G)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 2A Adequate water, water storage capacity, fire flow, and wastewater treatment for new and existing development, with no decline in service levels to existing County residents.

Policy PF 2.1 Require new development and expansions of existing developments to demonstrate that sufficient, sustainable water supply and wastewater capacity exist to support the proposal including during times of severe drought. (IM PF-2B, PF-2C and PF-2E)

Policy PF 2.2 Facilitate water conservation and recycling efforts, including the use of reclaimed water and stormwater retention, for irrigation, mining, and compatible agricultural, public, commercial, and industrial applications. (IM PF-2H)

Policy PF 2.5 Protect ground and surface water quality. (IM PF-2F)

Policy PF 2.6 Encourage regional collaboration between water and wastewater providers in the West County, including efforts to reduce reliance on well water. (IM PF-2F, PF-2G, PF-2K, PF-2L and PF-2M)

Policy PF 2.7 Encourage connections to public sewage treatment and disposal systems where they are available and have the capacity to serve new connections. (IM PF-2C and PF-2D)

Policy PF 2.8 Coordinate with public service providers and LAFCo where growth will be reliant upon public water and public sewer in areas in and around existing communities. (IM PF-2B, PF-2C, PF-2G and LU-3C)

Policy PF 2.10 New development shall pay its fair share of infrastructure costs for water and wastewater treatment. IM PF-1A and PF-1C)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to wastewater services within the County.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-1F Consistent Growth Projections for Long-Range Planning. Coordinate with public facility and service providers, LAFCo, regional transportation planning agencies, and others as may be identified, to establish consistent and coordinated growth projections for long-range planning for infrastructure and service needs.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-2A Define Provider Service Boundaries. Coordinate with LAFCo to establish focused growth and service area boundaries (spheres of influence) for water and sewer districts to encourage development in and around existing communities consistent with the General Plan and service capacity.

IM PF-2B LAFCo Municipal Services Review. Reflect the findings and recommendations of LAFCo's most-recently approved Municipal Services

Review (MSR) when considering the availability of public water and public sewer for jurisdictions subject to LAFCo. Ensure that planning staff provides input on draft MSRs to ensure consistency with General Plan goals, policies and programs and that projects that have the potential to affect a district's ability to serve are routed to LAFCo for review and comment.

IM PF-2C Public Water and Sewer Availability. Adopt standards for determining when public water and public wastewater service shall be deemed "available" for the purposes of consistency with the General Plan. For LAFCo regulated providers, standards should ensure that the project site is, or will be prior to development, located within the proposed provider's LAFCo-approved service district boundary. For both LAFCo and Non-LAFCo[66] regulated providers standards should ensure that the provider has, or will have, prior to development, adequate capacity (including fire flow) to serve the proposed project. Where public water and wastewater treatment are not available and development of treatment plants are unfeasible, allow for alternative forms of wastewater treatment, especially in order to serve disadvantaged legacy communities.

IM PF-2D Public Water and/or Public Sewer/Wastewater Requirements for I, PR, PI and CR. Amend the Calaveras County Code to allow land designated as Industrial (I), Parks and Recreation (PR), Public Institutional (PI), Commercial Recreation (CR) or similar land use designations to be served by an individual on-site water or sewer system subject to the approval of the Environmental Health Department when public water and public sewer service are not otherwise available in close proximity or where the extension of public facilities will result in the potential for significant adverse impacts related to growth inducement outside of existing communities.

IM PF-2E Prolonged Project Delay. Establish a procedure and standards for determining when entitlements requiring the provision of adequate infrastructure may expire due to a prolonged delay in project initiation or inactivity. Incorporate a process for declaring entitlements expired, when appropriate. Include time limits after which the County will require re-verification of adequate infrastructure to ensure that infrastructure-related CEQA findings remain valid. Include procedures and criteria for allowing a limited number of extensions.

[66] Non-LAFCo regulated providers include: Blue Lake Springs MWC, Snowshoe Springs Association, Fly-In Acres MWC, Lili Valley Water Company, Mineral Mountains Estates MWA, and Utica Power Authority.

IM PF-2G Coordinate Water Use and Wastewater Service Planning. The County will work with local water and wastewater agencies and provide land use or other data in the County's possession where such data will provide information necessary to prepare and update water and wastewater master plans, agency master plans and similar water and wastewater planning documents.

IM PF-2H Facilitate Water Conservation. Amend the County Code to recognize appropriate uses for reclaimed water as an alternative for various land uses and keep apprised of the latest developments in the use of reclaimed water. Revise the County's landscaping standards and incorporate those standards as conditions of project approval to facilitate the use of gray water systems for landscape irrigation.

IM PF-2I Recycled Water for Agricultural Use. The County will work with wastewater service providers to expand the use of recycled wastewater for agricultural uses.

IM PF-2M Groundwater Monitoring. Continue groundwater monitoring efforts and expand them where feasible to include utilities, groundwater basin managers, and willing property owners to share groundwater monitoring results regarding water quality, yields, and contamination data.

IM PF-2N Connection to Public Sewer. Review existing ordinance relating to mandatory connection to public sewer and amend as necessary.

As presented above, the Draft General Plan focuses on maintaining service standards, and ensuring that wastewater systems are designed to accommodate future growth. The Draft General Plan directs the County to establish standards and service thresholds, in regards to sewer availability, which would be used to assess the adequacy of existing systems and the capacity for growth (Goal PF 1, IM PF-1A, and IM PF-2C). Current levels of service could be maintained through the Capital Finance Plans required by IM PF-1E. Maintenance of existing service standards through IM PF-1E would conform with Goal PF 2A by helping to maintain existing services. Capital Financing Plans prepared in accordance with IM PF-1E should include measures to extend services to existing, underserved communities, and deal with deficiencies, where such deficiencies exist (Policy PF 1.5 and Policy PF 1.7). In addition, Policy PF 2.7 of the Draft General Plan encourages existing developments to connect to wastewater infrastructure where capacity exists, in order to fully employ the existing wastewater infrastructure. However, coordination with LAFCo prior to the expansion of service areas would be required to ensure that service providers could provide future services to the annexation area without degrading existing services (Policy PF 1.4 and Policy PF 2.8). The effect of the aforementioned goals, policies, and IMs would be the maintenance and improvement of existing wastewater service.

As implementation of the Draft General Plan occurs, growth within the County would increase Countywide demand for wastewater services. Several of the wastewater systems throughout the County are anticipated to have sufficient capacity to serve growth within their service area. Such systems include the CCWD's Millwoods system and MHSD. Furthermore, the Indian Rock and Southworth facilities have remaining capacity, and the communities are built-out with little or low growth potential. Similarly, while at capacity, Wilseyville Camp, is considered built-out with little or low growth potential. The existing capacity in the aforementioned systems would allow for maintenance of existing service standards, and new connections (IM PF-1E, Goal PF 2A, Policy PF 1.5, and Policy PF 1.7). However, in the absence of detailed technical analysis of projected wastewater generation increases, such as would be evaluated in a wastewater master plan or similar document, shortfalls in wastewater conveyance and treatment capacity could occur. In addition, various systems within the County are currently at or exceeding permitted capacity, and require capacity improvements to meet future demand. Systems with limited capacity to accommodate future growth include CCWD's La Contenta, CCWD's Copper Cove, SASD, CCWD's Country Houses, CCWD's Sequoia Woods, CCWD's Forest Meadows, MSD, VSPUD, and WCSD.

Draft General Plan policies that address the need for growth in the County's wastewater system include Policy PF 1.1, Policy PF 1.2, Policy PF1.3, and Policy PF 2.10. In addition, IM PF-1C would require new development projects to pay a fair-share contribution to expanded wastewater infrastructure cost, through development impact fees. Additionally, new developments would be required to show that sufficient wastewater infrastructure capacity exists to serve the proposed development (Policy PF 2.1). Growth in wastewater capacity is intended to occur in-step with new development, but Draft General Plan IM PF-1F would further ensure that wastewater infrastructure growth is based off of consistent projections for County growth. The use of consistent County growth projections would increase the efficiency of infrastructure planning and help accommodate future growth without degrading service to existing customers (Policy PF 1.1). The Draft General Plan further directs the County to consider limiting the length of time that wastewater entitlements are valid (IM PF-2E). Such limitations would avoid prolonged project delays and allow for capacity planning to consider only the projects that are considered viable.

The small and geographically isolated communities within the County presents a challenge for wastewater service providers to maintain efficient services. However, several policies and IMs are included in the Draft General Plan to increase the efficiency of wastewater systems. The Draft General Plan would promote collaboration and coordination between service providers, during the development process (Policy PF 2.6, IM PF-2A, IM PF-2G). However, in some areas of the County, the geographic isolation and small scale of development would make wastewater service infeasible. For such areas, Draft General Plan IM PF-2D would allow on-site wastewater systems to be used.

New and existing developments within the County are also subject to the County Code Chapter 13.12, which regulates sewage disposal in unincorporated areas of the County. Chapter 13.12 includes requirements that developments connect to sewers whenever possible, and when such connections are not possible, permits for operation of septic infrastructure must be obtained. The Chapter also prohibits the use of unsanitary wastewater infrastructure such as sewer wells, cesspools, and privies. Enforcement of Chapter 13.12 occurs through inspections of wastewater infrastructure prior and during use, and violations are treated as misdemeanors, punishable by fine and/or imprisonment. The Draft General Plan directs County staff to review Chapter 13.12 and any other relevant County regulations related to wastewater (IM PF-2N).

Considering the above, the Draft General Plan includes goals, policies, and IMs related to existing wastewater infrastructure, planning for new wastewater infrastructure, and the financing of new wastewater infrastructure. However, considering the current limitations within existing wastewater systems, buildout of the Draft General Plan would require the expansion of existing or construction of new wastewater conveyance and treatment infrastructure, the construction of which could result in impacts to the environment. Specific demand for wastewater facilities would depend on the rate and type of future growth occurring within the County, as well as the location of such growth in relation to existing wastewater infrastructure. For example, projects located further from developed areas would likely require more extensive infrastructure improvements in order to connect to existing sewer lines. Some new development may rely on septic systems, which would not create additional demand on existing wastewater systems. Given that this EIR evaluated buildout of the Draft General Plan at a program level and future demands for wastewater facilities are not known at this time, environmental impacts associated with construction of such facilities cannot be determined. In addition, funding sources for needed improvements to and maintenance of existing systems are not identified in the Draft General Plan. The lack of funding would preclude any necessary improvements, which could eventually lead to the physical degradation of infrastructure. Therefore, the Draft General Plan could result in a ***significant*** impact related to wastewater conveyance and treatment infrastructure.

Mitigation Measure(s)

Buildout of the Draft General Plan would require the construction of new or expanded wastewater infrastructure, which could result in substantial adverse physical impacts to the environment. The following mitigation measure would alleviate the impacts from future development demands by ensuring that the environmental sensitivity of sites is considered during the design and approval of wastewater infrastructure projects. However, the specific intensity and location of potential future wastewater infrastructure is currently unknown. Because such details for potential future infrastructure is unknown, feasible measures to ensure that impacts associated with the construction of new or expanded wastewater infrastructure are reduced to a less-than-significant level do not exist. Therefore, the above impact would remain *significant and unavoidable*.

*4.12-6 The following new policies shall be added to the Draft General Plan:*

*Policy PF 2.11 The County shall consider the environmental sensitivity of sites for new water and wastewater infrastructure, and shall consider potential environmental impacts associated with new and/or expanded water and wastewater infrastructure.*

*Policy PF 2.12 The County shall pursue alternative means for funding water and wastewater infrastructure improvements and maintenance, including State and federal grants, for water and wastewater infrastructure projects within Calaveras County.*

**4.12-7 Would development associated with the Draft General Plan be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, State, and local statutes and regulations related to solid waste. Based on the analysis below, the impact is *less than significant.***

The vast majority of the solid waste generated within the County is disposed of at the Rock Creek Solid Waste Facility within the County. As of 2013, the landfill had a remaining capacity of 6,657,862 cubic yards, or 76 percent of total design capacity remaining. The Calaveras County Department of Public Works estimates 26.8 years of capacity remains. In addition to the solid waste disposed of within the County, some solid waste (approximately 0.1 percent of the total waste) is disposed of at locations outside of the County in Alameda, Kern, San Joaquin, Solano and Stanislaus counties.

The Draft General Plan includes the following goals and policies related to solid waste generation within the County:

Goal PF 3 Embrace the use of alternative forms of energy and implements and maintains cost-effective integrated solid waste management systems emphasizing waste reduction and recycling.

Policy PF 3.2 Incorporate the County's solid waste reduction and management goals, policies and programs, as reflected in the County's Integrated Waste Management Plan, into conditions of project approval for new discretionary development. (IM PF-3C)

Policy PF 3.3 Plan for adequate landfill and transfer station capacity to meet long-term growth needs. (IM PF-3D)

Policy PF 3.4 Support the development of alternative energy generating facilities at the County's landfill where it can be shown to be cost-effective. (IM PF-3E)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to solid waste services within the County.

IM PF-1G Coordinate with Service Providers. Solicit input from local schools, solid waste disposal companies, park and recreation districts, the County sheriff's department, non-governmental organizations, fire safety agencies and related public service providers during project review to assist in determining the adequacy of community service facilities and to ensure that growth projections used by providers in planning new facilities are compatible with the County's general plan growth projections.

IM PF-3C Solid Waste. Consider adopting a Construction and Demolition Debris Diversion Ordinance requiring that the debris from construction and demolition projects be reused or recycled.

IM PF-3D Facility Siting. Review and update siting standards for new solid waste facilities in conjunction with the next update of the County's Integrated Waste Management Plan and Hazardous Waste Management Plan.

IM PF-3E Siting Guidelines. Adopt siting policies or guidelines addressing land use compatibility for energy and solid waste facilities.

The Calaveras County Department of Public Works estimated that the Rock Creek Solid Waste Facility would have sufficient capacity to accommodate growth in the County until at least the year 2040. Although the Rock Creek Solid Waste Facility has adequate capacity for growth until the year 2040, some of the transfer stations within the County are at or near capacity. The transfer stations at Copperopolis, San Andreas, and Red Hill all require remodels or re-siting, and studies to complete such work are currently underway.

Because the Rock Creek Solid Waste Facility is anticipated to reach maximum capacity by 2040, the County will be served by a landfill with adequate capacity through the Draft General Plan's target year of 2035. Therefore, development associated with buildout of the Draft General Plan would be served by a landfill with adequate capacity and would not require the provision of new or physically altered landfills within the County. In addition, the goals, policies, and IMs included in the Draft General Plan would ensure that solid waste disposal would not violate federal, State or local regulations, and, thus, the Draft General Plan would result in a ***less-than-significant*** impact related to solid waste within the County.

Mitigation Measure(s)
*None required.*

**4.12-8 Impacts related to gas and electrical facilities. Based on the analysis below, the impact is *less than significant*.**

New development related to implementation of the Draft General Plan would require the extension of gas and electrical lines to serve the developments. PG&E currently serves developments within the County with natural gas and electricity service. Applicants for new developments within the County will be required to fund the construction of the necessary infrastructure to connect to existing utility lines maintained by PG&E, and incorporate any recommendations made by the utility providers into the project design. Upon connection to existing facilities, gas and electric service would be able to be provided.

The Draft General Plan includes the following goals and policies applicable to gas and electric issues:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.2 New development shall plan and provide for the long-term maintenance of infrastructure necessary to support the new development. (IM PF-1C)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 3 Embrace the use of alternative forms of energy and implements and maintains cost-effective integrated solid waste management systems emphasizing waste reduction and recycling.

Policy PF 3.1 Support the development of new energy generating technologies and facilitate the incorporation of these technologies into new development while retaining community character. (IM PF-3A, PF-3B, PF-3E and PF-3F)

Policy PF 3.4 Support the development of alternative energy generating facilities at the County's landfill where it can be shown to be cost-effective. (IM PF-3E)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to gas and electricity.

IM PF-3A Solar, Wind and other Alternative Energy. Amend the zoning code to encourage the incorporation of solar, wind, and other alternative energy infrastructure in project design to establish standards for locating and permitting solar farms, wind farms, and other alternative energy facilities to ensure land use compatibility; addressing the potential visual impacts of alternative energy infrastructure to the extent permitted by law.

IM PF-3E Siting Guidelines. Adopt siting policies or guidelines addressing land use compatibility for energy and solid waste facilities.

IM PF-3F Alternative Energy Incentives. Support programs that provide incentives for property owners to install alternative energy facilities such as solar arrays, small windmills, and other energy systems.

The goals, policies, and IMs included in the Draft General Plan seek to maintain the current level of service provided by PG&E and expand such service with future development within the County. Goal PF 1 of the Draft General Plan seeks to synchronize the future development of the County with development of public infrastructure, which would include gas and electric infrastructure. New developments would be required to support the expansion of gas and electric facilities through the payment of applicable development fees and pre-development infrastructure planning (Policy PF 1.2 and Policy PF 1.3).

In addition to supporting the expansion of gas and electric facilities with new developments, the Draft General Plan provides for the expansion and improvement of existing gas and electric facilities to underserved communities, where necessary (Policy PF 1.5 and Policy PF 1.7). The Draft General Plan further identifies changes to the energy systems of the County, particularly in regards to the increased use of renewable and alternative energies. As such, the Draft General Plan includes multiple goals, policies and IMs to address the growth and future use of renewable or alternative energy systems (Goal PF 3, Goal PG 3.1, Goal PF 3.4, IM PF-3A). For instance, Draft General Plan Policy PF 3.1 encourages new developments to incorporate alternative energy systems into development design. Such alternative energy systems would be required to be designed in compliance with existing County regulations, such as the Performance Standards related to solar energy, included in Chapter 17 of the County's Code of Ordinances.

PG&E natural gas and electricity services are provided on-demand, and PG&E expands the distribution system as needed to accommodate growth. Buildout of the Draft General Plan would increase demand for these services, but would be accommodated by PG&E.

Therefore, while PG&E may expand service and increase energy supplies to respond to increasing demand from buildout of the Draft General Plan, such expansion would not result in adverse impacts on regional energy supplies, energy resources, or the need for substantial new or altered energy or natural gas utilities. Consequently, potential impacts related to natural gas and electric services that would result from buildout of the Draft General Plan would be considered ***less than significant***.

Mitigation Measure(s)
*None required.*

**4.12-9 Impacts related to telecommunications and information technology infrastructure. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Several companies provide telephone and internet service within the County; however, given the rural nature of the County, some residents are outside of the service area for internet providers. Additionally, some rural areas of the County only receive landline telephone service, and other forms of telecommunication are not available. The Draft General Plan includes the following goals and policies applicable to telecommunications services:

Goal PF 1 Adequate public infrastructure and services sufficient to serve the County's current and future demand and synchronized with the pace of development.

Policy PF 1.1 Ensure that discretionary actions involving new development will not result in a reduction below established thresholds for levels of service. (IM PF-1A, PF-1B, PF-1G and PF-2A)

Policy PF 1.2 New development shall plan and provide for the long-term maintenance of infrastructure necessary to support the new development. (IM PF-1C)

Policy PF 1.3 New development shall pay its fair share for providing adequate levels of law enforcement, fire, solid waste services, emergency response, and other public infrastructure, facilities and services as necessary to support the new development. (IM F-1C, PF-4C and PF-7D)

Policy PF 1.5 Support agencies' efforts to extend service to existing communities, especially where deficiencies currently exist. (IM PF-1E, PF-1H, H-1I, H-2A, H-2F, H-2G, H-5D, H-5E and LU-3C)

Policy PF 1.7 The County will work with special districts and service providers to extend services to disadvantaged legacy communities, as defined under California Government Code Section 65302.10(a), when reviewing capital

improvement plans, annexations, or other actions by special districts that require County review. (IM PF-1E and PF-1G)

Goal PF 7 Effective communications, high quality schools, and adequate libraries and other public facilities and services to expand the economy and serve the needs of the county's residents, businesses, and visitors.

Policy PF 7.6 Support collocation of communication system to facilitate private cellular service and emergency communications. (IM PF-7E)

Policy S 1.6 Enhance communications systems to facilitate emergency response and for post-disaster recovery. (IM S-1H and S-3U)

Policy S 1.7 Locate new essential public facilities, utilities, and services away from identified hazard areas.

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to telecommunications.

IM PF-1A Level of Service Thresholds. In consultation with special districts and county departments that provide services to new development, establish minimum levels of service thresholds for water and sewer service, law enforcement, emergency services, fire protection, and other public facilities and services necessary to provide service to the development.

IM PF-1B Maintenance of Levels of Service. Review options and adopt methods for maintaining the level of service above minimum thresholds to ensure long-term stability and reduce the potential for degradation of services to existing residents and businesses in the county.

IM PF-1C Public Facilities Impact Fee. Assist public agencies in establishing impact fees, as determined necessary by said agencies, in accordance with Government Code Section 66000 et seq. to help ensure that the costs of services and facilities are borne by all beneficiaries and do not burden existing residents and landowners with costs of providing infrastructure and services needed to serve new development.

IM PF-1D Facilitate Joint Use and Facility Co-Location. Coordinate with facility and service providers to facilitate co-location of parks, schools, police, fire, libraries, community centers and other community facilities to support community interaction, enhance neighborhood identity, support joint use, and leverage resources.

IM PF-1E Capital Facilities Plan. Coordinate with service providers in the preparation, adoption and implementation of capital facilities plans to assist in prioritizing necessary infrastructure improvements consistent with the general plan, securing grant funding, providing ongoing maintenance, assessing the adequacy of existing facilities, and budgeting for new public facilities.

IM PF-4D Emergency Communications. Install facilities that create or enhance voice and data communications between law enforcement and emergency service providers and between emergency responders and the public.

IM PF-5A Multi-Agency Coordination Group (MAC). Continue to participate in the MAC Group to facilitate coordination between agencies to optimize limited resources and assist in the provision of emergency services.

IM PF-7A Quality Internet Service. Establish a working group composed of representatives of internet service providers, consumers, and County officials to establish county-wide standards or high-quality internet service and access. Such standards should ensure open-ended access to internet service not restricted to service boundaries. *Recommended by CCEDC*.

IM PF-7E Communication Facilities. Require review of new cellular communication towers by emergency service agencies and coordinate with cellular companies when new towers are installed to facilitate collocation.

The goals, policies, and IMs included in the Draft General Plan seek to maintain the current level of telecommunications service and expand such service with future development within the County (Goal PF 7 and Goal PF 1). Goal PF 1 of the Draft General Plan seeks to synchronize the future development of the County with development of public infrastructure, which would include telecommunications infrastructure. New developments would be required to support the expansion of telecommunications infrastructure through the payment of applicable development fees and pre-development infrastructure planning (Policy PF 1.2 and Policy PF 1.3). In addition to supporting the expansion of telecommunications infrastructure with new developments, the Draft General Plan provides for the expansion and improvement of existing telecommunications facilities to underserved communities, where necessary (Policy PF 1.5 and Policy PF 1.7).

The Draft General Plan identifies for effective, and in some cases enhanced, telecommunications for both residents of the County and emergency services within the County (Goal PF 7, Policy PF 1.6 and Policy S 1.7). Implementation of the Draft General Plan would require the County to establish a working group to establish standards for telecommunication services and expand access to such services throughout the County (IM PF-7A). The need for expanded telecommunications services for both emergency services and residential uses provides opportunities for efficient expansion of such services to meet

both demands. As such, the Draft General Plan includes various policies encouraging the co-location of telecommunications facilities. Co-locating such facilities would help to reduce the cost and environmental impact related to the expansion of telecommunications services. Funding for expanded telecommunications services could be attained through development impact fees (Policy PF 1.3), or capital financing plans (IM PF-1E).

Despite the potential co-location of expanded telecommunication facilities, build out of the Draft General Plan would require expansion of existing telecommunication facilities, which could involve the construction of new telecommunications facilities or the physical alteration of existing telecommunications facilities. Therefore, the proposed project would have the potential to result in a ***significant*** impact related to the construction or physical alteration of telecommunications facilities, which could result in substantial adverse effects to the environment.

Mitigation Measure(s)
Buildout of the Draft General Plan would involve construction of new telecommunication infrastructure, which could result in substantial adverse physical impacts to the environment. The following mitigation measure would alleviate the impacts due to such development. However, because the location of future communication infrastructure is currently unknown, the potential impacts related to buildout of such infrastructure is currently unknown, and, thus, feasible measures to ensure that impacts associated with the construction of new emergency communication infrastructure are reduced to a less-than-significant level do not exist. Therefore, the above impact would remain *significant and unavoidable*.

*4.12-9 Implement Mitigation Measure 4.12-1.*

**4.12-10 Result in substantial adverse physical impacts associated with the provision of new or physically altered recreation facilities, and/or the need for new or physically altered recreation facilities, the construction of which could cause significant environmental impacts in order to maintain performance objectives for recreation facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

Calaveras County contains a variety of local, State, federal, public, and privately-owned park and recreational facilities. For recreational facilities under County control, the County plans for the maintenance of such facilities through reports and planning documents such as the *Calaveras County Pedestrian Master Plan* and the *County Parks and Recreation Plan*. The Draft General Plan includes the following goals and policies applicable to recreation facilities within the County:

Goal COS-6 A high-quality system of recreational facilities enhancing the quality of life and health of residents and visitors and contributing to the County's economy.

Policy COS 6.1 Work with community organizations and special districts to develop park and active recreation facilities, striving to provide a minimum of 3 acres of local park land for every 1,000 County residents. (IM COS-7A, COS-7B, COS-7C and COS-7G)

Policy COS 6.2 Establish recreational facility development standards for new development. (IM COS-7A)

Policy COS 6.3 Pursue partnerships with public and private entities that make the most of limited funding, share maintenance costs, provide important linkages between recreational facilities and generally expand the quality and quantity of recreational opportunities countywide. (IM COS-7D)

Policy COS 6.4 Facilitate the provision of and access to local and regional trail systems. (IM COS-7E and COS-7F)

Policy COS 6.5 Design recreational facilities to minimize ongoing maintenance costs. (IM COS-7H)

In addition to the goals and policies presented above, the Draft General Plan includes the following IMs related to recreation facilities.

IM COS-7A Recreational Facilities. Revise Calaveras Code Chapter 16.24 to reflect a minimum standard of 3 acres of park and recreational facilities per 1000 residents. If a higher level of parkland to residents ratio exists, a higher standard, not to exceed 5 acres per 1000 residents, will be considered, as provided in Section 66477 of the Government Code.

IM COS-7B Bicycle and Pedestrian Facilities. Establish standards for when and how new residential subdivisions shall provide bicycle and pedestrian facilities and amend the Calaveras County Code accordingly.

IM COS-7C Develop a Program to Identify and Provide Access to Public Waterways. Develop a program to identify public waterways, lakes and reservoirs that do not already provide reasonable public access, but which are required to provide such access pursuant to state statutes.[67]

IM COS-7D Coordinated Recreation and Parks Planning. Pursue partnerships and coordinate mutually beneficial recreation planning efforts with schools, utility agencies, community groups, Angels Camp, state and federal agencies, private, non-profit agencies, agritourism activities on private land, and others to promote shared use, expand the variety and quantity of

[67] Public Resources Code/State Subdivision Map Act Section 66478.1-66478.14.

available facilities, and to distribute costs and manpower to acquire, construct and maintain facilities. Link or incorporate recreational facilities from other entities with County facilities whenever feasible.

IM COS-7E Local and Regional Trail Systems. Support and participate in efforts to prepare a consolidated, comprehensive master plan for biking, walking, riding, hiking/non-motorized and motorized transportation identifying existing and proposed facilities to assist in integrating future development into regional trail networks, tie trail systems to commercial centers and tourist destinations, identify locations for new trailheads and trail access points, connect trail heads with public transportation systems, and related planning activities.

IM COS-7F Corridor Plans. Participate in comprehensive and regional highway, roadway, creek, river and other corridor planning efforts in cooperation with neighboring jurisdictions to identify opportunities for creating new and integrating existing recreational facilities and achieving other General Plan goals and policies (e.g., facilitating economic development, conserving scenic vistas, preserving water quality).

IM COS-7G Recreation Facility Inventory. Maintain an inventory of existing recreational facilities.

IM COS-7H Recreation Master Plan. Adopt a recreation master plan.

As discussed above, Calaveras County contains varied public and private recreation facilities. The County's Draft General Plan includes goals, policies, and IMs that seek to improve management of existing facilities, provide greater connectivity between existing resources, and grow recreational facilities through proper planning and development requirements.

Performing an inventory of existing facilities (IM COS-7G) would allow the County to include all current recreational facilities within future planning activities. In particular, the Draft General Plan would direct the County to increase access to existing facilities (Policy COS 6.4 and IM COS-7C), and plan for continued administration of recreation facilities through a Master Trail Plan (IM COS-7E) and a Recreation Master Plan (IM COS-7H). The effect of increased access and centralized planning for facilities would be an increase in overall accessibility of such sites for current and future County residents. Additionally, proper planning for trails and recreation facilities within the County would allow for efficient maintenance and upkeep of such facilities. Ongoing maintenance and upkeep would reduce the potential for growth within the County to result in degradation of existing facilities. Moreover, increased accessibility to existing facilities would reduce the need for new or expanded facilities to meet potential growth in demand for recreational facilities

that would occur with population growth under buildout of the County's Draft General Plan.

In addition to the Draft General Plan goals, policies, and IMs related to maintenance and improvements of existing recreational facilities, the Draft General Plan identifies that new recreational facilities would be needed to serve population growth within the County. The county currently maintains parks and recreation facilities dedication fess for new developments per Chapter 16.24 of the County's Code of Ordinances. Generally, Chapter 16.24 requires that new developments within the County dedicate land or pay in-lieu fees based on a standard of providing 2.5 acres of parkland for every 1,000 residents. Such a standard ensures that improvement and expansion of recreation facilities within the County occurs in tandem with population growth. Draft General Plan Policy COS 6.1, as well as Policy COS 6.2, and IM COS-7A would update and expand the existing requirements of Chapter 16.24 to three acres per 1,000 residents. Policy COS 6.2 further directs the County to establish recreational facility development standards for new developments. Standards for recreational facilities would ensure that new recreational facilities meet the needs of new County residents in an efficient manner. Policy COS 6.5 would require that future recreational facilities be designed to minimize ongoing maintenance costs, which would help to ensure that population growth and increased use of recreational facilities would not degrade such facilities. Overall, the Draft General Plan would ensure that population growth within the County would be accompanied by adequate growth in recreational facilities.

The Draft General Plan would provide for increased access to existing facilities, proper planning for new and existing facilities, and ensure that new development within the County provides adequate recreational facilities to meet the County's anticipated growth. Despite the goals, policies, IMs, and existing County Code related to recreational facilities, increased use of such facilities related to population increases within the County resulting from buildout of the Draft General Plan may still lead to degradation of existing recreational facilities or the need for new or expanded facilities. Specific demand for recreational facilities would depend on the rate and type of residential growth, as well as whether new development incorporates recreational facilities on-site, as is commonly the case for larger subdivision projects. In addition, the anticipated population growth within the County would require a minimum of 215 acres of parkland. The additional parks are typically associated with each new development project. The construction of new or expanded facilities would have the potential to result in physical environmental impacts. Given that this EIR evaluated buildout of the Draft General Plan at a program level and specific details regarding the future development within the County cannot be know at this time, buildout of the Draft General Plan could result in substantial adverse physical impacts associated with the provision of new or expanded recreational facilities or the degradation of existing facilities, and a ***significant*** impact would result.

Mitigation Measure(s)

Buildout of the Draft General Plan may result in degradation of existing recreational facilities or the need for new or expanded facilities, which could result in substantial adverse physical impacts to the environment. The following mitigation measures would alleviate the impacts due to such development. However, because the location of future recreational facilities is currently unknown, the potential impacts related to buildout of such facilities is currently unknown, and, thus, feasible measures to ensure that impacts associated with the construction of new or expanded recreational facilities are reduced to a less-than-significant level do not exist. Therefore, the above impact would remain *significant and unavoidable*.

*4.12-10(a) The following new policy shall be added to the Draft General Plan:*

*Policy COS 6.6 The County shall consider the environmental sensitivity as well as the efficacy of the sites chosen for new recreation facilities. Whenever possible, sites that are less environmentally sensitive shall be selected for placement of new recreation facilities.*

*4.12-10(b) Policy COS 6.5 of the Draft General Plan shall be revised as follows:*

*Policy COS 6.5 Design recreational facilities to minimize ongoing maintenance costs and reduce potential environmental impacts. (IM COS-7H)*

# 4.13 TRANSPORTATION AND CIRCULATION

## 4.13.1 INTRODUCTION

The Transportation and Circulation chapter of the EIR evaluates key circulation systems within Calaveras County and analyzes future traffic conditions associated with buildout of the Draft General Plan. The analysis includes consideration of roadway, pedestrian, bicycle, and transit components of the County's transportation system. The information contained within this chapter is based primarily on the Transportation Impact Analysis (TIA) prepared for the proposed project by Fehr & Peers.[1] All technical calculations can be found within the appendices to the TIA, included as Appendix G to this EIR.

## 4.13.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the physical and operational characteristics of the transportation system within Calaveras County, including travel characteristics, existing roadway systems, existing roadway operations, airports, public transit, and pedestrian and bicycle infrastructure.

### Travel Characteristics

The automobile is currently the most widely used mode of transportation in Calaveras County. Per the TIA, approximately 90 percent of Calaveras County residents commute to and from work by car, truck, or van. The share of commuters that walk or bike to work in the Calaveras County is approximately three percent. Approximately 0.3 percent of commuters use public transportation to get to work, while approximately seven percent of Calaveras County workers work at home.

Calaveras County is a net exporter of workers, with approximately 6,200 workers traveling outside of the County for work. The top three work destinations for workers within Calaveras County are San Joaquin County, Amador County, and Tuolumne County, which together represent the destinations for approximately 70 percent of such workers. The top three origins of workers traveling to Calaveras County for work are Tuolumne County, San Joaquin County, and Amador County, which together represent origins for approximately 80 percent of such workers.

Table 4.13-1 compares home-based work vehicle miles travelled (VMT) per capita (sourced from the California Household Travel Survey for Calaveras County) to neighboring counties, including Alpine, Amador, El Dorado, Sacramento, San Joaquin, Stanislaus, and Tuolumne Counties. As shown in the table, Calaveras County has the highest home-based work VMT per capita of all the counties listed. The high home-based work VMT associated with Calaveras County is a result of three primary factors, including the number of jobs in the County, the proximity of households to jobs in the County, and the distance to regional jobs centers (e.g., Sacramento).

[1] Fehr & Peers. *Calaveras County General Plan Update, Transportation Impact Analysis Report.* December 2017.

| Table 4.13-1<br>Calaveras County Home-Based Work VMT | |
|---|---|
| **County** | **Home-Based Work VMT Per Capita** |
| Alpine | 3.1 |
| Amador | 6.6 |
| **Calaveras** | **11.1** |
| El Dorado | 6.0 |
| Sacramento | 4.2 |
| San Joaquin | 5.7 |
| Stanislaus | 6.0 |
| Tuolumne | 5.1 |
| *Source: Fehr & Peers, 2017* | |

**Roadway System**

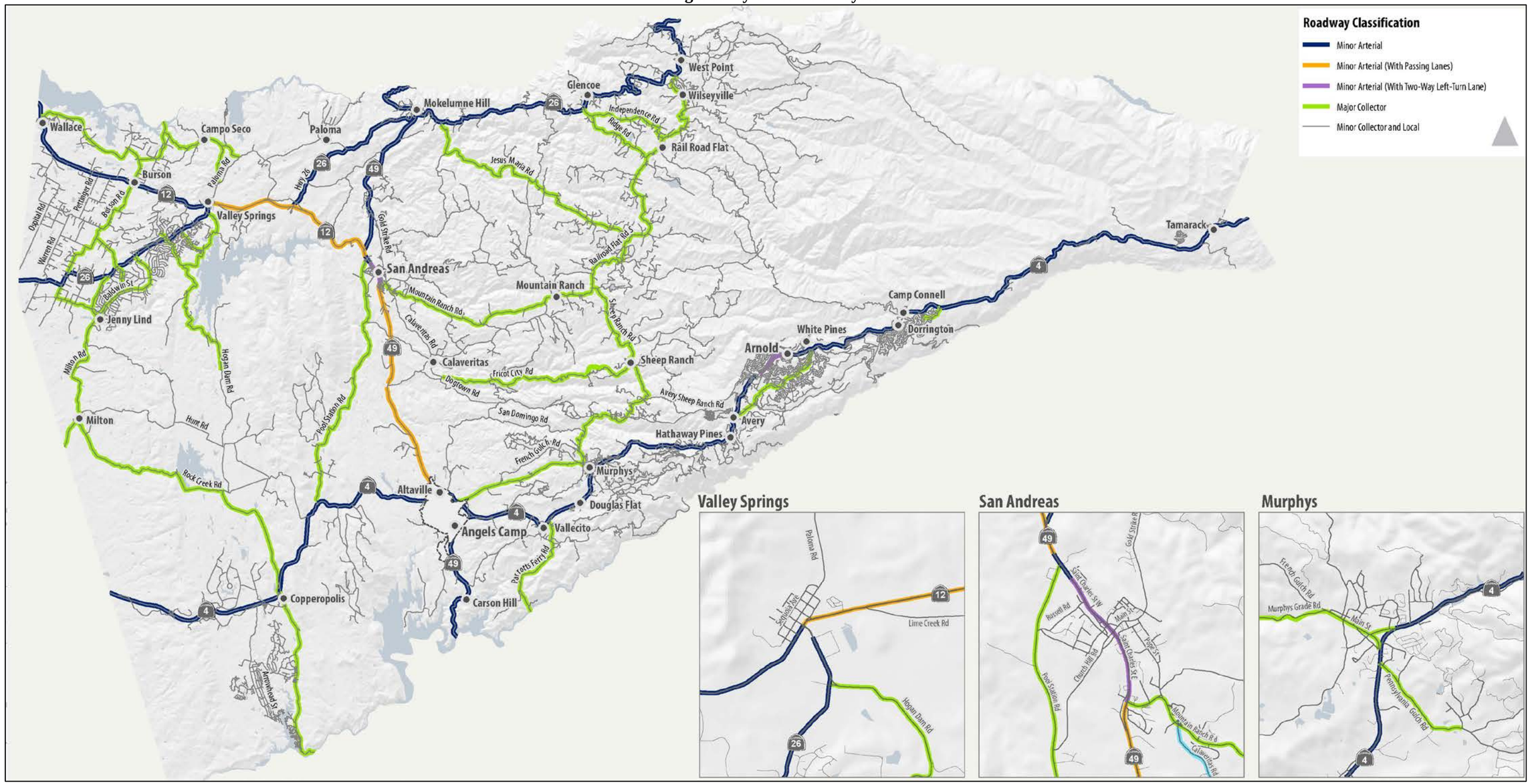
Currently, Calaveras County contains approximately 1,100 miles of maintained roadway, including State Route (SR) 4, SR 12, SR 26, and SR 49 (see Figure 4.13-1). The State Highway System represents approximately 14 percent of the maintained roadway system within the County, but serves 60 percent of vehicle travel. The existing State Highways within the County, owned and maintained by Caltrans, are described below:

- SR 4 is an east/west two-lane conventional highway that travels from Stanislaus County (west of Copperopolis) to Alpine County, with an overall length of approximately 65 miles. SR 4 connects Copperopolis, City of Angels Camp, Vallecito, Murphys, Arnold, and Dorrington.
- SR 12 is an east/west two-lane conventional highway that travels from San Joaquin County (near Wallace) to SR 49 in San Andreas, with an overall length of approximately 20 miles. SR 12 connects Wallace, Valley Springs, and San Andreas.
- SR 26 is an east/west two-lane conventional highway that travels from San Joaquin County (west of Valley Springs near Ospital Road) to Amador County (north of West Point), with an overall length of about 45 miles. SR 26 connects Valley Springs, Mokelumne Hill, and West Point.
- SR 49 is a north/south two-lane conventional highway that travels from Amador County to Tuolumne County, with an overall length of about 30 miles. SR 49 connects Mokelumne Hill, San Andreas, and City of Angels Camp.

Roadways within the County, including State Highways, are generally defined by the following classifications:

- Arterials – Provide mobility of high traffic volumes between various parts of the County. Arterials typically link collectors and local roads to external destinations, and generally have higher speeds and more access control than collectors and local streets. Arterials generally have two travel lanes, periodic passing, climbing lanes, two-way left-turn lanes, and at-grade intersections. SR 4, SR 12, SR 26, and SR 49 serve as the County's arterials.

**Figure 4.13-1**
**Existing County Circulation System**




*Source: Fehr & Peers, 2017.*

- Collectors – Provide for relatively short distance travel between arterials and generally have lower speeds and volumes than arterials. Driveways are permitted to connect directly to collectors in order to provide lot access, as opposed to arterials, where direct driveway access is typically prohibited. Collectors within the County generally have two lanes of travel.
- Local Roads – Provide direct roadway access to adjacent land uses and serve short distance trips within communities and neighborhoods. Traffic volumes and speeds on local streets are low. Local roadways in the County generally have two travel lanes.

Most of the County's roadways, including State Highways, have two through travel lanes, although several stretches of the County's identified collectors are only one-lane roads or are substandard in width. Additionally, many roadways have special treatments specific to their function that affect driver experience and the operation of vehicles traveling on the roadways. The treatments include center two-way left-turn lanes or turn-pockets that are necessary to provide safe access to local development and passage of through travelers in developed communities, and passing zones and passing lanes on longer roadway segments that connect communities to provide for safe opportunities for passing of slower speed vehicles.

Transportation System Improvements

System improvements made to County roads are funded through federal, State, and local funds (including development impact fees) as conditions of development projects, and carried out through annual Capital Improvement Plans approved by the County Board of Supervisors. The primary source of funds for improvements to County roads is the Road Impact Mitigation (RIM) fee program and three benefit basin fees. Such fees are based on traffic impacts associated with individual residential, commercial and industrial developments. Improvements funded by fees include, but are not necessarily limited to, new road construction, widening or safety improvements, and bridge replacements necessitated by traffic increases. Improvements to the roadway system may also occur as part of the land development process. Where a development project impacts existing roads or where new roads are necessary to mitigate project impacts, road improvements or construction may be required as conditions of project approval.

Road Maintenance

County- and State-maintained roads receive funding for general road maintenance (including snow removal), from a variety of sources including gas taxes, vehicle license fees, transient occupancy taxes, and property taxes.

**Common Traffic Analysis Terms**

Level of service (LOS) is a qualitative measure of traffic operating conditions, whereby a letter grade, from A to F is assigned, based on quantitative measurements of delay per vehicle. The grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The LOS grades are generally defined as follows:

- LOS A represents free-flow travel with an excellent level of comfort, convenience, and freedom to maneuver;
- LOS B has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom;
- LOS C has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream;
- LOS D represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience;
- LOS E represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions; and
- LOS F is used to define forced or breakdown conditions, wherein the volume of traffic exceeds the capacity of the roadway. Long queues can form behind bottleneck points with queued traffic traveling in a stop-and-go fashion.

The LOS was calculated for each major roadway segment in the roadway system to evaluate the quality of traffic conditions. Such LOS calculations were determined by comparing traffic volumes for selected roadway segments, incorporating roadway functional classification, and number of travel lanes, presence of two-way left-turn lanes with peak hour LOS capacity thresholds (see Table 4.13-2 below). The LOS thresholds are based on methodology contained in the Highway Capacity Manual (HCM).

**Table 4.13-2**
**Roadway Class and Peak Hour Volume LOS Thresholds**

| Roadway Type | Percentage 'No Passing' | Number of Lanes | Peak Hour LOS Capacity Thresholds | | |
|---|---|---|---|---|---|
| | | | LOS C or Better | LOS D | LOS E |
| Minor Two-Lane Highway | 100% | 2 | 280 | 655 | 4,330 |
| Major Two-Lane Highway | 60% | 2 | 430 | 870 | 1,555 |
| | | 2 + Passing Lanes | 1,140 | 1,300 | 1,580 |
| | 35% | 2 | 530 | 935 | 1,555 |
| | | 2 + Passing Lanes | 1,190 | 1,330 | 1,580 |
| Arterial | - | 2 | 490 | 760 | 1,020 |
| | | 2 + TWLTL* | 640 | 1,000 | 1,330 |
| Major Highway | | 4 | 2,530 | 3,270 | 3,630 |

* TWLTL = Two-way left-turn lane

*Source: Fehr & Peers, 2017.*

**Existing Roadway Operations**

Roadway segment analysis, using generalized service volume tables is appropriate for long-range analysis, especially in a rural area like Calaveras County that relies on the State Highway System for most regional, sub-regional, and many local trips. The analysis methods and parameters for roadways better match conditions experienced by drivers, where the time spent following other vehicles (i.e., ability to pass vehicles) is the primary effect on the driving experience and not delay experience at intersections. The Highway Capacity Manual (HCM) (Transportation Research Board 2010) identifies that planning analysis, using generalized service volume tables, is appropriate for answering broad issues that include a large number of locations, with a long-range time horizon, for regional performance monitoring.

The LOS was calculated for each study roadway segment in the County to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for selected roadway segments with peak hour LOS capacity thresholds from Table 4.13-2 above.

Figure 4.13-2 below summarizes existing PM peak hour traffic LOS on study roadways within the County. As shown in the figure, most study roadways currently operate at LOS C or better, except for the following segments:

- Murphys Grade Road – SR 4 to SR 49 – LOS D
- SR 4 – Allen Lane to Broadview Lane – LOS D
- SR 4 – Broadview Lane to Lakemont Drive – LOS D
- SR 12 – Burson Road to SR 26 – LOS D
- SR 26 – Silver Rapids Road to SR 12 – LOS D
- SR 49 – North of Pool Station Road to North of Gold Oak Road – LOS D

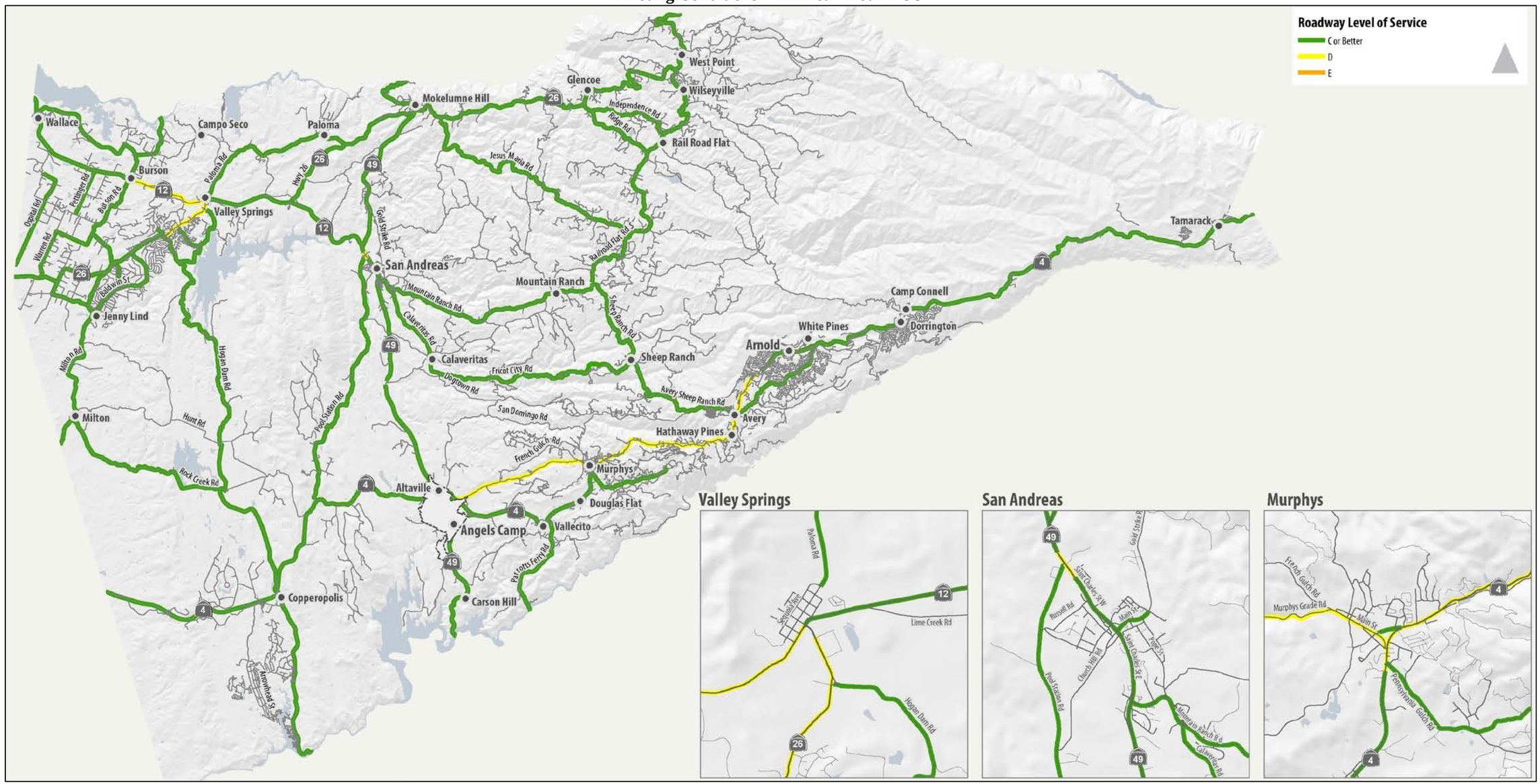
Traffic Safety

Table 4.13-3 below shows recorded automobile collisions for the period between 2010 and 2014 based on Statewide Integrated Traffic Records System (SWITERS) data. For the period shown, approximately 1,151 collisions occurred within the County. Of the 1,151 collisions, approximately 63 percent occurred on the State Highway System, which is consistent with the higher use of such facilities discussed above.

**Goods Movement**

Trucks provide goods movement in Calaveras County with the State Highway System serving as designated truck routes. All such highways can accommodate California Legal trucks (with some advisory sections). Surface Transportation Assistance Act (STAA) trucks (which are longer than California Legal Trucks) operate on the following National Network roadway segments within the County:

**Figure 4.13-2**
**Existing Conditions – PM Peak Hour LOS**




*Source: Fehr & Peers, 2017.*

**Table 4.13-3**
**Calaveras County Collision Summary – 2010 through 2014**

| Collision Summary | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| Total | 275 | 233 | 238 | 188 | 217 |
| Collisions on State Highways | 180 | 151 | 140 | 115 | 134 |
| Fatalities | 11 | 8 | 9 | 7 | 8 |
| **Most Common Primary Collision Factors** | | | | | |
| Unsafe Speed | 78 | 59 | 65 | 46 | 49 |
| Improper Turning | 58 | 40 | 43 | 36 | 65 |
| DUI | 38 | 38 | 43 | 35 | 41 |
| Right-of-Way | 37 | 17 | 20 | 12 | 22 |
| Wrong Side of Road | 36 | 50 | 44 | 43 | 12 |
| **Vehicle Involvement** | | | | | |
| Pedestrian Collision | 5 | 7 | 4 | 3 | 3 |
| Bicycle Collision | 5 | 2 | 3 | 3 | 2 |
| Motorcycle Collision | 60 | 36 | 33 | 29 | 33 |
| Truck Collision | 6 | 2 | 6 | 9 | 6 |

*Source: Fehr & Peers, 2017.*

- SR 4 – Copperopolis to Stanislaus County.
- SR 4 – Between SR 49 and Alpine County.
- SR 49 – Between San Andreas and Vallecito Road (south).
- SR 12 – Between SR 49 and San Joaquin County.

**Aviation**

The Calaveras County Airport, located on SR 49 approximately four miles south of San Andreas, is the only public airport in Calaveras County. The airport supports approximately 32,000 annual flights, or 87 flights per day. Two helipads are located at the airport, with the facility able to accommodate single- and twin-engine aircraft, as well as small business jets. The Calaveras County Airport Land Use Compatibility Plan (ALUCP) was updated and adopted in June 2010. The ALUCP addresses issues regarding safety to persons on the ground, safety to occupants in the aircraft, noise, and land use.

In addition to the public airfield, a number of private airstrips in the County are used on a limited basis.

**Public Transportation**

The County currently operates Calaveras Transit, which provides service between all major Calaveras County communities, as well as to Columbia College in Tuolumne County, Jackson in Amador County, and Delta College in Stockton. In 2016 (Fiscal Year), Calaveras Transit served approximately 44,500 passenger trips. Calaveras Transit currently operates the following six routes:

- Red Line – The Red Line serves Vista del Lago and Columbia College with stops in Valley Springs, San Andreas, and the City of Angels Camp. Service hours are 5:50 AM to 7:35 PM with 10 daily round trips.
- Blue Line – The Blue Line serves the City of Angels Camp, Murphys and Arnold. Service hours are 5:10 AM to 7:52 PM with five daily round trips.
- Green Line – The Green Line serves West Point, Glencoe, Mokelumne Hill, and San Andreas. Service is provided on Monday and Wednesday from 8:00 AM to 4:25 PM with three round trips each day.
- Purple Line – The Purple Line serves Mountain Ranch and the City of Jackson (i.e., in Amador County) with a stop in San Andreas. Service hours are 8:02 AM to 6:35 PM with four daily round trips. On-demand service is available at three additional stops on the line.
- Copper Line – The Copper Line serves the City of Angels Camp and Copperopolis. Service hours are 6:40 AM to 7:35 PM with four daily round trips. On-demand service is available at the O'Byrnes Ferry Road/Main Street stop.
- Brown Line – The Brown Line serves San Andreas, West Point, Mountain Ranch, Rail Road Flat, and Glencoe and is an on-demand service. Service hours are 6:35 PM to 8:20 PM.

The Saturday Hopper provides service on Saturdays with one round-trip service Valley Springs, San Andreas, the City of Angels Camp, Murphys, and Arnold with 90-minute headways. In addition, the Delta Gold Line provides service serves San Andreas, Valley Springs, La Contenta Plaza, and Stockton with stops at Kaiser Permanente or St. Joseph's Medical Center. Service hours are 7:00 AM and 6:00 PM.

**Existing Bicycle Circulation**

Due to the rural nature and steep topography of much of the County, bicycle and pedestrian facilities are relatively limited. Currently, the County includes approximately 22 miles of bikeways and trails, including bicycle facilities within the City of Angels Camp. The majority of bicycle infrastructure is trails and Class I bike paths. The bicycling facilities are broken down into three classifications, which are each described below:

- Class I Bike Paths are off-street bike paths that are physically separated from roadways.
- Class II Bike Lanes are on street facilities marked by pavement striping and typically at least five feet in width.
- Class III Bike Routes are on street facilities that share the road with motorized vehicles designated by signs and markings.

**Existing Pedestrian Circulation**

Consistent with the rural character of Calaveras County, dedicated pedestrian facilities are limited to developed communities with sidewalks and crossing treatments. Both bicycle and pedestrian facilities are discontinuous, making connections to key destinations challenging.

## 4.13.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of transportation and circulation under the CEQA process.

**Federal Regulations**

The proposed project would not be subject to any known federal plans, policies, regulations, or laws related to transportation and circulation.

**State Regulations**

The following State regulations are applicable to the proposed project.

Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) and started a process intended to fundamentally change transportation impact analysis as part of California Environmental Quality Act (CEQA) compliance. These changes include the elimination of auto delay, level of service, and other similar measures of vehicle capacity or traffic congestion as a basis for determining significant impacts. The Governor's Office of Planning and Research (OPR) has issued final guidance entitled *Proposed Updates to the CEQA Guidelines* (November 2017), covering the specific changes to the CEQA guidelines. The final guidance recommends elimination of auto delay and level of service for CEQA purposes and the use of Vehicle Miles Traveled (VMT) as the preferred CEQA transportation metric. SB 743 goes into effect after the new rules are adopted by the Natural Resources Agency.

The updated CEQA Guidelines will apply prospectively only, and would not affect projects that have already commenced environmental review. Statewide application of the new section would not be required until January 1, 2020, although public agencies could immediately apply the new Guidelines once adopted.

The OPR developed technical advisory that contains recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures. However, lead agencies have the discretion to set or apply their own thresholds of significance. The technical advisory acknowledges that rural areas of non-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT and that significance thresholds may be best determined on a case-by-case basis.

The Calaveras County General Plan Update has not established significance thresholds for CEQA analysis of future projects.

California Complete Streets Act

The California Complete Streets Act requires the legislative body of a city or county, upon revision of the circulation element of their general plan (after January 1, 2011), to identify how the

jurisdiction will provide for the routine accommodation of all users of the roadway (i.e., complete streets) including motorists, pedestrians, bicyclists, individuals with disabilities, seniors, and users of public transportation.

Guides and Plans for Operating Conditions of Caltrans Facilities

For Caltrans facilities, acceptable operating conditions are defined by the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002), the SR 4 Transportation Concept Report (January 2014), the SR 12 Transportation Concept Report (January 2012), the SR 26 Transportation Concept Report (June 2003), and the SR 49 Transportation Corridor Concept Report (July 2013).

**Local Regulations**

The following are local and regional policies relevant to transportation and circulation in Calaveras County.

The 2015 Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan

The Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan identifies existing and planned bicycle facilities and is used in the assessment of significant bicycle impacts related to whether projects disrupt existing, or interfere with planned, facilities.

Calaveras 2017 Regional Transportation Plan Update

The Policy Element in the Regional Transportation Plan Update (RTP) identifies transportation issues in the Calaveras County region, describes the goals, objectives, and policies for each of the transportation modes, and the implementation strategies within the RTP to meet the identified goals. The goals and policies within the 2017 RTP are designed to be consistent with the current 1996 Calaveras County General Plan as well as the proposed Draft General Plan.[2]

Angels Camp 2020 General Plan

Policy 3.A.e in the Angels Camp 2020 General Plan identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways.

Calaveras County Code of Ordinances

Title 10, Vehicles and Traffic, in the Calaveras County Code of Ordinances contains extensive regulations related to circulation systems, including, but not limited to, speed limits, parking restrictions, terminal access routes for STAA trucks, and weight limits for commercial vehicles. Chapter 12.02 of the Code of Ordinances contains additional regulations related to road construction and maintenance.

[2] Calaveras Council of Governments. *2017 Calaveras Regional Transportation Plan* [pg. 47]. October 2017.

## 4.11.4 IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used in identifying impacts associated with buildout of the Draft General Plan are presented below. The standards are based on policies of Calaveras County and other responsible agencies, including, but not limited to, the City of Angels Camp and Caltrans. In addition, the methods used to analyze the impacts of the project on the roadway, bicycle, pedestrian, and transit systems are provided below. Finally, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

**Standards of Significance**

The criteria used to determine the significance of project impacts to transportation and traffic were based on the Environmental Checklist in Appendix G of the State CEQA Guidelines. Accordingly, transportation and traffic impacts resulting from buildout of the Draft General Plan would be considered significant through application of the following thresholds of significance:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Result in a substantial decrease in LOS on roadways within the project area;
- 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; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Level of Service Thresholds

The analysis uses the ratio of volume-to-capacity (V/C) to determine roadway segment LOS. Peak hour directional traffic volumes are divided by the roadway type capacity (i.e., volume at LOS E) to calculate the volume-to-capacity (V/C) and to determine LOS for the roadway.

For Calaveras County roadways, acceptable LOS is defined by Policy C 2.2 of the Draft General Plan. The policy establishes LOS C or better as acceptable for County-maintained roadway outside of Community Areas. For County-maintained roadways within Community Areas (as indicated per the Draft General Plan Land Use map), the policy establishes LOS D or better as acceptable.

For Caltrans roadways, acceptable LOS is defined by the applicable State Highway System Transportation Concept Report. For SR 4, SR 12, and SR 49, LOS C is considered acceptable. For SR 26, LOS D is considered acceptable.

For the City of Angels Camp, Policy 3.A.e in the *Angels Camp 2020 General Plan* identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways. Therefore, LOS D is used as the significance threshold for arterial roadways in the City Angels Camp.

**Issues Not Discussed Further**

With a population less than 50,000, Calaveras County does not meet the minimum population threshold for an urbanized area that would require the County to establish a Congestion Management Agency and to prepare a Congestion Management Program. Therefore, none of the roadway segments in Calaveras County are subject to standards of a Congestion Management Program. It should be noted that future population growth occurring under buildout of the Draft General Plan would likely result in a total Countywide population of greater than 50,000. However, given that the County does not have a Congestion Management Program, consistency with such cannot be evaluated at this time. Consequently, buildout of the Draft General Plan would result in no impact with respect to the following:

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Impacts related to the above issue are not further analyzed or discussed in this EIR chapter.

**Method of Analysis**

The methodology used for the analysis within the TIA prepared for the proposed project by Fehr & Peers is discussed below. The complete TIA, including all technical appendices, is included as Appendix G to this EIR.

<u>Modeling Methodology</u>

The TIA uses a modified version of the Calaveras County travel demand forecasting (TDF) model developed for the Calaveras County 2012 Regional Transportation Plan (RTP) to forecast traffic volumes for the Draft General Plan. The model used was the most current version available at the time preparation of the TIA for the proposed project was initiated. Static validation tests consistent with Caltrans' Travel Forecasting Guidelines and FHWA's Model Validation and Reasonableness Checking Manual were completed to validate the TDF model for the County. In order to account for specific limitations of the model, the TIA used a process known as the "difference method" to develop traffic volume forecasts. The difference method approach adjusts raw model volume forecasts by adding the forecasted incremental growth from the TDF model to the existing traffic counts. Traditional TDF models cannot fully capture the benefits of land use, transportation, and urban design policies that reduce travel as measured by VMT. Extensive research has shown that various planning techniques can reduce vehicle trip, increase non-automobile mode share, reduce trip lengths, and reduce VMT. Increases in development density and intensity are correlated with reduced vehicle trips. Mixing complementary uses in a neighborhood setting increase internal trip

"capture." Many different urban design approaches are used to increase transportation connectivity and provide high-quality bicycle, pedestrian, and transit facilities.

Analysis of existing traffic operations was conducted based on roadway segments representative of the overall transportation network within Calaveras County. Traffic volumes on the selected roadway segments were used to determine the overall usage. Most of the traffic counts for analysis were collected for the Calaveras County 2012 RTP and represent conditions consistent with the 2012 base year travel forecasting model. More recent counts were used where available from recent transportation analysis studies. Most of the traffic counts were from 24-hour roadway counts and were representative of midweek volumes (Tuesday, Wednesday, and Thursday) during non-holiday periods, with schools in session. Other traffic counts were based on peak period intersection traffic counts that were taken during both the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. While these counts were taken over the course of a little more than a two-year period between 2010 and 2012, a review of traffic volumes published on Caltrans' Traffic Census Program[3] shows that traffic volumes between 2011 and 2015 have roughly remained the same or slightly decreased during this time period. The TIA generally focused on traffic counts from the PM peak hour, as the PM peak hour represents the highest hourly volume during a typical weekday.

The TIA used analysis methodologies that are consistent with the County's RTP. However, such methodologies have certain limitations. For example, while the development of the roadway segment capacity thresholds in Table 4.13-2 considered the characteristics of the roadways in Calaveras County, such as the percent of no passing zones, the presence of passing lanes, and grade, the thresholds are intentionally general, and may not be representative of every segment of roadway in the County. In addition, segment-level analysis does not account for the full effect of subtle operational characteristics of intersection traffic control. Furthermore, the methodology does not consider the potential impact on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system, but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS thresholds in Table 4.13-2 are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts to other modes such as increasing the walking time for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users.

Growth Scenarios

The California Department of Finance (DOF), Demographic Research Unit, forecasts a total County population of 55,541 persons by 2035, which represents an addition of 4,353 dwelling units to the County's housing stock. The TIA evaluated the following two growth scenarios, both of which include more growth than forecast by the DOF in order to provide a conservative analysis:

[3] California Department of Transportation. *Traffic Census Program*. Available at: http://www.dot.ca.gov/trafficops/census. Accessed June 2018.

- Market-Level Year 2035 – Assumes addition of 6,374 new dwelling units to the County's housing stock and addition of 1,560 new employees to the County's workforce.
- General Plan Buildout (Growth Beyond 2035) – Assumes addition of 19,979 dwelling units to the County's housing stock and addition of 4,889 employees to the County's workforce. The General Plan Buildout (Growth Beyond 2035) scenario is consistent with the General Plan buildout assumptions described in Chapter 3, Project Description, of this EIR.

The Market-Level Year 2035 growth scenario relies on land use allocation created with UPlan, a simple rule-based growth model developed by the UC Davis. UPlan was designed for regional and county-level modeling. The needed space for each land use type was calculated from simple demographics and assigned based on the net attractiveness of locations to each land use, as determined by user inputs, locations unsuitable for any development, and the Draft General Plan, where specific types of development are permitted.

Vehicle Miles Travelled

As noted above, the CEQA Guidelines are currently transitioning from the current LOS metrics to VMT. Thus, for informational purposes, Table 4.13-4 includes an overview of VMT occurring under existing conditions, as well as Market-Level Year 2035 and General Plan Buildout (Growth Beyond 2035) growth scenarios at the 2035 horizon year.

**Table 4.13-4**
**Calaveras County Daily VMT Forecasts**

| Scenario | VMT/Day[1] | Population[2] | Employment[3] | VMT/ Capita[4] | VMT/Service Population[5] |
|---|---|---|---|---|---|
| Existing | 1,942,500 | 45,578 | 10,020 | 42.6 | 34.9 |
| Market-Level Year 2035 | 2,778,500 | 60,413 | 11,577 | 46.0 | 38.6 |
| General Plan Buildout (Growth Beyond 2035) | 4,027,100 | 117,045 | 14,917 | 34.4 | 30.5 |

Notes:

1 Includes travel from all vehicles. The allocation of VMT includes 100 percent responsibility for all trips with both trip ends in Calaveras County, and 50 percent responsibility for trips with only one trip in the County.

2 Population estimates and forecasts are based on the Calaveras County travel forecasting model and a persons per household ratio of 2.41.

3 Employment estimates and forecasts based on Calaveras County travel forecasting model land use inputs.

4 VMT/capita is calculated by dividing total VMT/day by population. Because the VMT/day includes VMT generated by commercial vehicles, visitors, and workers/students that live outside Calaveras County, VMT/capita is not an estimate of the VMT 'generated' per capita for Calaveras residents.

5 VMT/service population is calculated by dividing total VMT/day by population plus employment. Similar to the VMT/capita metric, VMT/service population includes VMT generated by commercial vehicles, visitors, and students that live outside Calaveras County. As such, VMT/service population is not an estimate of the VMT 'generated' per service population for Calaveras residents and workers.

*Source: Fehr & Peers, 2017*

As shown in the table, VMT per capita and VMT per service population would increase compared to existing conditions under the Market-Level Year 2035 scenario but would decrease under the

General Plan Buildout scenario. The General Plan Buildout (Growth Beyond 2035) scenario would result in slightly lower VMT per capita and VMT per service population than the Market-Level Year 2035 scenario. The lower VMT associated with the General Plan Buildout (Growth Beyond 2035) scenario is due to the greater level of development occurring under the scenario placing more population and employment together, which places people closer to jobs, goods, and services.

**Impacts and Mitigation Measures**

The following discussion of impacts is based on the implementation of the proposed project in comparison with the standards of significance identified above.

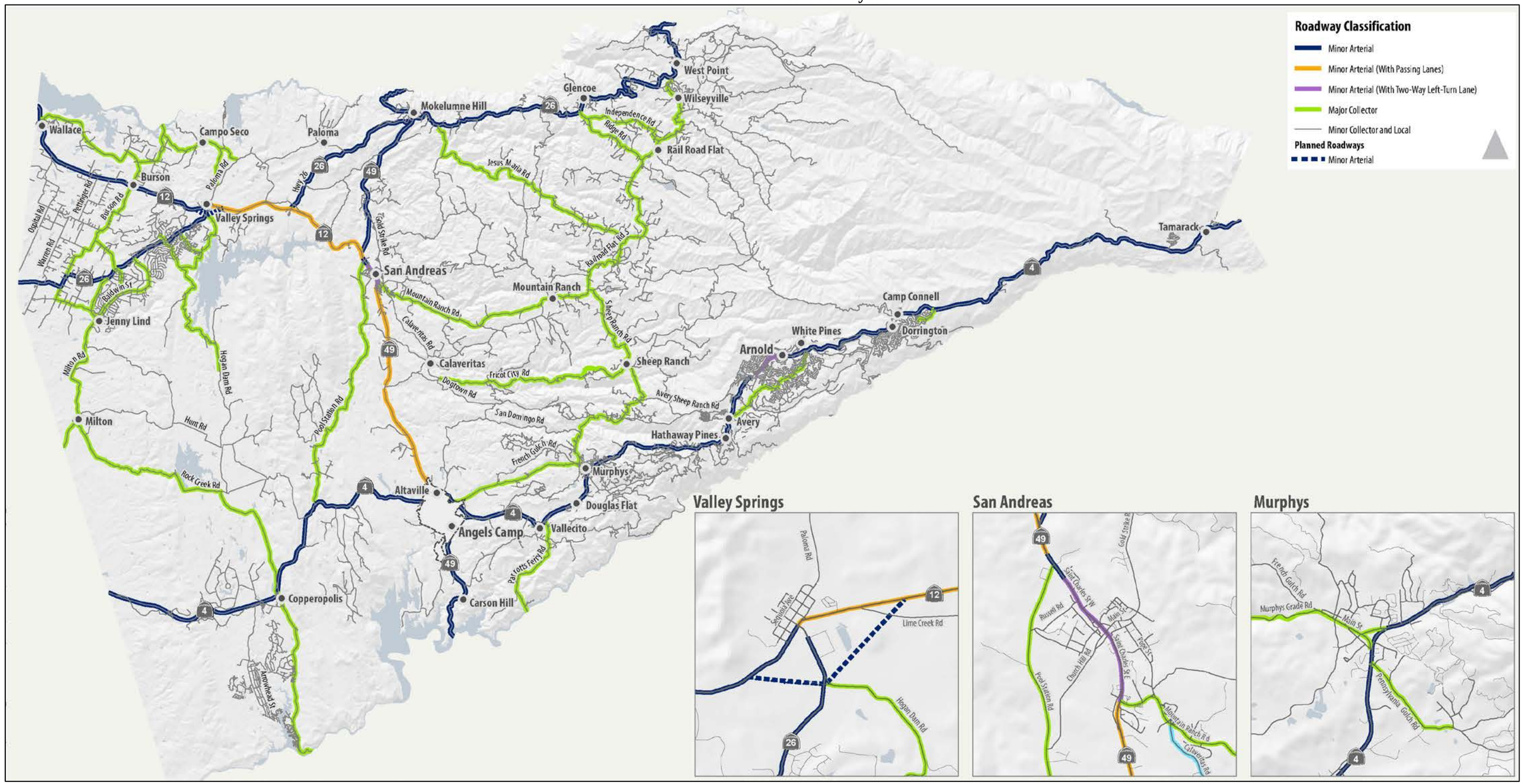
**4.13-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of County-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035) growth scenario. Based on the analysis below, the impact is *less than significant.***

The proposed project includes land use and transportation network changes that would increase future traffic volumes on County roadways. Figure 4.13-3 below provides an overview of the County's circulation system as projected for implementation of the Draft General Plan. Figure 4.13-4 identifies key roadway improvements planned to serve traffic occurring under the Market-Level Year 2035 growth scenario.

The Circulation Element of the Draft General Plan includes the following goals, policies, and Implementation Measures (IMs) related to transportation and traffic.

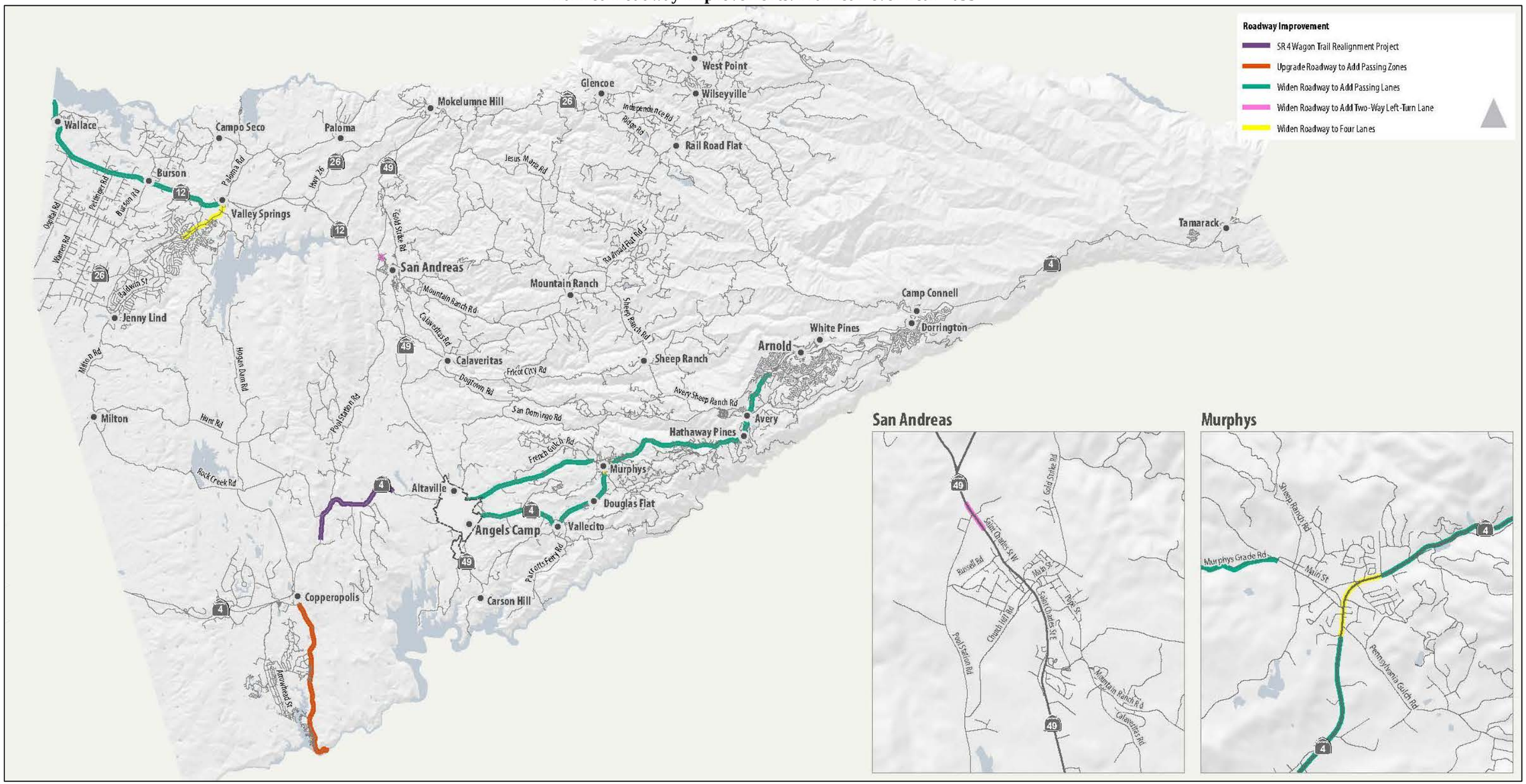
| | |
|---|---|
| Goal C-1 | A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character. |
| Goal C-2 | A roadway system that provides safe and efficient access and mobility for Calaveras residents, visitors and businesses and adequately serves existing and planned land uses. |
| Policy C 1.1 | Incorporate the concept of complete streets for planning transportation and development, including operations and maintenance, where feasible and suitable to the rural nature of the county and its topography. (IM C-1A, C-1C and COS-7B) |
| Policy C 1.3 | Prioritize funding and construction of projects that reduce vehicle miles traveled. (IM C-1A, C-1B, C-1D and COS-5C) |
| Policy C 1.6 | Encourage development that reduces vehicle miles traveled, consistent with the policies of the Land Use Element. (IM C-1A) |

**Figure 4.13-3**
**Draft General Plan Circulation System**




*Source: Fehr & Peers, 2017.*

**Figure 4.13-4**
**Planned Roadway Improvements: Market-Level Year 2035**




*Source: Fehr & Peers, 2017.*

Policy C 2.2 Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas, except as specified below, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

- SR 26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.

Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

- Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;
- Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or
- Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

Policy C 2.2 of the Draft General Plan provides for a higher LOS threshold than the 1996 General Plan for certain roadway facilities within the County. Given that the thresholds provided in the Draft General Plan would supersede the current 1996 General Plan thresholds upon adoption, the Draft General Plan thresholds are used for the purposes of this analysis.

Roadway LOS conditions occurring under the Market-Level Year 2035 and General Plan Buildout (Growth Beyond 2035) growth scenarios (PM peak hour) are summarized in Figure 4.13-5 and Figure 4.13-6 below, respectively. The LOS results associated with the growth scenarios are evaluated to identify locations where the Policy C 2.2 threshold would be exceeded on County-maintained roadways.

All County-maintained roadways outside of Community Areas will operate acceptably at LOS C or better under the General Plan Buildout analysis scenario. Table 4.13-5 compares PM peak hour roadway segment level of service under General Plan Buildout conditions

to existing conditions for County-maintained roadways that are forecast to operate at LOS D.

As shown in Table 4.13-5, the following County-maintained roadways in Community Areas would operate at LOS D under the General Plan Buildout analysis scenario:

- The Big Trees Road from SR 4 to Main Street (Murphys) roadway segment is forecast to serve 390 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 110 vehicles.

**Table 4.13-5**
**PM Peak Hour Roadway Segment Capacity – General Plan Buildout (County-Maintained)**

| | | Existing | | | | Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| Big Trees Road | SR 4 to Main Street | 198 | 0.15 | C | - | 390 | 0.29 | D | 110 |
| O'Byrnes Ferry Road | Reed's Turnpike to County Line | 177 | 0.13 | C | - | 450 | 0.29 | D | 20 |
| Vista del Lago | SR 26 to Hogan Dam Road | 186 | 0.14 | C | - | 350 | 0.26 | D | 70 |

*Source: Fehr & Peers, 2017.*

- The O'Byrnes Ferry Road from Reed's Turnpike to Tuolumne County Line roadway segment is forecast to serve 450 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 20 vehicles.

- The Vista del Lago from SR 26 to Hogan Dam Road roadway segment is forecast to serve 350 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 70 vehicles.

Based on LOS results for County-maintained study roadways under both growth scenarios, operations at the roadways would not conflict with the LOS standards established per Policy C 2.2 of the Draft General Plan. Specifically, all County-maintained roadway segments outside of community areas would operate at LOS C or better, and all such segments located within community areas would operate at LOS D or better. As such, implementation of the Draft General Plan would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of county roadways under the Market-Level 2035 or General Plan Buildout (Growth Beyond 2035) growth scenarios, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.13-2 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of Caltrans-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035). Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable*.**

As discussed previously, acceptable operating conditions for State Highways within Calaveras County are defined by the applicable State Highway System Transportation Concept Report. For SR 4, SR 12, and SR 49, LOS C is considered acceptable. For SR 26, LOS D is considered acceptable.

The Draft General Plan includes goals, policies, and IMs related to LOS, which are discussed under Impact 4.13-1 above. In addition, the Circulation Element of the Draft General Plan includes the following policies and IMs related to Caltrans at the State Highway System:

| | |
|---|---|
| Policy C 1.4 | Coordinate with the Calaveras Council of Governments and Caltrans on the development and maintenance of the regional transportation system. (IM C-1D) |
| IM C-1D | Circulation and Access Plans – Work with CCOG and Caltrans to secure funding for and implementation of comprehensive circulation and access plans for the state highways (i.e., arterial) corridors to ensure that planned development is compatible with current facilities and transportation concept designations. |

Market-Level Year 2035

Table 4.13-6 compares PM peak hour roadway segment level of service under General Plan Market-Level Year 2035 conditions to existing conditions for Caltrans-maintained roadways that currently operate at LOS D or are forecast to operate at LOS D.

Based on LOS results for Caltrans-maintained study roadways under the Market-Level 2035 growth scenario, with the exception of the following segments of SR 4 and SR 29, which would operate at LOS D, all other study roadway segments would operate at LOS C or better (see Figure 4.13-5):

- The SR 4 from Lakemont Drive to Henry Drive roadway segment is forecast to serve 650 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 10 vehicles;

**Table 4.13-6**
**PM Peak Hour Roadway Segment Capacity – Market-Level Year 2035 (Caltrans-Maintained)**

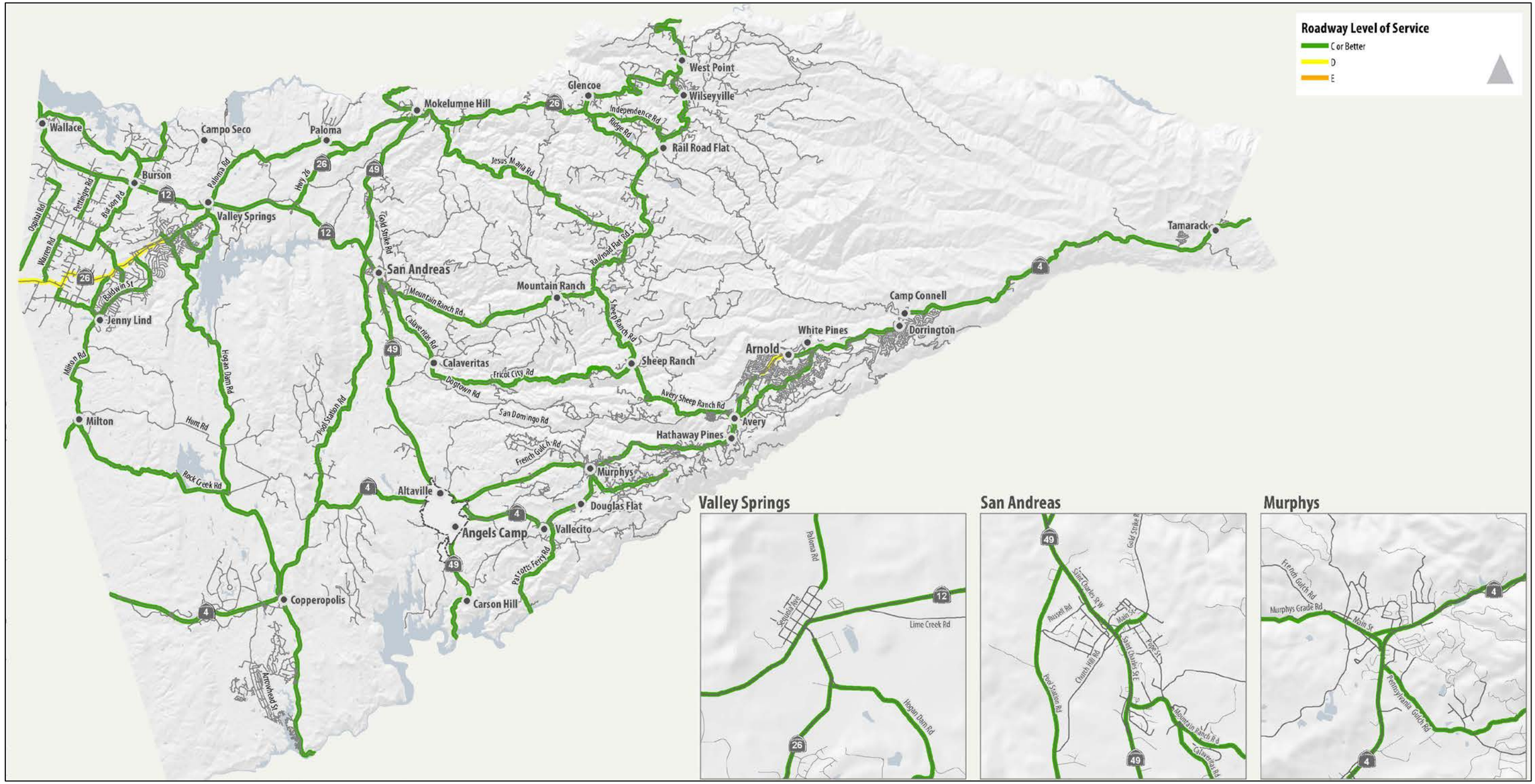
| | | Existing | | | | Market-Level Year 2035 | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| SR 4 | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,140 | 0.31 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 680 | 0.43 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **650** | **0.49** | **D** | **10** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 730 | 0.46 | C | - |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 490 | 0.32 | D | 60 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,090 | 0.30 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | 620 | 0.47 | C | - |
| | SR 4(W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |

Note: Bold indicates significant impact.

*Source: Fehr & Peers, 2017.*

- The SR 49 from SR 4 (W) to Murphy's Grade Road roadway segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles;
- The SR 49 from Stanislaus Avenue to Mark Twain Road roadway segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles; and

**Figure 4.13-5**
**Market-Level Year 2035 Growth Scenario – PM Peak Hour LOS**




*Source: Fehr & Peers, 2017.*

- The SR 49 from Mark Twain Road to Bret Harte Road roadway segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles.

General Plan Buildout (Growth Beyond 2035)

Table 4.13-7 compares PM peak hour roadway segment level of service under General Plan Buildout conditions to existing conditions for County-maintained roadways that are forecast to operate worse than LOS D.

Based on LOS results for Caltrans-maintained study roadways under the General Plan Buildout (Growth Beyond 2035) growth scenario, in addition to the roadway segments listed above, the following roadway segments would operate at LOS D (see Figure 4.13-6):

- The SR 4 from Vallecito Road to Kurt Drive roadway segment is forecast to serve 510 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 80 vehicles;
- The SR 4 from Lakemont Drive to Henry Drive roadway segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles;
- The SR 4 from Henry Drive to Sierra Parkway (Arnold to Dorrington) roadway segment is forecast to serve 470 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 40 vehicles;
- The SR 12 from SR 26 to SR 49 roadway segment is forecast to serve 1,210 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 1,140 vehicles) by 70 vehicles;
- The SR 49 from Pool Station Road to Gold Oak Road roadway segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles;
- The SR 49 from Gold Oak Road to Mountain Ranch Road roadway segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles;
- The SR 49 from Dog Town Road to SR 4 (W) roadway segment is forecast to serve 700 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 60 vehicles.;
- The SR 49 from SR 4 (W) to Murphy's Grade Road roadway segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles;
- The SR 49 from Stanislaus Avenue to Mark Twain Road roadway segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

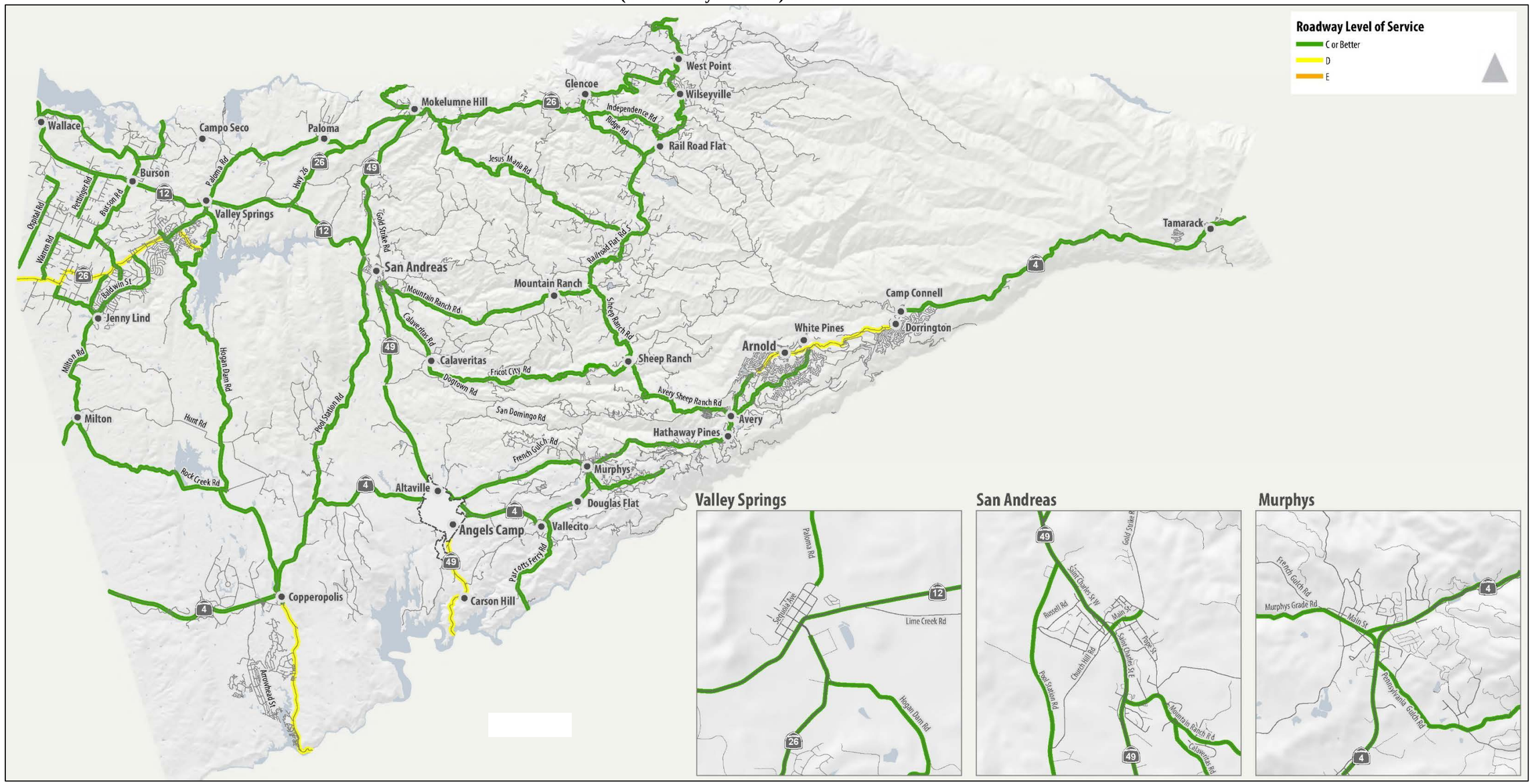
**Table 4.13-7**
**PM Peak Hour Roadway Segment Capacity – General Plan Buildout (County-Maintained)**

| Roadway | Segment | Existing | | | | General Plan Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Vol | V/C | LOS | Vol > LOS C Capacity | Vol | V/C | LOS | Vol > LOS C Capacity |
| SR 4 | Vallecito Road to Kurt Drive | 337 | 0.22 | C | - | **510** | **0.33** | **D** | **80** |
| | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,190 | 0.33 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 820 | 0.52 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **790** | **0.59** | **D** | **150** |
| | Henry drive to Sierra Parkway | 421 | 0.27 | C | - | **470** | **0.30** | **D** | **40** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 950 | 0.60 | C | - |
| | SR 26 to SR 49 | 584 | 0.37 | C | - | **1,210** | **0.77** | **D** | **70** |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 650 | 0.42 | **D** | 220 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,280 | 0.35 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | **690** | **0.52** | **D** | **50** |
| | Gold Oak Road to Mountain Ranch Road | 522 | 0.39 | C | - | **690** | **0.52** | **D** | **50** |
| | Dogtown Road to SR 4 (W) | 570 | 0.43 | C | - | **700** | **0.53** | **D** | **60** |
| | SR 4 (W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |
| | Bret Harte Road to Vallecito Road | 616 | 0.46 | C | - | **730** | **0.55** | **D** | **90** |
| | SR 4 (S) to County Line | 322 | 0.21 | C | - | **600** | **0.39** | **D** | **70** |

Note: Bold indicates significant impact.

*Source: Fehr & Peers, 2017.*

**Figure 4.13-6**
**General Plan Buildout (Growth Beyond 2035) Growth Scenario – PM Peak Hour LOS**




*Source: Fehr & Peers, 2017.*

- The SR 49 from Mark Twain Road to Bret Harte Road roadway segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles;
- The SR 49 from Bret Harte Road to SR 4 (S) Vallecito Road roadway segment is forecast to serve 730 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 90 vehicles; and
- The SR 49 from SR 4 (S) Vallecito Road to Tuolumne County Line roadway segment is forecast to serve 600 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 530 vehicles) by 70 vehicles.

Conclusion

The policies and IMs listed above would help to improve coordination between the County and various other agencies in regards to maintenance and improvements to Caltrans-maintained roadways. Nonetheless, based on LOS results for Caltrans-maintained study roadways under both growth scenarios, operations of LOS D at the above roadway segments would conflict with the Caltrans' LOS thresholds for SR 4, SR 12, and SR 26, as well as the LOS standards established per Policy C 2.2 of the Draft General Plan. As such, implementation of the Draft General Plan could conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of Caltrans-maintained roadways under the Market Level Year 2035 and General Plan Buildout (Growth Beyond 2035) growth scenarios, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would eliminate potential conflicts with the LOS standards established per Policy C 2.2 of the Draft General Plan for Caltrans-maintained roadways. However, given that the impacted roadway segments are owned and maintained by Caltrans, and are subject to Caltrans' established LOS standards, the impact would remain *significant and unavoidable.*

*4.13-2 Policy C 2.2 in the Draft General Plan shall be revised as follows:*

*Policy C 2.2 Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas. The County shall allow for the following exceptions on County-maintained roadways and on Caltrans-maintained roadways, ~~except as specified below,~~ assuming that roadway safety is addressed consistent with Policy CIR 2.1.*

- *SR 26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.*
- *SR 4 from Vallecito Road to Kurt Drive – LOS D is acceptable to the County.*
- *SR 4 from Lakemont Drive to Henry Drive – LOS D is acceptable to the County.*
- *SR 4 from Henry Drive to Sierra Parkway – LOS D is acceptable to the County.*
- *SR 12 from SR 26 to SR 49 – LOS D is acceptable to the County.*
- *SR 49 from Pool Station Road to Gold Oak Road – LOS D is acceptable to the County.*
- *SR 49 from Gold Oak Road to Mountain Ranch Road – LOS D is acceptable to the County.*
- *SR 49 from Dog Town Road to SR 4 (W) – LOS D is acceptable to the County.*
- *SR 49 from SR 4 (W) to Murphy's Grade Road – LOS D is acceptable to the County.*
- *SR 49 from Stanislaus Avenue to Mark Twain Road – LOS D is acceptable to the County.*
- *SR 49 from Mark Twain Road to Bret Harte Road – LOS D is acceptable to the County.*
- *SR 49 from Bret Harte Road to SR 4 (S) Vallecito Road – LOS D is acceptable to the County.*
- *SR 49 from SR 4 (S) Vallecito Road to Tuolumne County Line – LOS D is acceptable to the County.*

*Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:*

- *Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;*
- *Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or*
- *Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).*

**4.13-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Based on the analysis below, the impact is *less than significant*.**

Buildout of the Draft General Plan would change land use patterns within the County, but not to a degree that would substantially affect existing air traffic patterns. Per the Draft General Plan Land Use Map, the Calaveras County Airport would be designated Public/Institutional, and adjacent land uses would be limited to Resource Production, Resource Management, and Commercial Office. Future development occurring within such land use designations would not be expected to affect air traffic patterns at the airport. Furthermore, the Circulation Element of the Draft General Plan includes the following goals, policies, and IMs related to air traffic within the County:

Goal C 4 — A safe and efficient aviation system that enhances safety to the public, minimizes the adverse effects of operations on people, and promotes economic health.

Policy C 4.1 — Prevent new land uses and zoning surrounding the Calaveras County Airport that would create future land use conflicts. (IM C-4B)

Policy C 4.2 — Private airports and airstrips may be permitted by Conditional Use Permit when safe and compatible with neighboring land uses and the Airport Land Use Compatibility Plan. (IM C-4A)

Policy C 4.3 — Enhance the Calaveras County Airport operations to increase economic benefits of airport operations and maximize use of airport property consistent with the Airport Land Use Compatibility Plan. (IM C-4C)

IM C-4A — (Private Airstrip Standards) – Amend the zoning ordinance to provide following criteria for private airstrips:

- Within a rural area of the county;
- Not within an existing residential subdivision;
- Compatible with adjoining existing and potential land uses;
- Compliant with the Calaveras County Airport Land Use Compatibility Plan;
- Compliant with County noise and safety policies; and
- Compliant with the standards of the Airport Overflight and Noise Impact Area Zone and Airport Height Limitation Zone.

IM C-4B — Airport Land Use Compatibility Plan – Implement the Airport Land Use Compatibility Plan when reviewing land use proposals within the airport influence area.

IM C-4C Use of Airport Land – Promote the use of airport land to attract and retain airport-appropriate land uses consistent with the Airport Land Use Compatibility Plan.

Policy C 4.1 would ensure that future development occurring under buildout of the Draft General Plan would not conflict with operations at the Calaveras County airport, the sole public airstrip in the County. With respect to private airstrips, Policy C 4.2 and IM C-4A would require that such airstrips be compatible with the Calaveras County ALUCP, adjacent land uses, and various other applicable regulations. The goals, policies, and IMs listed above would bolster existing regulations stipulated in the County Code, and would help to minimize any potential air traffic related conflicts. Therefore, buildout of the Draft General Plan would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.13-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access. Based on the analysis below, the impact is *less than significant.***

In order to accommodate planned population and employment growth, buildout of the Draft General Plan would include modifications to the existing transportation network. However, all such modifications of existing public facilities, as well as construction of new facilities, would be required to comply with applicable design standards that have been developed to minimize the potential for traffic-related conflicts and collisions. The County's existing regulations related to road construction and maintenance are codified in Chapter 12.02 of the Calaveras County Code of Ordinances. With respect to incompatible uses, Title 10 of the Code of Ordinances provides specific regulations related to vehicles and traffic within the County. For example, Chapter 10.16 establishes weight limits for commercial vehicles operating on certain County-maintained roads.

The Circulation and Safety Elements of the Draft General Plan include the following policies and IMs designed to further reduce potential impacts associated with roadway hazards and emergency access:

Policy C 1.8 Safety shall be the primary factor in prioritizing circulation system improvements and evaluating the ability of the County-maintained roadway system to accommodate traffic growth from new development. (IM C-1A and C-1E)

Policy C 2.14 New development above 3,000 feet in elevation shall be designed to accommodate snow conditions, including but not limited to maximum grade, and snow removal and storage requirements. (IM C-1F)

| | |
|---|---|
| IM C-1F | Design for Snow – Review and amend the Public Works Department Development Manual to address snow-area development standards. Standards shall address snow storage, maximum road grade, and surfacing requirements to accommodate snow removal. |
| Policy S 1.1 | Ensure that discretionary actions involving new development will not interfere with the implementation of emergency response plans or the viability of evacuation routes established by local, state or federal agencies. (IM S-1A, S-3V and S-5E) |
| Policy S 1.9 | The County adopts, by reference, the 2015 Local Hazard Mitigation Plan, or any update thereto, as a part of this General Plan. |
| Policy S 3.4 | All new development shall meet any applicable standards for access by emergency vehicles and egress by residents. (IM S-3A, S-3B, S-3C, S-3D and S-3W) |
| IM S-1C | Evacuation Routes, Sites and Centers. Identify evacuation routes included in adopted emergency response plans on the County GIS or equivalent, to assist planners in evaluating if a new development will impair or physically interfere with an adopted emergency evacuation plan. |
| IM S-3G | Coordinated Fire Prevention and Response Planning Efforts. Continue to participate in and support coordinated fire prevention and response planning efforts. Improve interdepartmental communications to enhance coordinated fire emergency response and planning between the Calaveras County Sheriff's Office of Emergency Services, the County's multiple fire districts, CalFire, the U.S. Forest Service, Planning, Public Works, the Calaveras Council of Governments and other affected agencies. Keep apprised of recommendations contained in the CalFire, Tuolumne/Calaveras Unit Strategic Fire Plan and Calaveras County Community Wildfire Protection Plan. Coordination efforts should include evaluations of proposed road improvements in the County's Circulation Element and Regional Transportation Plan that may improve emergency evacuation routes. Support may be in the form of hosting a strategic planning session for emergency response personnel and planners. Coordination may also be achieved in the form of sharing GIS database layers and fire modeling data. |
| IM S-3V | Evacuation Routes. Prepare a consolidated map of identified evacuation routes adopted in emergency response plans for reference at the Planning Department. Keep apprised of recommendations for emergency access/egress routes included in the Calaveras County Community Wildfire Protection Plan and facilitate incorporating proposed new evacuation routes into the County's regional |

transportation plan. If a Battalion Evacuation Plan is prepared as recommended in the Calaveras County Community Wildfire Protection Plan, coordinate with the emergency response agencies preparing the plan to ensure that such roadways are clearly identified and shared with the County Planning Department to adequately evaluate potential impacts of new development with respect to their potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as required pursuant to CEQA.

IM PF 5B Emergency Operations Plan (EOP). Update the Emergency Operations Plan on a regular basis to maintain preparedness for large scale emergencies (i.e. wildfires, flooding, hazardous materials incidents), consistent with the provisions of state law and the National Incident Management System.

The goals, policies, and IMs of the Draft General Plan would work in tandem with existing regulations within the County Code of Ordinances to ensure that future roadway modification and construction within the County would be designed to accommodate safe travel of vehicles and provide for adequate emergency access. Specifically, Policy C 2.14 and IM C-1F would ensure that future road construction and improvements above 3,000 feet in elevation would be designed to handle snow conditions, thereby improving emergency vehicle access throughout the County during winter months. Furthermore, as discussed in Chapter 4.7, Hazards and Hazardous Materials, of this EIR, buildout of the Draft General Plan would not conflict with the County's Local Hazard Mitigation Plan (LHMP).

Based on the above, buildout of the Draft General Plan would not substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or result in inadequate emergency access. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
*None required.*

**4.13-5 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Based on the analysis below, the impact is *less than significant.***

As discussed previously, alternative modes of transportation are currently relatively limited due to the dispersed and rural nature of existing development within the County. Approved/adopted policies, plans, and programs related to public transit, bicycle, or pedestrian facilities are limited to the following:

- Calaveras County Short Range Transit Plan Update (approved January 2016);

- Calaveras County 2014 Coordinated Public Transit-Human Services Transportation Plan (approved June 2014); and
- Murphys Circulation, Pedestrian, Bicycling, and Parking Study (adopted February 2002).

Buildout of the Draft General Plan would not conflict with any of the above planning documents; rather, the Draft General Plan includes the following goals, policies, and IMs that would enhance alternative modes of transportation:

| | |
|---|---|
| Goal C-5 | A safe, convenient transportation network for pedestrians, cyclists, and users of other non-motorized modes of transportation that is suitable for the rural nature of the county and its topography. |
| Policy C 1.13 | Strive to increase roadway connectivity, particularly in Community Areas, to reduce trip lengths, enhance emergency response, encourage opportunities for trips to be made by walking and bicycling. (IM C-1A, C-1B and COS-7B) |
| Policy C 3.1 | Maintain a County transit system and strive to increase service efficiency, availability, and convenience for all residents, employees, and visitors to the degree feasible with available resources. (IM C-3B) |
| Policy C 3.2 | Encourage the expansion of public transit services to nearby urban areas in order to reduce automotive dependency, access intercity transportation services, and improve mobility for County residents. (IM C-3A, C-3B) |
| Policy C 3.3 | Strive to develop new attractive, well-maintained, and pedestrian-friendly bus stops, with benches and shelters where warranted, located in high-visibility and heavily used areas. (IM C-3C) |
| Policy C 3.4 | Encourage the use of public transit, as well as ridesharing, and vanpools. (IM C-3A and C-3C) |
| Policy C 3.5 | Ensure that new developments incorporate measures into project design that promote the use of alternative modes of transportation. (IM C-3C) |
| Policy C 3.6 | Coordinate with the City of Angels Camp and adjacent counties to develop the most cost-effective transit program. (IM C-3B) |
| Policy C 5.1 | Incorporate safe and convenient bicycle and pedestrian access, where feasible, in all transportation improvement projects. (IM C-1A, C-1B and COS-7B) |
| Policy C 5.2 | Bicycle and pedestrian access and circulation shall be designed into new development projects where applicable to enhance internal circulation |

and interconnectivity with surrounding land uses and to implement any adopted bicycle and/or pedestrian plan. (IM C-1A and COS-7B)

Policy C 5.3 Safe routes to schools shall be incorporated into new residential projects where appropriate. (IM C-1A and COS 7B)

IM C-1A Complete Streets – Review the County Municipal Code and Public Works Department Development Manual and incorporate, as appropriate, complete streets design principles such as the following:

- Balanced design to accommodate walking, cycling, transit, driving, parking, accessibility, drainage, storm water management, emergency vehicle access, snow removal, and deliveries.
- Safe access to public transportation and other non-motorized uses through construction of dedicated paths where appropriate and where right-of-way is available.
- Safe road crossings at major intersections.
- Interconnect roadway networks to expand travel route options and allow short trips to be completed off of arterial roadways.
- Pedestrian and bicycling facilities where appropriate to promote safety and maximize access, including construction of bicycle parking facilities where feasible.

IM C-1B Greenhouse Gasses – When preparing capital improvement plans and reviewing development proposals, the County shall favorably consider projects which minimize greenhouse gas impacts and are appropriate to the rural nature of Calaveras County, including, but not limited to, transit programs, ridesharing programs, bicycle and pedestrian improvements, and maintenance of existing roadways to reduce vehicle emissions.

IM C-1C Transportation Alternatives in Impact Fees – Consider transit capital improvements and non-auto travel improvements necessary to serve new development in impact fee programs to fund public transportation infrastructure, park-and-ride lots, and bicycle and pedestrian facilities associated with the new development.

IM C-2B Transportation Impact Study Guidelines – Develop and adopt transportation impact study (TIS) guidelines that consider all modes of travel and define, at a minimum, the need for transportation impact studies, analysis methodology and CEQA significance criteria.

IM C-3A Park-and-Ride Facilities – As funding allows, designate and implement appropriate "Park and Ride" facilities, and promote ridesharing programs.

IM C-3B Transit Planning – Work with the Calaveras County Council of Governments and City of Angels Camp to update the annual Unmet Transit Needs Report and to periodically review and update the short-range transit plan.

IM C-3C Transit Stops – Coordinate with Calaveras Transit when reviewing development projects to determine if transit stops or other public transit facilities should be incorporated into the design of the project.

IM C-5A Bicycle and Pedestrian Plans – Update the bicycle and pedestrian master plan and implement the priority projects in those documents as funding allows. The County shall pursue available federal, state, and local funding for construction and maintenance of non-motorized transportation facilities.

Policy C 3.1 through Policy C 3.5 would promote increased of transit facilities by encouraging expansion of public transit services to nearby urban areas and construction of new bus stops. Policy C 5.1 and IM C-1A would encourage development of bicycle and pedestrian facilities by incorporating 'complete streets' design principles into the County Code of Ordinances. In addition, Policy C 5.2 would require new development to incorporate, wherever applicable, bicycle and pedestrian circulation improvements. Policy C 5.3 would require new residential develop occurring under the Draft General Plan to incorporate 'safe routes to school' consistent with the Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan.

Based on the above, buildout of the Draft General Plan would not create inconsistencies with any adopted plans, guidelines, policies or standards related to public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, and impacts would be considered ***less than significant***.

Mitigation Measure(s)
*None required.*

# 5 CUMULATIVE IMPACTS AND OTHER CEQA SECTIONS

## 5.1 Introduction

The Cumulative Impacts and Other CEQA Sections chapter of the EIR includes additional topics that are required to be included in an EIR. The chapter includes a discussion of the proposed project's potential to induce economic or population growth. In addition, the chapter includes a discussion of cumulative impacts, energy impacts, significant irreversible environmental changes, and significant and unavoidable impacts caused by buildout of the Draft General Plan.

## 5.2 Growth-Inducing Impacts

An EIR must discuss the ways in which a proposed project could foster economic or population growth in the vicinity of the project and how that growth would, in turn, affect the surrounding environment (see *CEQA Guidelines*, Section 15126.2[d]). Growth can be induced in a number of ways, including through the elimination of obstacles to growth or through the stimulation of economic activity within the region. The discussion of the removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.

A number of issues must be considered when assessing growth-inducing effects, including the following:

> **Elimination of Obstacles to Growth:** The extent to which infrastructure capacity provided to accommodate the proposed project would allow additional development in surrounding areas; and
>
> **Economic Effects**: The extent to which development of the proposed project could cause increased activity in the local or regional economy.

As discussed in Chapter 4.11, Population and Housing, of this EIR, by providing for the orderly future development of residential, commercial, and industrial uses in designated land use categories throughout the planning area, implementation of the Draft General Plan could indirectly induce population growth. Such development is necessary to accommodate a balance in residential, commercial, employment, civic, recreational, open space, natural resource, and other uses. However, the goals and policies included in the Land Use Element of the Draft General Plan have been designed to allow the County to manage such growth.

The goals and policies included in the Draft General Plan would not induce development beyond the level anticipated in the Plan and comprehensively analyzed in this EIR for the projected resident population, as well as other population groups that could potentially increase with adoption of the Draft General Plan (e.g., seasonal workers, tourists). Given that the anticipated

carrying capacity of the Draft General Plan is greater than the DOF projections for 2035, the Draft General Plan Land Use Map would be capable of accommodating the population growth projected for the County.

Nonetheless, given that the purpose of the Draft General Plan is to accommodate the most recent population growth, housing, and employment projections in an orderly manner, feasible mitigation measures are not available to reduce the potential for population growth to a less-than-significant level. The County cannot meet its economic development and housing needs without accommodating additional residents and workers. The impacts of such growth are analyzed throughout the technical chapters of this EIR.

## 5.3 Cumulative Impacts

CEQA Guidelines Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, Section 15355; see also Pub. Resources Code, Section 21083, subd. [b]) Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines, Section 15130, subd. [a][1])

"[I]ndividual effects may be changes resulting from a single project or a number of separate projects." (CEQA Guidelines, Section 15355, subd. [a]) "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, Section 15355, subd. [b])

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and thus significant, when viewed together with environmental changes anticipated from past, present, and probable future projects. (CEQA Guidelines, Sections 15064, subd. [h][1], 15065, subd. [c], 15355, subd. [b]) This formulation indicates that particular impacts may be less-than-significant on a project-specific basis but significant on a cumulative basis, because their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable.

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

In general, the cumulative context for the technical analyses contained within this EIR is buildout of the Draft General Plan through the year 2035. With the exception of air quality and climate change, which have a regional and global geographic scope, respectively, the geographic area of inquiry for the remaining CEQA topics evaluated in this EIR are defined by the geographic boundaries of Calaveras County. Because the proposed Draft General Plan anticipates development across a large geographical area (Calaveras County) over a long period of time, the analysis presented throughout this EIR is inherently cumulative and considers the cumulative contexts described above. However, in some instances buildout of the Draft General Plan could combine with other projects surrounding the county.

The impacts associated with buildout of the Draft General Plan in combination with other projects would not create a substantial difference in the analyses and conclusions included throughout this EIR. For example, aesthetic impacts are a function of the viewer location and planned urbanization of the County. The addition of other projects would not result in a discernable difference to a sensitive viewer as they move into or out of the County. Similarly, agricultural, mineral, geological resources, as well as noise, public services, hazards and hazardous materials are limited to specific locations not extending outside the County. Not only are those resource areas location specific, but they would also not be expected to combine with other projects to result in any additional impacts not already addressed in this EIR. Furthermore, larger regional and statewide resource areas are regulated by State agencies to address larger-scale statewide issues. These agencies would be Trustee Agencies through the CEQA process and will review the EIR for adequacy in addressing impacts related to the resource under their purview. For example, the California Department of Fish and Wildlife (CDFW) has regulations addressing biological resources to ensure large-scale loss of species, impacts to jurisdictional waters, among others do not occur. The State Water Resources Control Board and the Regional Water Quality Control Board regulate potential impacts to ground and surface water. In addition, the transportation and circulation as well as the utilities analyses within this EIR utilized regional data and are thus including additional cumulative data as applicable. Therefore, the analysis within this EIR is sufficient to address the cumulative context.

## 5.4 Energy Conservation

In order to ensure energy implications are considered in project decisions, Appendix F of CEQA Guidelines requires a discussion of the potential energy impacts of projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. If the Draft General Plan would result in inefficient, wasteful, and unnecessary consumption of energy, a significant impact to Energy would occur. The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

(1) Decreasing overall per capita energy consumption;
(2) Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
(3) Increasing reliance on renewable energy sources.

The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2016 California Green Building Standards Code, with which future development within Calaveras County would be required to comply, as well as discussions regarding potential effects

related to each form of energy supply associated with buildout of the Draft General Plan, is provided below.

**California Green Building Standards Code**

The 2016 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), became effective January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California.

Building Energy Efficiency Standards

The 2016 Building Energy Efficiency Standards is a portion of the California Building Standards Code (CBSC), which expands upon energy efficiency measures from the 2013 Building Energy Efficiency Standards resulting in an approximately 28 percent reduction in energy consumption from the 2013 standards for residential structures and an approximately five percent reduction for non-residential structures. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high-performance attics and walls.

**Construction Energy Use**

Appendix F of the CEQA Guidelines identifies several potential sources of energy conservation impacts, including construction energy requirements and energy use efficiencies by amount and fuel type. Construction-related oil and electricity demand associated with buildout of the Draft General Plan is discussed below.

Construction-Related Oil Consumption

Throughout Calaveras County, future development occurring under buildout of the Draft General Plan would result in short-term construction-related increases in energy use related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary lighting, welding, and for supplying energy to construction areas where energy supply cannot be met by way of a hookup to the existing electricity grid.

A number of federal, State, and local standards and regulations exist that require improvements in vehicle efficiency, fuel economy, cleaner-burning engines, and emissions reductions. For example, the California Air Resources Board (CARB) has adopted the In-Use Off-Road Diesel Vehicle Regulation, which is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB,

restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Any licensed contractor for future development within the County would have to be in compliance with all applicable regulations, such as the In-Use Off-Road Diesel Vehicle Regulation. Thus, such development would comply with existing standards related to construction fuel efficiency. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction activities.

Furthermore, as discussed in Chapter 4.3, Air Quality and Greenhouse Gas Emissions, of this EIR, the Calaveras County Air Pollution Control District (CCAPCD) provides standard mitigation measures that may be applied to projects found to exceed district mass emissions thresholds. Mitigation measures to be applied during the construction phase of such projects include, but are not limited to, the following:

- Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible during construction.
- All self-propelled off-road diesel-powered equipment and vehicles greater than 25 brake horsepower (bhp) shall be equipped with an engine meeting at least Tier 1 emission standards (typically manufactured 1996 or later).

Overall, the temporary increase in gasoline and diesel consumption due to project construction activities would not be an inefficient, wasteful, and unnecessary consumption of energy, and significant adverse impacts on oil resources would not occur. In addition, given compliance with the In-Use Off-Road Diesel Vehicle Regulation, buildout of the Draft General Plan would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Construction-Related Electricity Consumption

Typically, at construction sites, electricity from the existing grid is used to power portable and temporary lights or office trailers. Because grid electricity would be utilized primarily for steady sources such as lighting, not sudden, intermittent sources such as welding or other hand-held tools, the increase in electricity usage at the site during construction would not be expected to cause any substantial peaks in demand. Overall, construction activities associated with buildout of the Draft General Plan would not cause a permanent or substantial increase in demand that would exceed the demand projections or such that the existing PG&E supplies or infrastructure could not handle the increase. As such, temporary increases in electricity use due to construction activities would not be considered an inefficient, wasteful, and unnecessary consumption of energy, and significant adverse impacts on electricity resources would not occur.

**Operational Energy Use**

In order to ensure energy implications are considered in project decisions, Appendix F of the CEQA Guidelines requires a discussion of the potential energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

Appendix F identifies several potential methods of evaluating a project's energy use, which are listed as follows and discussed in further detail below, with the exception of construction-related energy requirements and energy use efficiencies, which are discussed above:

- Effects on local and regional energy supplies and on requirements for additional capacity.
- Effects on peak and base period demands for electricity and other forms of energy.
- Compliance with existing energy standards.
- The effects of the project on energy resources.
- Projected transportation energy use requirements and overall use of efficient transportation alternatives.

In addition, the following discussion includes an analysis of whether buildout of the Draft General Plan would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Building Energy

As discussed in Chapter 4.12, Public Services and Utilities, of this EIR, Natural gas and electric services in Calaveras County are primarily provided by PG&E. PG&E, incorporated in California in 1905, is one of the largest combination natural gas and electric utilities in the United States. Based in San Francisco, the company is a subsidiary of PG&E Corporation. The company provides natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California. PG&E and other utilities in the state are regulated by the California Public Utilities Commission. The California Energy Commission (CEC) lists a total of nine hydroelectric power plants (greater than 0.1 megawatts) in Calaveras County, with a total online megawatt generation of approximately 294.6 MW.[1] Such plants are located within PG&E's service area, but are owned and operated by other entities, including but not limited to Calaveras County Water District, Utica Power Authority, and Rock Creek Water District. Two plants are located in Murphys, two plants in San Andreas, one plant in the City of Angels Camp, and one plant in Salt Springs Valley.

Table 5-1 below provides data on Calaveras County's electricity and natural gas consumption for 2016 for residential and non-residential uses. For comparison purposes, the projected total electricity use for the County in 2035 is estimated to be around 2,350 millions of kWh per year and a natural gas use of approximately 31.35 millions of therms.[2]

[1] California Energy Commission. *California Hydroelectric Statistics & Data*. Available at: http://www.energy.ca.gov/almanac/renewables_data/hydro/. Accessed November 1, 2017.

[2] Demand numbers generated using default values from the CalEEMod output files.

| Table 5-1<br>Calaveras County Electricity and Natural Gas Consumption | |
|---|---|
| **Electricity** | |
| **Sector** | **2016 (Millions of kWh)** |
| Residential | 198.75 |
| Non-Residential | 117.15 |
| *Total* | *315.90* |
| **Natural Gas** | |
| **Sector** | **2016 (Millions of Therms)** |
| Residential | 0.51 |
| Non-Residential | 0.39 |
| *Total* | *0.90* |
| *Source: California Energy Commission, March 2018.* | |

In 2016, approximately 70 percent of PG&E's delivered electricity was derived from renewable energy and GHG-free energy sources such as non-emitting nuclear generation, hydroelectric facilities, wind power, natural gas, and various other sources.[3] Currently, PG&E has committed to a 55 percent renewable energy target by 2031.[4]

Buildout of the Draft General Plan would result in the development of new buildings and associated increases in energy demands throughout the County. Specifically, such development would require electricity and natural gas for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, machinery, refrigeration, appliances, security systems, and more. The Draft General Plan identifies changes to the energy systems of the County, particularly in regards to the increased use of renewable and alternative energies. As such, the Draft General Plan includes multiple goals, policies and IMs to address the growth and future use of renewable or alternative energy systems (Goal PF 3, Goal PG 3.1, Goal PF 3.4, IM PF-3A). For instance, Draft General Plan Policy PF 3.1 encourages new developments to incorporate alternative energy systems into development design. Such alternative energy systems would be required to be designed in compliance with existing County regulations, such as the Performance Standards related to solar energy, included in Chapter 17 of the County's Code of Ordinances.

PG&E natural gas and electricity services are provided on-demand, and PG&E expands the distribution system as needed to accommodate growth. Buildout of the Draft General Plan would increase demand for these services but would be accommodated by PG&E. Expansion of services may include, but may not be limited to, additional substations, additional towers and conveyance infrastructure. Therefore, while PG&E may expand service and increase energy supplies to respond to increasing demand from buildout of the Draft General Plan, such expansion would not

[3] Pacific Gas and Electric Company. *Delivering low-emission energy.* Available at: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed October 2017.

[4] Pacific Gas and Electric Company. *Climate Change*. Available at: http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html. Accessed November 2017.

result in adverse impacts on regional energy supplies, energy resources, or the need for substantial new or altered energy or natural gas utilities.

New structures would be subject to all relevant provisions of the 2016 update of the CBSC, including the Building Energy Efficiency Standards and the Tier 1 provisions of the CALGreen Code. Adherence to the most recent CALGreen and the Building Energy Efficiency Standards would ensure that such structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. Therefore, while buildout of the Draft General Plan would result in increased electricity and natural gas demand, the electricity and natural gas would be consumed more efficiently compared existing development. Future updates to the CBSC will likely provide increasingly stringent efficiency standards, and structures built in compliance with future CBSC would be increasingly more energy efficient. Furthermore, for commercial and industrial projects found to exceed CCAPCD mass emissions thresholds, the CCAPCD's provides the following standard mitigation measures:

- Increase building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).
- Improvement of thermal efficiency of commercial and industrial structures as appropriate by reducing thermal load with automated and timed temperature controls, or occupancy load limits.
- Incorporate shade trees, adequate in number and proportional to the project size, throughout the project site to reduce building heating and cooling requirements.
- Use fleet vehicles that run on clean-burning fuels as may be practicable.

Based on the above, given that future development within Calaveras County would be required to comply with CALGreen and the Building Energy Efficiency Standards, as well as applicable CCAPCD standard mitigation measures, buildout of the Draft General Plan would not result in the inefficient or wasteful consumption of electricity or natural gas or conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Transportation Energy

As discussed in Chapter 4.13, Transportation and Circulation, of this EIR, the California Department of Finance (DOF), Demographic Research Unit, forecasts a total County population of 55,541 persons by 2035, which represents an addition of 4,353 dwelling units to the County's housing stock. Table 5-2 below includes an overview of VMT occurring under existing conditions, as well as Market-Level Year 2035 and General Plan Buildout (Growth Beyond 2035) growth scenarios. The Traffic Impact Analysis (TIA) prepared for the proposed project evaluated the following two growth scenarios, both of which include more growth than forecast by the DOF in order to provide a conservative analysis:

- Market-Level Year 2035 – Assumes addition of 6,374 new dwelling units to the County's housing stock and addition of 1,560 new employees to the County's workforce.

**Table 5-2**
**Calaveras County Daily VMT Forecasts**

| Scenario | VMT/Day[1] | Population[2] | Employment[3] | VMT/ Capita[4] | VMT/Service Population[5] |
|---|---|---|---|---|---|
| Existing | 1,942,500 | 45,578 | 10,020 | 42.6 | 34.9 |
| Market-Level Year 2035 | 2,778,500 | 60,413 | 11,577 | 46.0 | 38.6 |
| General Plan Buildout (Growth Beyond 2035) | 4,027,100 | 117,045 | 14,917 | 34.4 | 30.5 |

Notes:

1 Includes travel from all vehicles. The allocation of VMT includes 100 percent responsibility for all trips with both trip ends in Calaveras County, and 50 percent responsibility for trips with only one trip in the County.

2 Population estimates and forecasts are based on the Calaveras County travel forecasting model and a persons per household ratio of 2.41.

3 Employment estimates and forecasts based on Calaveras County travel forecasting model land use inputs.

4 VMT/capita is calculated by dividing total VMT/day by population. Because the VMT/day includes VMT generated by commercial vehicles, visitors, and workers/students that live outside Calaveras County, VMT/capita is not an estimate of the VMT 'generated' per capita for Calaveras residents.

5 VMT/service population is calculated by dividing total VMT/day by population plus employment. Similar to the VMT/capita metric, VMT/service population includes VMT generated by commercial vehicles, visitors, and students that live outside Calaveras County. As such, VMT/service population is not an estimate of the VMT 'generated' per service population for Calaveras residents and workers.

*Source: Fehr & Peers, 2017*

- General Plan Buildout (Growth Beyond 2035) – Assumes addition of 19,979 dwelling units to the County's housing stock and addition of 4,889 employees to the County's workforce. The General Plan Buildout (Growth Beyond 2035) scenario is consistent with the General Plan buildout assumptions described in Chapter 3, Project Description, of this EIR.

As shown in the table, daily VMT would increase by approximately 2,084,600 from existing conditions under buildout of the Draft General Plan. The General Plan Buildout (Growth Beyond 2035) scenario would result in lower VMT per capita and VMT per service population than both existing conditions and the Market-Level Year 2035 scenario. The lower VMT associated with the General Plan Buildout (Growth Beyond 2035) scenario is due to the greater level of development occurring under the scenario placing more population and employment together, which places people closer to jobs, goods, and services.

The average fuel economy for the U.S. passenger vehicle fleet was 23.9 miles per gallon (mpg) in 2015, the most recent year such data is available.[5] An average of 23.9 mpg, and a daily VMT increase of 2,084,600 would result in the consumption of approximately 2076.7 barrels of gasoline per day, or 0.758 million barrels per year. California is estimated to consume approximately 558

5 U.S. Energy Information Administration. *Total Energy, Table 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy*. Available at: https://www.eia.gov/totalenergy/data/browser/?tbl=T01.08#/?f=A&start=200001. Accessed on January 2018.

million barrels of petroleum per year[6] Based on the annual consumption within the State, buildout of the Draft General Plan would result in a 0.136 percent increase in the State's current consumption of gasoline.

California leads the nation in registered alternatively-fueled and hybrid vehicles. In addition, State-specific regulations encourage fuel efficiency and reduction of dependence on oil. Improvements in vehicle efficiency and fuel economy standards help to reduce consumption of gasoline and reduce the State's dependence on petroleum products. Future development occurring under buildout of the Draft General Plan would continue to be subject to such standards. In addition, Policy C 1.2 in the Draft General Plan would prioritize funding and construction of projects that reduce vehicle miles traveled. Policy C 3.1 through Policy C 3.5 would promote increased of transit facilities by encouraging expansion of public transit services to nearby urban areas and construction of new bus stops. Policy C 5.1 and IM C-1A would encourage development of bicycle and pedestrian facilities by incorporating 'complete streets' design principles into the County Code of Ordinances. In addition, Policy C 5.2 would require new development to incorporate, wherever applicable, bicycle and pedestrian circulation improvements.

The aforementioned policies would help to improve pedestrian connectivity within the County and improve transit services, thereby helping to discourage driving and reduce vehicle trips. Thus, buildout of the Draft General Plan would not be considered to result in the inefficient or wasteful consumption of transportation energy.

Conclusion

As discussed above, buildout of the Draft General Plan would involve an increase in energy consumption. However, the County would comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, which would ensure that the future development within the County would be designed to be energy efficient. Accordingly, buildout of the Draft General Plan would not be considered to result in a wasteful, inefficient, or unnecessary usage of energy or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts related to operational energy would be considered less than significant.

## 5.5 Significant Irreversible Environmental Changes

The CEQA Guidelines, Section 15126.2(c), requires that an EIR consider significant irreversible environmental changes which would be caused by the proposed project should the project be implemented. An impact would be determined to be a significant and irreversible change in the environment if:

- Development of any of the project would involve a large commitment of nonrenewable resources;

[6] U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Available at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA. Accessed January 2018.

- The primary and secondary impacts of development would generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project would result in an unjustified consumption of resources (e.g., the wasteful use of energy).

As discussed in the various chapters of this EIR, the proposed project would likely result in or contribute to the following irreversible environmental changes:

- Conversion of existing agricultural farmland to suburban land uses, precluding alternate land uses in the future;
- Irreversible consumption of goods and services associated with the future consumers;
- Surfacing important soils with impermeable surfaces associated with urban development;
- Conversion of habitat;
- Commitment of municipal services to new development;
- Irreversible consumption of energy and natural resources associated with the future employees and consumers; and
- Possible demand for and use of goods, services, and resources for this project to the exclusion of projects in other locations.

## 5.6 Significant and Unavoidable Impacts

According to CEQA Guidelines, an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented (CEQA Guidelines §15126.2[b]). Such impacts would be considered unavoidable when the determination is made that either mitigation is not feasible or only partial mitigation is feasible such that the impact is not reduced to a level that is less-than-significant. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigations imposed by the County. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the County as part of the County's certification action. The significant and unavoidable impacts of the proposed project are listed below.

**4.1-2 Substantial degradation of the existing visual character or quality of the project site and/or the site's surroundings. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.2-1 Impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands) to non-agricultural use, and related to changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable*.**

**4.3-1 A violation of any air quality standard or substantial contribution to an existing or projected air quality violation during operations, and a conflict with or obstruction of implementation of applicable air quality plans through the emission of a cumulatively considerable amount of criteria pollutants. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable.***

**4.3-4 Generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment and/or a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (i.e., emissions reductions required by AB 32 and SB 32). Based on the analysis below, even with mitigation, the impact is *significant and unavoidable.***

**4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable.***

**4.4-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.**

**4.4-3 Have a substantial adverse effect on oak woodlands. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.4-4 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) and/or on waters of the State defined pursuant to Section 401 of the Clean Water Act, or the Porter-Cologne Water Quality Control Act through direct removal, filling, hydrological interruption, indirect affects, or other means of impact. Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable.***

**4.5-1 Cause a substantial adverse change in the significance of a historical resource. Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable*.**

**4.5-2 Cause a substantial adverse change in the historic significance of an archaeological resource, or destroy a unique paleontological resource, including human remains, or a unique geologic feature within the County. Based on the analysis below, even with implementation of mitigation, the impact would remain *significant and unavoidable*.**

**4.5-3 Result in an adverse effect to tribal cultural resources. Based on the analysis below, the impact would remain *significant and unavoidable*.**

**4.7-7 Development associated with the proposed Draft General Plan would expose people or structures to a significant risk or loss, injury or death involving wildland fires. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.10-1 Exposure of persons to or generation of transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

**4.10-2 Exposure of persons to or generation of non-transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, or applicable standards of other agencies. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

**4.10-4 A substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan. Based on the analysis below and the lack of feasible mitigation, the impact is *significant and unavoidable.***

**4.10-5 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project. Based on the analysis below, and the lack of feasible mitigation, the impact is *significant and unavoidable*.**

**4.11-1 Development associated with the proposed Draft General Plan would cause direct or indirect inducement of substantial population growth. Based on the analysis below, the impact is *significant and unavoidable*.**

**4.12-1 Development associated with the proposed Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, and/or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-2 Development associated with the proposed Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, and/or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-4 Development associated with the proposed Draft General Plan would result in substantial adverse physical impacts associated with the provision of new or physically altered other public facilities, and/or the need for new or physically altered other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-5 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-6 Would implementation of the Draft General Plan 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, and that project wastewater would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or the capacity of existing conveyance infrastructure. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-9 Impacts related to telecommunications and information technology infrastructure. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.12-10 Result in substantial adverse physical impacts associated with the provision of new or physically altered recreation facilities, and/or the need for new or physically altered recreation facilities, the construction of which could cause significant environmental impacts in order to maintain performance objectives for recreation facilities. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.**

**4.13-2 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of Caltrans-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035). Based on the analysis below, even with the implementation of mitigation, the impact is *significant and unavoidable*.**

# 6 ALTERNATIVES ANALYSIS

## 6.1 Introduction

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required per CEQA Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

## 6.2 Purpose of Alternatives

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> [C]apable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states: "The range of alternatives required in an EIR is governed by a rule of reason that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Section 15126.6(f) of CEQA Guidelines further states:

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative." (*Ibid*.)

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and

evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).

- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6[b]).
- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

**Project Objectives**

Based on the above, reasonable alternatives to the Draft General Plan must be capable of feasibly attaining most of the basic objectives of the project. The Draft General Plan is being pursued with the following objectives:

1. Protect property rights;
2. Provide flexibility in meeting the needs of the County;
3. Promote maintenance and development of productive resources;
4. Promote an improved, business friendly economic climate;
5. Enhance the County's tax base to provide needed services and fiscal stability;
6. Allow for diverse economic growth;

7. Support agriculture, forestry, mineral industries, recreation, and tourism where such endeavors are practical;
8. Preserve the natural beauty of the region where such preservation efforts are appropriate;
9. Preserve the character of historic communities within the County;
10. New development will provide infrastructure necessitated by development and maintain existing levels of service;
11. Maintain transportation connectivity and encourage other modes of transportation;
12. Coordinate the provision of essential services;
13. Protect citizens from hazards; and
14. Maintenance of open space, habitat, and resource lands will be accomplished by the continued ability of those who own, operate, or manage them.

**Significant Impacts Identified in the EIR**

In addition to attaining the majority of project objectives, reasonable alternatives to the proposed project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the project. Significant environmental impacts of the Draft General Plan that have been identified as requiring mitigation measures imposed by the County to ensure that the level of significance is ultimately less than significant include the following:

- ***Air Quality and Greenhouse Gas Emissions***. Impacts related to the following were identified as less than significant with mitigation incorporated: exposure of sensitive receptors to substantial pollutant concentrations; and creation of objectionable odors affecting a substantial number of people.

- ***Biological Resources.*** Impacts related to the following were identified as less than significant with mitigation incorporated: special-status plant and animal species; sensitive riparian habitat; sensitive natural communities; oak woodlands; wetland habitats and waters of the U.S. and/or State; and wildlife movement corridors/wildlife nursery sites.

- ***Cultural Resources.*** Impacts related to causing a substantial adverse change in the significance of an historical, archaeological, or paleontological resource were identified as less than significant with mitigation incorporated.

- ***Geology, Soils, and Seismicity*** Impacts related to being located on expansive soil, as defined in Table 118-1-B of the Uniform Building Code (1994), and creating substantial risks to life or property, were identified as less than significant with mitigation incorporated.

- ***Noise and Vibration.*** Impacts related to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels were identified as less than significant with mitigation incorporated.

Significant environmental impacts of the proposed project that have been identified as significant and unavoidable, even with implementation of all feasible mitigation measures, include the following:

- ***Aesthetics.*** Impacts related to substantially degrading the existing visual character or quality of the County were identified as significant and unavoidable.

- ***Agricultural, Forest, and Mineral Resources.*** Impacts related to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and cumulative loss of Farmland to non-agricultural use were identified as significant and unavoidable.
- ***Air Quality and Greenhouse Gas Emissions***. Impacts related to the following were identified as significant and unavoidable: violation of any air quality standard or substantial contribution to an existing or projected air quality violation during operations; conflict with or obstruction of implementation of applicable air quality plans through the emission of a cumulatively considerable amount of criteria pollutants; and generation of greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment and/or a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (i.e., emissions reductions required by AB 32 and SB 32).

- ***Hazards and Hazardous Materials.*** Impacts related to exposure of people or structures to a significant risk or loss, injury or death involving wildland fires were identified as significant and unavoidable.

- ***Noise.*** Impacts related to the following were identified as significant and unavoidable: exposure of persons to or generation of transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance; and creation of a substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan.

- ***Population and Housing.*** Impacts related to direct or indirect inducement of substantial population growth were identified as significant and unavoidable.

- ***Public Services and Utilities.*** Impacts related to construction of new or expanded fire facilities, emergency communication infrastructure, water conveyance infrastructure, wastewater conveyance and treatment infrastructure, telecommunication infrastructure, recreational facilities, and other public facilities, which could result in substantial adverse physical impacts to the environment, were identified as significant and unavoidable.

- ***Transportation and Circulation.*** Impacts related to conflicting with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of Caltrans-maintained roadways under the Market-Level 2035 growth scenario or the General Plan Buildout (Growth Beyond 2035) were identified as significant and unavoidable.

## 6.3 Selection and Analysis of Alternatives

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant impacts, while still meeting most of the basic project objectives. As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are failure to meet most of the basic project objectives, infeasibility, or inability to avoid significant environmental impacts.

Regarding infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). Not one of these factors establishes a fixed limit on the scope of reasonable alternatives.

**Alternatives Considered in this EIR**

The following alternatives are considered and evaluated for the proposed project:

- No Project Alternative;
- Department of Finance (DOF) Projections Alternative; and
- Rural Character Protection Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each alternative's impacts in comparison to the proposed project. While an effort has been made to include quantitative data for certain analytical topics where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6[d], which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the proposed project. The following terminology is used:

- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project; and
- "Greater" = Greater than Proposed Project.

When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the proposed project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the proposed project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the proposed project altogether. The following discussions clearly identify whether the overall impacts to each issue area are fewer, greater, or similar to impacts that would occur with implementation of the proposed project.

**No Project Alternative**

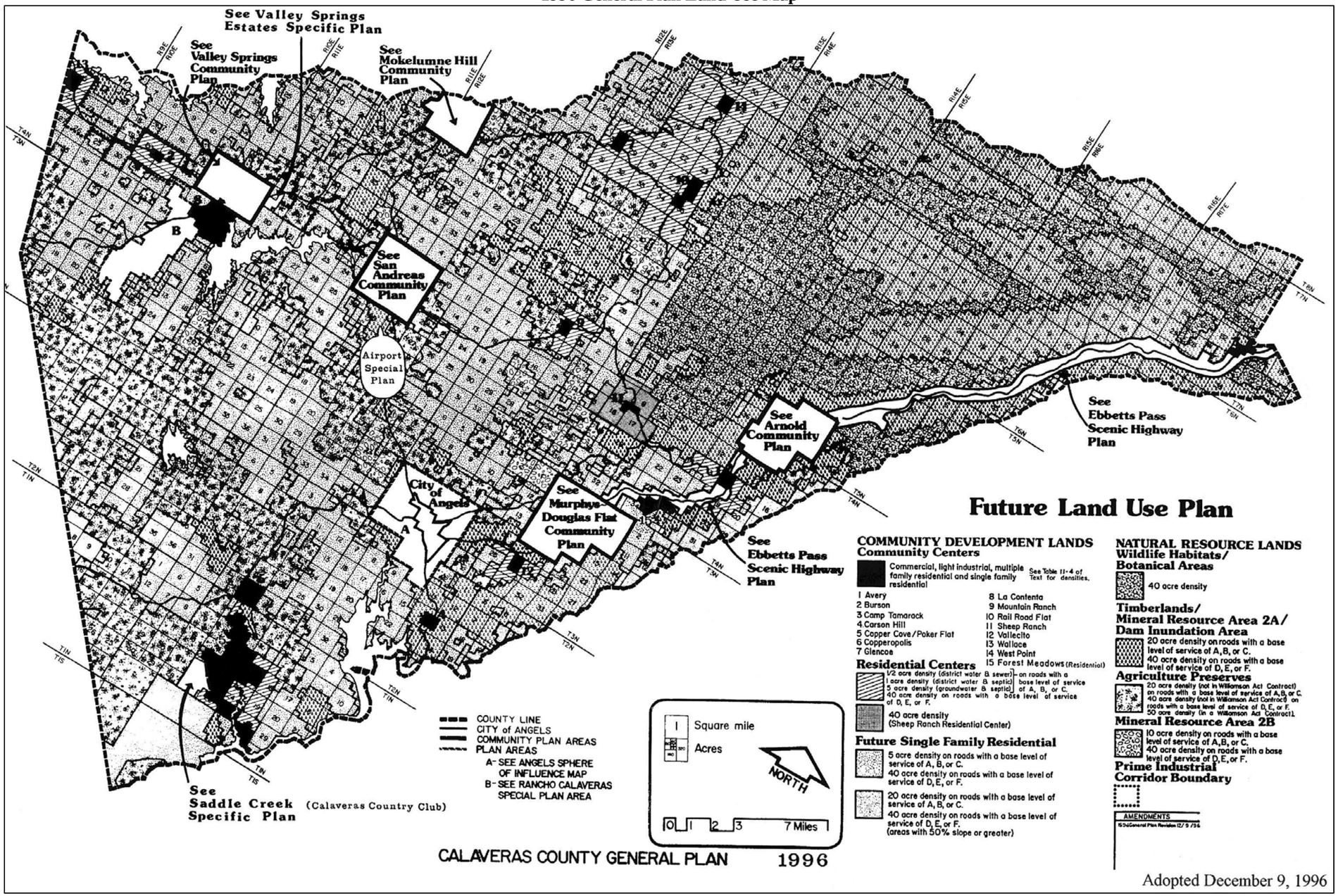
CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the No Project Alternative "… shall discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2].) When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. (*Id.*, subd. [e][3][a].) Typically, this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. (*Ibid*.) Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan. (*Ibid*.)

Per the requirements of the CEQA Guidelines, this section evaluates a No Project Alternative. The No Project Alternative is defined in this section as buildout of the County's planning area per the existing 1996 General Plan and the existing General Plan Land Use Map (see Figure 6-1). The six existing adopted community plans (Valley Springs, San Andreas, Mokelumne Hill, Murphys-Douglas Flat, Avery-Hathaway Pines, and Arnold) would remain in effect. None of the mitigation measures included in this EIR would be implemented, as such measures consist of direct changes to the Draft General Plan.

The projected development under full buildout of the current General Plan is anticipated to be more severe than the proposed Draft General Plan. Specifically, the carrying capacity allowed by the No Project Alternative would be capable of accommodating a Countywide population increase of 277,316 (322,894 total persons) and development of 116,032 new units (134,918 total units) at buildout. Comparatively, the buildout of the proposed Draft General Plan would accommodate a total population growth of 71,567 (117,045 total persons) and development of 19,979 new units (48,567 total units) for the same year (2035). It should be noted that that while the intensity of growth allowable under the 1996 General Plan and the Draft General Plan differ, adoption of the Draft General Plan would not necessarily alter existing Department of Finance (DOF) population projections for the County.

To a limited extent, the No Project Alternative meets some of the project objectives. The current 1996 General Plan was designed to protect property rights of landowners within the County and, thus, meets Objective #1. The current General Plan Land Use Map identifies agricultural preserves, timber resources, and mineral resource overlays throughout the County, and the 1996 General Plan contains policies aimed at preserving important productive resources. The Open Space Element of the 1996 General Plan includes policies to preserve open space for recreational uses and use of natural resources, as well as protection of scenic resources. Thus, the No Project Alternative partially meets Objectives #2, #5, and #6. In addition, the Open Space Element includes policies to protect historic resources and, thus, the No Project Alternative partially meets Objective #6. However, as new growth and development occurs throughout the County, the goals and policies contained within the 1996 General Plan will become less effective at managing such growth.

**Figure 6-1**
**1996 General Plan Land Use Map**



In addition, because the No Project Alternative would not provide for updated goals and policies related to resource production and economic development, the No Project Alternative would not meet Objectives #3 and #4.

Aesthetics

The No Project Alternative would result in the conversion of currently undeveloped areas of the County to residential, commercial, and other uses. Thus, the No Project Alternative would result in an alteration of the existing visual character and quality of the County. Given that full buildout of the current 1996 General Plan would result in substantially more population growth and development of housing than would occur under the Draft General Plan, the intensity and scale of development within the County would be greater than the Draft General Plan. Thus, impacts associated with substantial degradation of visual character or quality of the County would remain significant and unavoidable under the No Project Alternative.

Overall, impacts related to aesthetics would be greater under the No Project Alternative compared to the proposed project.

Agricultural, Forest, and Mineral Resources

As discussed in Chapter 4.2, Agricultural, Forest, and Mineral Resources, of this EIR, Calaveras County has not been included in the Farmland Mapping and Monitoring Program, and Countywide data related to Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is not currently available. In the absence of specific data pertaining to location and acreage of Farmland within the County, conversion of Farmland could potentially occur. Therefore, impacts associated with agricultural resources, including potential cumulative impacts, would remain significant and unavoidable under the No Project Alternative. Because the current 1996 General Plan Land Use Map and the current zoning map would remain in effect under the No Project Alternative, the total amount of land under Williamson Act contract within the County would not substantially decrease. However, due to increased development pressure throughout the County, conflicts related to forest land, timberland, and mineral resources would be greater compared to the proposed project. For example, new residential development located on or adjacent to such resources could limit the potential for harvest/extraction of resources due to noise, safety, and/or land use issues.

Overall, impacts related to agricultural, forest, and mineral resources would be greater under the No Project Alternative compared to the proposed project.

Air Quality and GHG Emissions

Similar to the proposed project, construction occurring under the No Project Alternative would result in short-term or intermittent emissions of criteria pollutants, as well as GHGs. Furthermore, implementation of the No Project Alternative would result in increases in criteria pollutant and GHG emissions, including emissions associated with sources and activities such as passenger vehicles and haul vehicles, electricity generators. natural gas fueled heating devices, landscape equipment, heavy-duty machinery, wastewater treatment, and forest fires.

Given that more development would occur under the No Project Alternative relative to the Draft General Plan, both short-term and long-term increases in criteria pollutant and GHG emissions would be more intensive. Unlike the Draft General Plan, the No Project Alternative would not include the implementation of policies designed to minimize criteria pollutant emissions. Furthermore, the No Project Alternative would not include Policy COS 4.4 and IM COS-5C, which would include development of comprehensive strategies for reducing GHG emissions within the County and formalize such strategies into a Countywide GHG Reduction Plan. Therefore, the impacts associated with the aforementioned issue areas would remain significant and unavoidable under the No Project Alternative.

Due to both the increased intensity of development and the lack of relevant goals and policies available to help reduce emissions of criteria pollutants and GHGs, impacts related to air quality and GHG emissions would be greater under the No Project Alternative as compared to the Draft General Plan.

Biological Resources

As noted above, the intensity and scale of development within the County under the No Project Alternative would be greater than the proposed project. Rather than being focused around existing developed communities within the County, the No Project Alternative would result in a greater conversion of predominantly undeveloped land to urban uses compared to the proposed project. As such, a greater potential exists for the No Project Alternative to directly or indirectly effect special-status plant and animal species, sensitive riparian habitat, sensitive natural communities, oak woodlands, wetland habitats and waters of the U.S. and/or State, and wildlife movement corridors/wildlife nursery sites. However, because specific project-level detail is not available related to future development, the significant and unavoidable impacts would remain.

Overall, impacts related to biological resources would be greater under the No Project Alternative compared to the proposed project.

Cultural Resources

Because full buildout of the current 1996 General Plan would allow for a greater level of development compared to the Draft General Plan, the No Project Alternative would likely involve more intensive ground-disturbing activities. Unlike the Draft General Plan, the No Project Alternative would not include an implementation measure to update the County's Archaeological Sensitivity Map in cooperation with local Native American archaeology and history representatives. Such an update is necessary to improve the map's use as a tool to guide discretionary approval of future development projects in the County. In addition, because specific project-level detail is not available related to future development, the significant and unavoidable impact to tribal cultural resources would remain. Based on the above, a greater potential exists for a substantial adverse change in the significance of a historical, archaeological, or paleontological resource under the No Project Alternative compared to the Draft General Plan.

Overall, impacts related to cultural resources would be greater under the No Project Alternative compared to the proposed project.

Geology, Soils, and Seismicity

Similar to the Draft General Plan, the No Project Alternative could potentially involve development on expansive soils, as defined in Table 118-1-B of the Uniform Building Code (1994). However, with implementation of Mitigation Measure 4.6-1, Policy S 4.4 of the Draft General Plan would require site-specific geotechnical studies, where warranted, to verify the presence or absence and extent of expansive soils on properties proposed for new development, and to identify measures to reduce associated hazards. Given that the current 1996 General Plan does not include similar provisions, impacts related to expansive soils would be greater under the No Project Alternative as compared to the Draft General Plan. Impacts associated with all other soils, geology, and seismicity issue areas would generally be greater under the No Project Alternative, as development would be more intensive than implementation of the proposed project.

Overall, impacts related to soils, geology, and seismicity would greater under the No Project Alternative compared to the proposed project.

Hazards and Hazardous Materials

Under both the No Project Alternative and the Draft General Plan, future growth occurring within the County would involve construction of new developments, which could expose additional populations and new structures to moderate, high and very high fire hazards. Thus, impacts related to exposure of people or structures to a significant risk or loss, injury or death involving wildland fires would remain significant and unavoidable under the No Project Alternative. However, because a greater amount of residential development would occur throughout the County under the No Project Alternative, the effects of wildfire and conflicts with emergency access and evacuation plans would be greater compared to the proposed project.

Overall, impacts related to hazards and hazardous materials would be greater under the No Project Alternative as compared to the Draft General Plan.

Hydrology and Water Quality

Under the No Project Alternative, construction activities would continue to be required to comply with applicable existing State and federal regulations, as well as the County Grading and Drainage Ordinance. All septic tanks within the County would continue to be monitored by the CCEHD, and all commercially irrigated lands would be regulated by the CVRWQCB, which provides a framework of policy to prevent pollution of receiving waters. Development occurring within areas regulated as Small Municipal Separate Storm Sewer Systems (MS4s) would conform to water-quality-based land use controls and design guidelines specified in the County's Storm Water Management Plan. However, the No Project Alternative would not include IM COS-3B, which requires County review as part of the planning and permitting process in order to assess implementation of post-construction erosion control measures and best management

practices. Thus, County review would not be required, and such erosion control measures and pest management practices may not be properly implemented with new development. In addition, a greater amount of impervious surface would be created throughout the County, as development intensity would be greater. Unlike the proposed project, the No Project Alternative would not include updated policies and IMs related to post-construction stormwater management and flood risks.

Overall, impacts to hydrology and water quality would be greater under the No Project Alternative compared to the proposed project.

Land Use and Planning

Because the intensity and scale of development within the County under the No Project Alternative would be greater than that which would occur under the proposed project, a greater likelihood exists for future development to result in the division of an established community. Impacts related to conflicting with an established land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect would be relatively similar as the proposed project, as the No Project Alternative and the proposed project would involve buildout pursuant to the current 1996 General Plan and the Draft General Plan, respectively. Overall, land use and planning impacts would be slightly greater under the No Project Alternative compared to the proposed project.

Noise and Vibration

Under the No Project Alternative, the noise level standards included in the current 1996 General Plan would continue to apply to new and existing development within the County, as opposed to the updated noise level standards included in the Draft General Plan. Because neither the 1996 General Plan nor the County's Code of Ordinances contain specific regulations to limit groundborne vibration associated with construction activities, associated impacts would be greater under the No Project Alternative as compared to the Draft General Plan. Furthermore, because development would be more intensive under buildout of the current 1996 General Plan, cumulative increases in traffic noise associated with such development occur be greater than what would occur under buildout of the Draft General Plan. Thus, impacts associated with exposure of persons to or generation of transportation noise levels in excess of established standards and creation of a substantial permanent increase in ambient noise levels in the County above existing levels would remain significant and unavoidable.

Overall, noise and vibration impacts would be greater under the No Project Alternative compared to the proposed project.

Population and Housing

As discussed previously, full buildout of the No Project Alternative would result in a greater amount of new residential development compared to the proposed project (approximately 134,918 units versus 48,567 units with buildout of the Draft General Plan). As such, impacts related to inducing population growth would be greater under the No Project Alternative.

Overall, population and housing impacts would be greater under the No Project Alternative compared to the proposed project.

Public Services and Utilities

Similar to the proposed project, buildout occurring under the No Project Alternative would require construction of new or expanded fire facilities, emergency communication infrastructure, water conveyance infrastructure, wastewater infrastructure, telecommunication infrastructure, recreational facilities, and other public facilities. Because the No Project Alternative would not include goals, policies, and IMs to ensure adequate funding for necessary wastewater infrastructure improvements, associated impacts would be greater under the No Project Alterative as compared to the proposed project. In addition, because the specific use, intensity, and location of potential fire facilities, emergency communication infrastructure, water conveyance infrastructure, telecommunication infrastructure, recreational facilities, and other public facilities is not currently known, for the same reasons as the Draft General Plan, associated impacts would remain significant and unavoidable.

Overall, impacts related to public services and utilities would greater under the No Project Alternative compared to the proposed project.

Transportation and Circulation

The No Project Alternative would result in a greater amount of overall growth and, thus, a greater increase in future traffic volumes on Caltrans-maintained roadways compared to the proposed project. Therefore, under the No Project Alternative, at least as many roadway segments within the County would operate at level of service (LOS) D. Operations of LOS D at Caltrans-maintained roadway segments would conflict with the Caltrans LOS thresholds for SR 4, SR 12, and SR 26, as well as the LOS standards established per the existing 1996 General Plan. Thus, associated impacts would remain significant and unavoidable.

Overall, impacts related to transportation and circulation would greater under the No Project Alternative compared to the proposed project.

**DOF Projections Alternative**

The DOF Projections Alternative would limit anticipated growth consistent with what is assumed under DOF projections for Calaveras County. According to DOF projections previously recommended by the County Board of Supervisors, by 2035, total population growth is anticipated to be 55,541 with 23,239 potential total units compared to the target of 48,567 total units anticipated in the proposed Draft General Plan (see Table 6-1 and Table 6-2 below). Under the DOF Projections Alternative, 4,353 dwelling units would be added to the County's housing stock. Overall development consistent with the proposed DOF Projections Alternative is slightly less than half of buildout under the proposed Draft General Plan.

**Table 6-1**
**Comparison of Existing and Potential Population**

| Source | Additional Population | Total Population |
|---|---|---|
| Existing Population[1] | n/a | 45,578 |
| DOF Projections[2] | 9,963 | 55,541 |
| Draft General Plan | 71,567 | 117,045 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov). The City of Angels Camp represents 9% of countywide population.
2. For Year 2035. California Department of Finance, Demographic Research Unit, May 2012.

**Table 6-2**
**Comparison of Existing and Potential Units**

| Source | Additional Units | Total Units |
|---|---|---|
| Existing Units[1] | n/a | 18,886 |
| DOF Projections[2] | 4,353 | 23,239 |
| Draft General Plan | 19,979 | 48,567 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov).
2. For Year 2035. California Department of Finance, Demographic Research Unit, May 2012.

The text of the Draft General Plan would remain unchanged. However, the Draft General Plan Land Use Map would be altered to reduce the total area available for development within the rural areas of the County. Specifically, the acreages of undeveloped land designated Residential Low Density (RLD), Rural Residential (RR), Rural Transition A or B (RTA and RTB), and Working Lands (WL) would be reduced such that full buildout of the reduced-intensity land use map would be consistent with the DOF projections noted above. The DOF Projections Alternative would still be capable of achieving the majority of the proposed project's objectives. Given that the goals, policies, and IMs included in the Draft General Plan would be retained, and new development would still occur throughout the County, all of the mitigation measures included in this EIR would still be required for the DOF Projections Alternative.

Aesthetics

The DOF Projections Alternative would result in reduced development intensity in the rural areas of the County compared to the proposed project. Specifically, the DOF Projections Alternative would result in less conversion of undeveloped land to residential uses. Thus, the impact related to degradation of the existing visual character and quality of the County would be fewer compared to the proposed project. However, given that a limited amount of development in rural areas would still occur, the impact would remain significant and unavoidable. Impacts to all other issue areas would generally be fewer under the No Project Alternative compared to the proposed project.

Overall, impacts related to aesthetics would be fewer under the DOF Projections Alternative compared to the proposed project.

Agricultural, Forest, and Mineral Resources

As discussed previously, Calaveras County has not been included in the Farmland Mapping and Monitoring Program, and Countywide data related to Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is not currently available. In the absence of specific data pertaining to location and acreage of Farmland within the County, conversion of Farmland could potentially occur. Therefore, impacts associated with agricultural resources, including potential cumulative impacts, would remain significant and unavoidable under the DOF Projections Alternative.

However, because the DOF Projections Alternative would reduce the acreages of undeveloped land designated for residential uses, a greater amount of land would be designated Resource Production (RP) compared to the proposed project. As discussed in Chapter 4.2, Agricultural, Forest, and Mineral Resources, of this EIR, the Draft General Plan includes goals and policies to prevent non-compatible land uses from conflicting with RP lands. For example, Policy RP 2.4 maintains the County's existing Right-to-Farm Ordinance, which prevents residential land uses from interfering with adjacent agricultural operations. In addition, the Draft General Plan includes policies related to the protection of forest and mineral resources within RP designated areas.

Therefore, impacts to agricultural, forest, and mineral resources would be fewer under the DOF Projections Alternative compared to the proposed project.

Air Quality and GHG Emissions

Buildout of the DOF Projections Alternative would result in less residential development compared to the proposed project. Accordingly, the number of vehicle trips, amount of energy consumption, water consumption, and wastewater generation would be less under the Reduced DOF Projections Alternative. As such, both short-term and long-term increases in criteria pollutant and GHG emissions would be less intensive. The DOF Projections Alternative would include the same Draft General Plan goals and policies as the Draft General Plan related to reducing GHG emissions and developing a Countywide GHG Reduction Plan. All mitigation measures related to air quality and GHGs required for the proposed project would continue to be required. However, due to the reduced intensity of development, other impacts related to air quality and GHG emissions would be fewer under the DOF Projections Alternative as compared to the proposed project.

As discussed in Chapter 4.3, Air Quality and Greenhouse Gas Emissions, of this EIR. the nonattainment status of the County is predominantly attributable to the overwhelming transport of pollutants from the Central Valley and the Bay Area into the County. Thus, the County's attainment of California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) is beyond the sole jurisdiction of the County. Nevertheless, similar to the proposed project, development occurring under the DOF Projections Alternative would increase emissions of pollutants for which the County is in nonattainment. In addition, prescribed burns would continue to be required under the DOF Projections Alternative, as is required for the proposed project, in order to manage forestry resources and reduce wildfire risks to communities

within the County. Prescribed burns are a source of particulate matter (PM) pollution, which can affect sensitive receptors and continue to affect the County's attainment status for PM. GHG emissions occurring under the DOF Projections Alternative, as well as the proposed project, would continue to result in GHG emissions in excess of the CARB's identified statewide per capita emissions targets. As noted previously, per Impacts 4.3-1 and 4.3-4 in this EIR, impacts related to operational air quality and GHG emissions were determined to be significant and unavoidable for the proposed project. Although the County's air quality will continue to be affected by the overwhelming transport of emissions into the County, such impacts would remain significant and unavoidable under the DOF Projections Alternative.

Overall, impacts related to air quality and GHG emissions would be fewer under the DOF Projections Alternative compared to the proposed project.

Biological Resources

The DOF Projections Alternative would result in less residential development compared to buildout of the proposed project and would designate a greater amount of area as RP. Due to the reduced area of disturbance under the DOF Projections Alternative, the potential to directly or indirectly affect special-status plant or wildlife species, sensitive riparian habitat, sensitive natural communities, oak woodlands, wetland habitats and waters of the U.S. and/or State, and wildlife movement corridors/wildlife nursery sites would be reduced compared to the proposed project. However, because specific project-level detail is not available related to future development, the significant and unavoidable impacts would remain. Overall, impacts related to biological resources would be slightly fewer under the DOF Projections Alternative compared to the proposed project.

Cultural Resources

The DOF Projections Alternative would involve development of fewer residential dwelling units than the proposed project and would result in a reduced overall area of disturbance. As such, the potential for damage to or destruction of previously unknown cultural resources or human remains during ground-disturbing activities would be slightly reduced compared to the proposed project. With regard to historical resources, impacts would be similar under the DOF Projections Alternative, as both the DOF Projections Alternative and the proposed project would include Draft General Plan goals, policies, and implementation measures to limit adverse effects to historic resources. Mitigation Measures 4.5-1(a) and 4.5-1(b) related to development proposals involving cultural resources would continue to be required for the DOF Projections Alternative. In addition, because specific project-level detail is not available related to future development, the significant and unavoidable impact to tribal cultural resources would remain.

Overall, impacts related to cultural resources would be fewer under the DOF Projections Alternative compared to the proposed project.

Geology, Soils, and Seismicity

Hazards related to geology, soils, and seismicity, such as earthquakes, landslides, soil erosion, soil stability, and expansive soil, are generally site-specific. Thus, the majority of the potential hazards related to geology and soils, such as earthquakes, soil stability, and expansive soil associated with new development within the County would be similar to the proposed project under the DOF Projections Alternative. Mitigation Measure 4.6-1 would continue to be required in order to ensure that new development is not subject to risks related to expansive soils. However, given that the amount of resident development occurring under the DOF Projections Alternative would be reduced compared to the proposed project, impacts related to geology, soils, and seismicity would generally be fewer.

Hazards and Hazardous Materials

Under both the DOF Projections Alternative and the proposed project, future growth occurring within the County would involve construction of new developments, which could expose new structures to moderate, high and very high fire hazards. Thus, impacts related to exposure of people or structures to a significant risk or loss, injury or death involving wildland fires would remain significant and unavoidable under the DOF Projections Alternative. However, because the DOF Projections Alternative would involve development of fewer residential dwelling units than the proposed project, fewer structures and people would be exposed to wildfire hazards. Overall, impacts related to hazards and hazardous materials would be fewer under the DOF Projections Alternative as compared to the Draft General Plan.

Hydrology and Water Quality

Similar to the proposed project, construction activities occurring under buildout of the DOF Projections Alternative would be required to comply with applicable existing State and federal regulations, as well as the County Grading and Drainage Ordinance. All septic tanks within the County would continue to be monitored by the CCEHD, and all commercially irrigated lands would be regulated by the CVRWQCB, which provides a framework of policy to prevent pollution of receiving waters. Development occurring within areas regulated as small MS4s would conform to water-quality-based land use controls and design guidelines specified in the County's Storm Water Management Plan. In addition, under both the DOF Projections Alternative and the proposed project, future development occurring within the County would not interfere substantially with groundwater recharge.

Because the amount of residential development occurring the DOF Projections Alternative would be reduced compared to the proposed project, a smaller amount of impervious surface would be created. As such, impacts related to altering existing drainage patterns within the County and creation or contribution of runoff water would be fewer under the DOF Projections Alternative. All other hydrology and water quality impacts would be relatively similar.

Overall, the DOF Projections Alternative would result in fewer hydrology and water quality related impacts as compared to the proposed project.

Land Use and Planning

Neither the DOF Projections Alternative nor the proposed project would result in the physical division of an established community. In addition, similar to the proposed project, future development occurring under the DOF Projections Alternative would be subject to the goals and policies included in the Draft General Plan. Overall, land use and planning impacts would be similar under the DOF Projections Alternative compared to the proposed project.

Noise and Vibration

Under the DOF Projections Alternative, traffic occurring within the County would be similar to the Market-Level Year 2035 growth scenario analyzed in Chapter 4.10, Noise and Vibration, of this EIR, although vehicle trip distribution would be more focused towards existing community areas of the County, rather than rural areas. As discussed in Chapter 4.10, projected traffic occurring under the Market-Level Year 2035 condition could result in exposure to, or generation of, transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, and/or applicable standards of other agencies. In addition, transportation traffic could result in a substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan. Thus, both impacts would remain significant and unavoidable. However, given that increases in traffic noise would be reduced compared to full buildout of the proposed project, impacts under the DOF Projections Alternative would be fewer compared to the proposed project.

With regard to non-transportation noise sources, development of noise-generating land uses and stationary noise sources would be relatively similar under the DOF Projections Alternative compared to the proposed project, as the DOF Projections Alternative would not alter the amount of land designated for commercial uses. In addition, similar to the proposed project, the DOF projections alternative would include Draft General Plan policies to limit development of noise sensitive land uses adjacent to stationary noise sources and high noise areas surrounding the Calaveras County Airport.

Overall, the DOF Projections Alternative would result in fewer noise-related impacts than the proposed project.

Population and Housing

Under the DOF Projections Alternative, the total amount of population growth occurring under buildout of the Draft General Plan would be limited to the DOF population projections shown in Table 6-1, resulting in slightly fewer population growth impacts relative to the proposed project. Similar to the proposed project, the DOF Projections Alternative would not include land use changes or policies that would result in the displacement of existing people or housing.

Nonetheless, substantial growth would still occur throughout the County. While such growth is necessary to accommodate the most recent population growth, housing, and employment projections in an orderly manner, a significant and unavoidable impact would occur. Overall,

land use and planning impacts would be fewer under the DOF Projections Alternative compared to the proposed project.

Public Services and Utilities

Given that the DOF Projections Alternative would limit the total amount of allowable residential development within the County compared to the proposed project, associated increases in demand for public services and utilities occurring as a result of new development would be fewer. Accordingly, the amount of water consumption and wastewater generation, solid waste generation, demand for public services and facilities, including law enforcement, fire protection, schools, parks and recreational facilities, and libraries, and energy consumption associated with the County would be less under the DOF Projections Alternative. Therefore, implementation of the DOF Projections Alternative would result in fewer impacts related to public services and utilities compared to the proposed project.

Transportation and Circulation

As noted previously, traffic volumes occurring under the DOF Projections Alternative would be similar to the Market-Level 2035 growth scenario analyzed in this EIR. As discussed in Chapter 4.13, Transportation and Circulation, all County-maintained roadway segments outside of community areas would operate at LOS C or better under the Market-Level 2035 growth scenario, and all such segments located within community areas would operate at LOS D or better. However, the following Caltrans-maintained roadway segments of State Route (SR) 4 and SR 29 would operate at LOS D, which is considered unacceptable per the applicable State Highway System Transportation Concept Reports. Thus, impacts to Caltrans-maintained roadways would remain significant and unavoidable. Nonetheless, compared to the proposed project, fewer Caltrans-maintained roadway segments would operate unacceptably under the DOF Projections Alternative. Impacts related to air traffic patterns, traffic hazards, and alternative transport methods would generally be similar compared to the proposed project.

Overall, the DOF Projections Alternative would result in fewer traffic-related impacts than the proposed project.

**Rural Character Protection Alternative**

Under the Rural Character Protection Alternative, anticipated buildout remains the same compared to the proposed Draft General Plan; however, development would be intensified and residential densities would increase near community areas and town centers within the County. In order to do so, the Rural Character Protection Alternative would reduce the amount of land use designated Rural Transition A (RTA) and Rural Transition B (RTB). Per the proposed Draft General Plan Land Use Map, such designations are generally concentrated along rural thoroughfares in the western portion of the County, outside of established community areas. Within urbanized areas of the County, a greater amount of land would be designated Residential High Density and Residential Medium Density. By shifting development toward urban community areas and limiting development within rural areas, the existing character of such rural areas would be preserved. It should be noted that increases in development intensity near

existing communities would require adequate water supply and wastewater infrastructure to support higher density development. Consequently, the Rural Character Protection Alternative would focus growth within communities where such infrastructure exists.

Only the Draft General Plan Land Use Map would be altered; the allowable densities for each individual land use designation and all other components of the Draft General Plan would remain unchanged. The Rural Character Protection Alternative would generally meet all of the project objectives.

Aesthetics

Within the various communities within the County, development intensity would be increased under the Rural Character Protection Alternative. In order to accommodate such development patterns, new developments would be built at an increased density, potentially at greater building heights. However, because the Rural Character Protection Alternative would shift new development away from the rural areas of the County, including the ranching, mining, and forest landscapes discussed in Chapter 4.1, Aesthetics, of this EIR, adverse effects to the visual character and quality of such areas would be reduced. However, construction of new emergency communications infrastructure would continue to be required for the Alternative, similar to the proposed project. Thus, Mitigation Measure 4.1-2 would still be required in order to minimize adverse effects to the existing visual character and quality of the County associated with construction of such infrastructure. Even with implementation of Mitigation Measure 4.1-2, without project-specific analysis for new development, the impact related to degradation of the existing visual character and quality of the County would remain significant and unavoidable under the Rural Character Protection Alternative.

Overall, impacts associated with aesthetics would be similar under the Rural Character Protection Alternative compared to the proposed project.

Agricultural, Forest, and Mineral Resources

As discussed previously, Calaveras County has not been included in the Farmland Mapping and Monitoring Program, and Countywide data related to Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is not currently available. In the absence of specific data pertaining to location and acreage of Farmland within the County, conversion of Farmland could potentially occur. Therefore, impacts associated with agricultural resources, including potential cumulative impacts, would remain significant and unavoidable under the Rural Character Protection Alternative.

Similar to the DOF Projections Alternative, the Rural Character Protection Alternative would limit development within rural areas of the County, and a greater amount of land would be designated RP in such areas. Given that the Draft General Plan includes goals and policies to prevent non-compatible land uses from conflicting with RP lands, the land use patterns that would be implemented with the Rural Character Protection Alternative would reduce impacts related to the conversion of agricultural and forest resources to non-agricultural and non-forest uses.

Overall, impacts related to agricultural, forest, and mineral resources would be fewer under the Rural Character Protection Alternative compared to the proposed project.

Air Quality and GHG Emissions

Buildout of the Rural Character Protection Alternative would result in similar amounts of development as the proposed project. As such, the amount of energy consumption, water consumption, and wastewater generation would be similar to that which would occur with the proposed project. However, because development would be focused within community areas, and various land uses would be placed in closer proximity to each other, average trip lengths associated with new development occurring under the Rural Character Protection Alternative would be reduced. Consequently, transportation-based criteria pollutant and GHG emissions would be fewer under the Rural Character Protection Alternative as compared to the proposed project.

As discussed previously, the nonattainment status of the County is predominantly attributable to the overwhelming transport of pollutants from the Central Valley and the Bay Area into the County. Thus, the County's attainment of CAAQS and NAAQS is beyond the sole jurisdiction of the County. Nevertheless, similar to the proposed project, development occurring under the Rural Character Protection Alternative would increase emissions of pollutants for which the County is in nonattainment. In addition, prescribed burns would continue to be required under the Rural Character Protection Alternative, as is required for the proposed project, in order to manage forestry resources and reduce wildfire risks to communities within the County. Prescribed burns are a source of PM pollution, which can affect sensitive receptors and continue to affect the County's attainment status for PM.

GHG emissions occurring under the Rural Character Protection Alternative, as well as the proposed project, would continue to result in GHG emissions in excess of the CARB's identified statewide per capita emissions targets. As noted previously, per Impacts 4.3-1 and 4.3-4 in this EIR, impacts related to operational air quality and GHG emissions were determined to be significant and unavoidable for the proposed project. Although the County's air quality will continue to be affected by the overwhelming transport of emissions into the County, such impacts would remain significant and unavoidable under the Rural Character Protection Alternative. In addition, similar to the proposed project, prescribed burns would continue to be required under the Rural Character Protection Alternative and PM released from such burns would continue to affect the County's attainment status for PM.

Overall, impacts related to air quality and GHG emissions would be slightly fewer under the Rural Character Protection Alternative compared to the proposed project.

Biological Resources

Similar to the DOF Projections Alternative, the Rural Character Protection Alternative reduce the amount of new development occurring in rural, currently undeveloped areas within the County. By focusing new development within community areas and increasing building densities, the overall area of disturbance occurring under the Rural Character Protection

Alternative would be slightly reduced compared to the proposed project. Thus, the potential to directly or indirectly affect special-status plant or wildlife species, sensitive riparian habitat, sensitive natural communities, oak woodlands, wetland habitats and waters of the U.S. and/or State, and wildlife movement corridors/wildlife nursery sites would be reduced compared to the proposed project. Nonetheless, mitigation would still be required to limit potential impacts to the aforementioned resources. However, because specific project-level detail is not available related to future development, the significant and unavoidable impacts would remain.

Overall, impacts related to biological resources would be slightly fewer under the Rural Character Protection Alternative compared to the proposed project.

Cultural Resources

As noted above, the Rural Character Protection Alternative would result in a reduced overall area of disturbance compared to the proposed project. As such, the potential for damage to or destruction of previously unknown cultural resources or human remains during ground-disturbing activities would be slightly reduced. Both the Rural Character Protection Alternative and the proposed project would include Draft General Plan goals, policies, and implementation measures to limit adverse effects to historic resources. Mitigation Measures 4.5-1(a) and 4.5-1(b) related to development proposals involving cultural resources would continue to be required for the Rural Character Protection Alternative. However, the higher intensity of development occurring within community areas under the Rural Character Protection Alternative could potentially increase conflicts associated with construction of new structures adjacent to historic buildings or other historic features. In addition, because specific project-level detail is not available related to future development, the significant and unavoidable impact to tribal cultural resources would remain.

Overall, impacts related to cultural resources would be similar under the Rural Character Protection Alternative compared to the proposed project.

Geology, Soils, and Seismicity

The Rural Character Protection Alternative would include a similar amount of overall development and population growth as the proposed project. Therefore, the likelihood for structures and residents to be exposed to potential geological hazards would be relatively similar compared to the proposed project. Mitigation Measure 4.6-1 would continue to be required in order to ensure that new development is not subject to risks related to expansive soils. Overall, impacts related to geology, soils, and seismicity would be similar under the Rural Character Protection Alternative compared to the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, future growth occurring under the Rural Character Protection Alternative would involve construction of new developments adjacent to wildlands, which could expose new structures to moderate, high and very high fire hazards. Thus, impacts related to exposure of people or structures to a significant risk or loss, injury or death involving wildland

fires would remain significant and unavoidable. However, because fewer residents would be introduced to the rural areas of the County under the Rural Character Protection Alternative, the effects of wildfire and conflicts with emergency access and evacuation plans would be slightly less than that of the proposed project.

Overall, the Rural Character Protection Alternative would result in fewer impacts associated with hazards and hazardous materials than the proposed project.

Hydrology and Water Quality

Under the Rural Character Protection Alternative, new development occurring within the County would be required to comply with applicable existing State and federal regulations, as well as the County Grading and Drainage Ordinance. All septic tanks within the County would continue to be monitored by the CCEHD, and all commercially irrigated lands would be regulated by the CVRWQCB, which provides a framework of policy to prevent pollution of receiving waters.

As discussed previously, the Rural Character Protection Alternative would result in a reduced overall area of disturbance compared to the proposed project. As such, impacts related to altering existing drainage patterns within the County and creation or contribution of runoff water would be fewer under the Rural Character Protection Alternative. Furthermore, new development occurring within the community areas within the County that have been designated as regulated small MS4s would be subject to the water-quality-based land use controls and design guidelines specified in the County's Storm Water Management Plan. As required by the statewide General Storm Water Discharge Permit, new developments within designated Storm Water Discharge Permit areas would also be required to submit annual reports to the County following the completion of construction confirming on-going maintenance of BMPs and evaluating the extent to which required BMPs are effectively controlling discharges into the County storm drain system. In addition, under both the Rural Character Protection Alternative and the proposed project, future development occurring within the County would not interfere substantially with groundwater recharge.

Overall, the Rural Character Protection Alternative would result in fewer hydrology and water quality related impacts as compared to the proposed project.

Land Use and Planning

With regard to creating conflicts or inconsistencies with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, both the Rural Character Protection Alternative and the proposed project would be subject to all applicable goals and policies included in the Draft General Plan, including the Land Use and Community Planning Elements. Thus, impacts would be similar compared to the proposed project. However, because the Rural Character Protection Alternative would intensify development within existing community areas throughout the County, the potential for new development to result in the division of established communities would be slightly greater compared to the proposed project.

Overall, land use and planning impacts would be similar under the Rural Character Protection Alternative compared to the proposed project.

Noise and Vibration

Traffic volumes occurring under the Rural Character Protection Alternative would be similar to the General Plan Buildout (Growth Beyond 2035) growth scenario analyzed in Chapter 4.10, Noise and Vibration, of this EIR. However, similar to the DOF Projections Alternative, vehicle trip distribution would be more focused towards community areas of the County, rather than rural areas. As discussed in Chapter 4.10, projected traffic occurring under the General Plan Buildout (Growth Beyond 2035) growth scenario could result in exposure to, or generation of, transportation noise levels in excess of standards established in the Draft General Plan or the County's Noise Ordinance, and/or applicable standards of other agencies. In addition, transportation traffic could result in a substantial permanent increase in ambient noise levels in the County above levels existing without implementation of the Draft General Plan. Thus, both impacts would remain significant and unavoidable. In addition, because traffic volumes within community areas would be increased relative to volumes occurring under the proposed project, traffic noise impacts would be slightly greater under the Rural Character Protection Alternative.

Similar to the proposed project, the Rural Character Protection Alternative would include Draft General Plan policies to limit development of noise sensitive land uses adjacent to stationary noise sources and high noise areas surrounding the Calaveras County Airport. However, because development densities would be intensified within community areas, the potential for noise-generating land uses and stationary noise sources to be located in close proximity to noise sensitive land uses would be increased relative to the proposed project, and impacts related to such would be greater under the Rural Character Protection Alternative.

Overall, the Rural Character Protection Alternative would result in greater noise-related impacts than the proposed project.

Population and Housing

Under the Rural Character Protection Alternative, the total amount of population growth occurring under buildout of the Draft General Plan would be similar to the proposed project. All new development would be subject to the goals and policies included in the Land Use Element of the Draft General Plan, which are aimed at reducing the impacts associated with population and housing growth in community areas. However, impacts related to inducing direct or indirect growth would remain significant and unavoidable. In addition, because growth would be intensified within community areas, and because less land would be available for housing, impacts related to displacement of existing people or housing would be slightly greater under the Rural Character Protection Alternative. Overall, population and housing impacts would be greater under the Rural Character Protection Alternative compared to the proposed project.

Public Services and Utilities

Given that the Rural Character Protection Alternative would involve the same amount of overall development as the proposed project, associated increases in demand for public services and utilities occurring as a result of new development would be similar. Accordingly, the amount of water consumption and wastewater generation, solid waste generation, demand for public services and facilities, including law enforcement, fire protection, schools, parks and recreational facilities, and libraries, and energy consumption associated with the County would be similar, and the significant and unavoidable impacts identified in Chapter 4.12, Public Services and Utilities, of this EIR, would remain. Nonetheless, because the Rural Character Protection Alternative would focus growth within communities with existing water supply, wastewater, and stormwater infrastructure, impacts related to expansion of existing facilities and construction of new facilities would be fewer relative to the proposed project. In addition, because development occurring under the Rural Character Protection Alternative would be denser than the proposed project, response times for fire and police protection service providers would be reduced.

Overall, impacts related to public services and utilities would be fewer under the Rural Character Protection Alternative as compared to the proposed project.

Transportation and Circulation

As noted above, traffic volumes occurring under the Rural Character Protection Alternative would be similar to the General Plan Buildout (Growth Beyond 2035) growth scenario analyzed in this EIR. However, similar to the DOF Projections Alternative, vehicle trip distribution would be more focused towards community areas of the County, rather than rural areas. As shown in Figure 4.13-6 of this EIR, roadway segments impacted under the General Plan Buildout (Growth Beyond 2035) growth scenario would be focused near the existing communities of Valley Springs, Copperopolis, Angels Camp, West Point Mokelumne Hill, and Murphys. Therefore, while the Rural Character Protection Alternative would lessen traffic volumes within rural areas of the County, the number of roadway segments operating unacceptably would likely increase relative to the proposed project as a result of increased congestion in community areas. Impacts related to Caltrans-maintained roadways would remain significant and unavoidable. Impacts related to air traffic patterns, traffic hazards, and alternative transport methods would generally be similar compared to the proposed project.

Overall, the Rural Character Protection Alternative would result in greater traffic-related impacts compared to the proposed project.

## 6.4 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

Designating a superior alternative depends in large part on what environmental effects one considers most important. This EIR does not presume to make this determination; rather, the determinations of which impacts are more important are left to the reader and the decision makers. Generally, the environmentally superior alternative is the one that would result in the fewest environmental impacts as a result of project implementation. However, it should be noted that the environmental considerations are one portion of the factors that must be considered by the public and the decisionmakers in deliberations on the proposed project and the alternatives. Other factors of importance include urban design, economics, social factors, and fiscal considerations. In addition, the superior alternative would, ideally, still provide opportunities to achieve the project objectives.

Aside from the No Project Alternative, the other project alternatives would be capable of meeting the majority of the proposed project's objectives. A comparison of the impacts that would occur under each of the alternatives, as discussed in detail above, to those anticipated for the proposed project is illustrated in Table 6-3 below. As shown in the table, both the DOF Projections Alternative and the Rural Character Protection Alternative would result in slightly fewer impacts relative to the proposed project, while the No Project Alternative would result in greater impacts than the proposed project for most issue areas. None of the three alternatives would avoid any of the significant and unavoidable impacts identified for the proposed project.

Because full buildout of the DOF Projections Alternative would involve fewer residential units than the either of the other two alternatives, which would in turn result in fewer vehicle trips, the intensity of impacts associated with air quality and GHG emissions, noise and vibration, and transportation and circulation would be reduced compared to the other alternatives. In addition, the DOF Projections Alternative would involve a slightly reduced overall disturbance area and less development within community areas at full buildout compared to the other alternatives, resulting in fewer impacts to the following issue areas: cultural resources; geology, soils, and seismicity; and population and housing.

Therefore, because the DOF Projections Alternative would result in the fewest impacts in the most resource areas in comparison to all other project alternatives, the DOF Projections Alternative would be considered the Environmentally Superior Alternative. However, as noted above, the DOF Projections Alternative would still result in the same significant and unavoidable impacts identified in this EIR for the proposed project.

**Table 6-3**
**Alternative Environmental Impacts Comparison**

| Issue Area | Proposed Project | No Project Alternative | DOF Projections Alternative | Rural Character Protection Alternative |
|---|---|---|---|---|
| Aesthetics | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Agricultural, Forest, and Mineral Resources | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Air Quality and GHG Emissions | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Biological Resources | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Cultural Resources | Significant and Unavoidable | Greater* | Fewer* | Similar* |
| Geology, Soils, and Seismicity | Less-Than-Significant with Mitigation | Greater | Fewer | Similar |
| Hazards and Hazardous Materials | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Hydrology and Water Quality | Less-Than-Significant with Mitigation | Greater | Fewer | Fewer |
| Land Use and Planning | Less-Than-Significant | Greater | Similar | Similar |
| Noise and Vibration | Significant and Unavoidable | Greater* | Fewer* | Greater* |
| Population and Housing | Significant and Unavoidable | Greater* | Fewer* | Greater* |
| Public Services and Utilities | Significant and Unavoidable | Greater* | Fewer* | Fewer* |
| Transportation and Circulation | Significant and Unavoidable | Greater* | Fewer* | Greater* |

Notes:
Less than Proposed Project = "Fewer"
Similar to Proposed Project = "Similar"
Greater than Proposed Project = "Greater"
* Indicates significant and unavoidable impact(s) determined for the proposed project would still be expected to occur under the Alternative.

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# 8 EIR AUTHORS AND PERSONS CONSULTED

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| Jim Brennan | President |

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| David Robinson, PE | Principle |

DATE: January 18, 2017

TO: Responsible Agencies, Trustee Agencies, and Interested Persons

FROM: Peter N. Maurer, Planning Director, Calaveras County

**SUBJECT: NOTICE OF PREPRARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED CALAVERAS COUNTY GENERAL PLAN UPDATE**

The County of Calaveras is the lead agency for the preparation of an Environmental Impact Report (EIR) for the proposed Calaveras County General Plan Update (proposed project). The scope of the EIR has been proposed based upon a determination by Calaveras County. The County has directed the preparation of this EIR in compliance with the California Environmental Quality Act (CEQA).

Once a decision is made to prepare an EIR, the lead agency must prepare a Notice of Preparation (NOP) to inform all responsible and trustee agencies that an EIR will be prepared (CEQA Guidelines Section 15082). The purpose of the NOP is to provide agencies with sufficient information describing both the proposed project and the potential environmental effects to enable the agencies to make a meaningful response as to the scope and content of the information to be included in the EIR. The County is also soliciting comments on the scope of the EIR from interested persons.

## SCOPING MEETING

A public scoping meeting will be held regarding the proposed EIR for the Calaveras County General Plan Update Project on January 30th, 2017 at 5 pm at the Board of Supervisors Chambers, 891 Mountain Ranch Road, San Andreas, CA 95249.

## PROJECT DESCRIPTION

### Project Location and Setting

Calaveras County encompasses approximately 662,791 acres in the central Sierra Nevada region of California (Figure 1). Calaveras County consists of three general topographic areas along the western Sierra Nevada: 1) the western portion of the County is located on the eastern edge of the Central San Joaquin Valley; 2) the central portion of the County is located within rolling foothills; and 3) the eastern portion of the County consists of moderate to steep slopes as one travels eastward into the Sierra Nevada. Watersheds within the County include the Mokelumne River watershed at the County's northern border, the Stanislaus River and Lower San Joaquin River watersheds at the County's southern/southwestern border, and the Calaveras River watershed in the north-central portion of the County.

Primary circulation routes within the County include State Routes (SR) 12, 26, 49, and 4. In addition to several developed communities, the incorporated City of Angels Camp is located in the southern portion of Calaveras County.

### Project Entitlements

The entitlements associated with the project include:

- Certification of the EIR;
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP);
- Adoption of Findings of Fact and, for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations; and
- Adoption of the General Plan.

### Project Components

The proposed project comprises a General Plan for Calaveras County. The proposed project is consistent with State law requirements and includes eight elements, a General Plan land use map, and buildout projections for the County.

#### State Law Requirements

A General Plan acts as the long-term blueprint for making rational decisions regarding a city's or county's vision of future growth. The General Plan expresses the community's development goals and incorporates public policies relative to the distribution of future public and private land uses. California State law requires that each city and county must have an adopted General Plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning".

Elements

The State of California Office of Planning and Research indicates that seven (7) elements are required in a General Plan, as follows: Land Use; Circulation; Housing; Conservation; Open Space; Noise; and Safety. The Calaveras County General Plan Update Project consists of an update to the existing 1996 General Plan, and includes a total of eight (8) elements. All the General Plan elements include goals and policies carefully drafted to guide successful implementation of the General Plan and the County's overall vision for buildout through the time horizon of 2035.

*Land Use*

The Land Use Element is intended to serve as a guide for future development in the County and determine many key issues evaluated in other elements of the General Plan. The Land Use Element includes future growth projections for the County based upon the General Plan Land Use Map, which is included in the Element. In addition, the Land Use Element includes a description of each General Plan land use designation. Currently, a total of 16 land use designations are proposed.

*Circulation*

The Circulation Element includes identification of appropriate levels of service for street operations and congestion; standards for mobility in all modes and for complete streets; ultimate rights-of-way for primary circulation routes; location and feasibility of transit, bicycle, and pedestrian facilities; and appropriate street character and patterns. The Element includes diagrams identifying the primary existing and proposed roadways within the County and their classifications.

*Resource Production*

The Resource Production Element provides policies and implementation measures to protect and enhance the value of agriculture, timber, and mineral resources within the County.

*Conservation and Open Space*

The Conservation and Open Space Element addresses the conservation, development, and use of natural resources and the preservation and utilization of lands and waters devoted to or managed for open space uses.

Other pertinent resources that are addressed in the Conservation and Open Space Element include forests, woodlands, rangelands, water resources, biological resources, air quality and greenhouse gasses, scenic resources, recreational resources, and cultural and paleontological resources. The current setting of such resources within the County is described as well as approaches to their preservation.

*Noise*

The Noise Element provides a framework for addressing potential noise conflicts between existing and proposed new land uses and serves as a guide for compliance with California's noise insulation standards. The primary objective of the Noise Element is to identify noise sources and minimize exposure of residents, visitors, and businesses to excess noise. Noise contours and thresholds established in the Element will assist the County in determining the appropriate location for noise-sensitive uses.

*Safety*

The Safety Element addresses natural conditions and human activities that can potentially threaten public health and safety. The Safety Element is intended to reduce the risks associated with hazards identified in the County and to help the County prepare for and avoid emergency situations.

*Public Facilities and Services*

The Public Facilities and Services Element is intended to assist decision makers in ensuring that adequate public facilities and services are provided to the current and future residents as well as visitors of Calaveras County. The Public Facilities and Services Element addresses those facilities and services that may be affected by the County's land use decisions, including, but not limited to, water supply, wastewater, solid waste facilities, energy, law enforcement, and emergency services.

*Community Plan*

The 1996 General Plan included the adoption of six Community Plans (Valley Springs, San Andreas, Mokelumne Hill, Murphys-Douglas Flat, Avery-Hathaway Pines, and Arnold), along with two Special Plans (Rancho Calaveras and Ebbetts Pass.) With the adoption of the General Plan Update, existing community plans would be rescinded. The Community Plan Element provides policy for the following new Community Plan Areas: Glencoe, Mokelumne Hill, Mountain Ranch, Paloma, Railroad Flat, Rancho Calaveras, San Andreas, Sheep Ranch, West Point, and Wilseyville.

<u>Draft General Plan Land Use Map</u>

The Land Use Element guides the general pattern of development in the County by identifying the general nature, location, density, and intensity of existing and future land uses. Similar land uses are grouped into categories called "general plan land use designations". The distribution of these land use designations countywide is identified on the Calaveras County General Plan Land Use Map (Figure 2).

Land uses are widely distributed throughout the County. Higher density residential, commercial, and industrial uses follow the historical development pattern in and around the existing communities, where infrastructure and services are available. Areas around

such communities have been designated to provide for expansion of commercial, industrial, and residential uses to take advantage of that infrastructure, and to reduce the costs of providing services to a more widely scattered population.

The Calaveras County General Plan Land Use Map includes land use designations for all existing communities in the County with the exception of the one incorporated city– the City of Angels Camp (see Figure 2).

Buildout Projections

An estimate of how many units and population could be accommodated by the most recent version of the General Plan Land Use Map was developed by the County using the County's GIS database system. This estimate is known as "carrying capacity" and represents how much development could occur within the County over the life of the General Plan (2035) using a set of described parameters. The "carrying capacity" does not represent actual buildout nor does the estimate express with any certainty what will in fact occur. Rather, "carrying capacity" is simply a way to understand the development potential of the land use map.

A buildout formula was assigned for each General Plan land use designation that accommodates residential units. Next, buildout was calculated for the maximum density of each land use category. The assumed percent buildout for each land use was based on a report provided to the Board of Supervisors. Table 1 indicates the carrying capacity for all residential land use areas in the County, excluding lands within the City of Angels city limits.

Table 2 shows a comparison between existing and potential population under three different scenarios – the current 1996 General Plan, the proposed General Plan Update, and the Department of Finance (DOF) projections for 2035. Based on 2010 census data, currently 45,578 persons reside in Calaveras County, including Angels Camp. For Year 2035, the General Plan horizon year, DOF projects a modest population increase – 9,963 persons – for a total of 55,541 persons. This equates to an annual increment of 399 persons per year. The table illustrates that adequate carrying capacity exists under the proposed General Plan Update to accommodate the projected DOF population for Year 2035. The proposed Plan could accommodate approximately 111,527 persons, approximately double what DOF projects for Year 2035. By comparison, the existing General Plan would accommodate approximately 322,900 persons, almost five times the DOF projections.

Table 3 shows a comparison between existing and potential number of units under the same three scenarios in Table 2. According to the 2010 Census Data, 18,886 units exist in Calaveras County, including Angels Camp. Based on DOF population projections, approximately 23,200 units would be in the County in Year 2035. This equates to an annual increment of about 174 units per year.

**Table 1**
**Residential Buildout Estimates by Land Use**

| General Plan Land Use Designation | Existing Total County Acreage | Max. Residential Density (du/ac) | Max. Population Density (persons/acre) | Percent Buildout | Estimated Total Units | Estimated Total Population (at 2.41 persons/household) |
|---|---|---|---|---|---|---|
| Community Center (CC) | 747.4 | 20.00 | 47.80 | 20 | 2,990 | 7,205 |
| Historical Center (HC) | 269.6 | 12.00 | 28.68 | 20 | 647 | 1,559 |
| Residential High Density (RHD) | 120.0 | 20.00 | 47.80 | 50 | 1,200 | 2,892 |
| Residential Low Density (RLD) | 7,921.2 | 6.00 | 14.34 | 50 | 23,764 | 57,270 |
| Residential Medium Density (RMD) | 698.5 | 12.00 | 28.68 | 50 | 4,191 | 10,101 |
| Resources Production (RP) | 368,455.2 | 0.03 | 0.06 | 10 | 921 | 2,220 |
| Rural Residential (RR) | 13,599.0 | 1.00 | 2.39 | 50 | 6,800 | 16,387 |
| Rural Transition A (RTA) | 11,674.4 | 0.10 | 0.24 | 50 | 584 | 1,407 |
| Rural Transition B (RTB) | 29,937.7 | 0.20 | 0.48 | 50 | 2,994 | 7,215 |
| Working Lands (WL) | 49,145.3 | 0.05 | 0.12 | 30 | 737 | 1,777 |
| Future Specific Plan (FSP)* | N/A | N/A | N/A | 50 | 1,065 | 2,566 |
| | | | | | | |
| **TOTALS** | **482,568.3** | | | | **46,277** | **111,527** |

*Per the Land Use Element of the General Plan, FSP areas are subject to the following standards for maximum density and intensity of development: 2,130 total residential units, including a maximum of 100 spaces in an RV park. A buildout of 50 percent was assumed based on other similar residential land uses.

*Source: Calaveras County General Plan Land Use Element, November 2015. Buildout percentage assumptions are from a report provided to the Board of Supervisors in June of 2015.*

| Table 2<br>Comparison of Existing and Potential Population | | |
|---|---|---|
| **Source** | **Additional Population** | **Total Population** |
| Existing Population[1] | n/a | 45,578 |
| DOF Projections[2] | 9,963 | 55,541 |
| Proposed General Plan | 65,949 | 111,527 |
| Existing General Plan[3] | 277,316 | 322,894 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov). Angels Camp represents 9% of countywide population.
2. For Year 2035. California Department of Finance, Demographic Research Unit, May 2012.
3. Based on 2.39 persons per household per 2010 Census Data, California Department of Finance and 1996 General Plan projected new units (116,032).

Table 3 illustrates that adequate carrying capacity exists under the proposed General Plan to accommodate projected DOF units for Year 2035. The proposed Plan could accommodate approximately 46,277 units, more than double what DOF projects for Year 2035. By comparison, the existing General Plan would accommodate approximately 134,900 units, almost five times the DOF projections.

| Table 3<br>Comparison of Existing and Potential Units | | |
|---|---|---|
| **Source** | **Additional Units** | **Total Units** |
| Existing Units[1] | n/a | 18,886 |
| DOF Projections[2] | 4,353 | 23,239 |
| Proposed General Plan | 27,391 | 46,277 |
| Existing General Plan[3] | 116,032 | 134,918 |

1. California Department of Finance, Census 2010 Summary File 1, prepared by the U.S. Census Bureau, 2011. Profile prepared by the California State Data Center, (916) 323-4086 (www.dof.ca.gov).
2. For Year 2035. California Department of Finance, Demographic Research Unit, May 2012.
3. Based on 1996 Calaveras County General Plan.

The above tables demonstrate that while the proposed General Plan Land Use Map reduces the amount of potential development allowed by the current General Plan, the proposed map still provides significant capacity above DOF projections for Year 2035. This allows substantial development flexibility in terms of density, intensity, and location of future development.

## ENVIRONMENTAL EFFECTS

For purposes of evaluating the potential impacts resulting from implementation of the General Plan Update, the projections outlined in Table 1 above will be utilized for 2035 General Plan buildout. Such projections are anticipated to provide a more realistic buildout scenario for 2035 than the 1996 General Plan projections. As a result, the impact evaluations in the General Plan EIR will be focused on potential impacts resulting from buildout of the 2035 General Plan per the projections in Table 1. If the determination is made that buildout of the General Plan will result in impacts to the environment, the EIR

will identify appropriate mitigation measures if feasible to ensure that the necessary improvements are implemented over the course of the next 18 years.

The EIR will include program-level, or “first-tier”, analysis for the Draft General Plan, consistent with California Public Resources Code (PRC) Sections 21083.3, 21093, and 21094; and 14 California Code of Regulations (CCR) Sections 15152 and 15168. A Program EIR provides the necessary environmental review and impact mitigation for adoption and implementation of the Draft General Plan, as well as program-level review for any subsequent actions related to implementation of general plan goals and policies. The County will review subsequent projects for consistency with the Program EIR and prepare appropriate environmental documentation pursuant to CEQA provisions for subsequent projects.

In addition to disclosing and documenting environmental effects of the General Plan, the analysis provided in the Program EIR is intended to establish a framework for subsequent, more detailed analyses associated with individual project applications. One of the County’s goals in preparing the current document is to reduce the amount of new information that would be required in the future at the project level by dealing as comprehensively as possible in this document with cumulative impacts and regional considerations.

The General Plan Update Program EIR will include chapters consistent with Appendix G of the CEQA Guidelines, which would ensure that the eight proposed elements are comprehensively addressed. The environmental analysis is proposed to focus on the following technical environmental issues:

- Aesthetics;
- Agricultural, Forestry and Mineral Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Transportation and Circulation; and
- Utilities and Service Systems.

Each EIR chapter will include a description of the existing environmental setting, regulatory context, and impacts and mitigation measures. The impacts and mitigation measures section of each chapter will include the methods of analysis and the

significance criteria used to determine the potential impacts resulting from buildout of the General Plan Land Use Map.

## DISCUSSION OF CUMULATIVE IMPACTS

In accordance with Section 15130 of the CEQA Guidelines, an analysis of cumulative impacts will be provided in the EIR. In addition, pursuant to CEQA Section 21100(B)(5), the analysis addresses the potential for growth-inducing impacts of the proposed project.

## DISCUSSION OF ALTERNATIVES

In accordance with Section 15126.6(a) of the CEQA Guidelines, several project alternatives, including the No Project / Existing Conditions Alternative, will be analyzed. The remaining alternatives will be determined during the preparation of the Draft EIR. The alternatives analysis will describe a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. The analysis will include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. The significant effects of the alternatives are discussed, but in less detail than the significant effects of the proposed project. The discussion will also identify and analyze the "environmentally superior alternative".

## SUBMITTING COMMENTS

To ensure that the full range of issues related to this proposed project is addressed and all significant issues are identified, written comments are invited from all interested parties regarding the scope of the environmental analysis as well as potential alternatives. Written comments concerning the proposed CEQA analysis for the Calaveras County General Plan Update project should be directed to the name and address below:

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249
(209) 754-6394

**Written comments are due to Calaveras County at the location addressed above by 5:00 p.m. on February 16, 2017. Comments can also be emailed to the County by this deadline at the following address: gpupdate@co.calaveras.ca.us.**

**Figure 1**
**Regional Location Map**

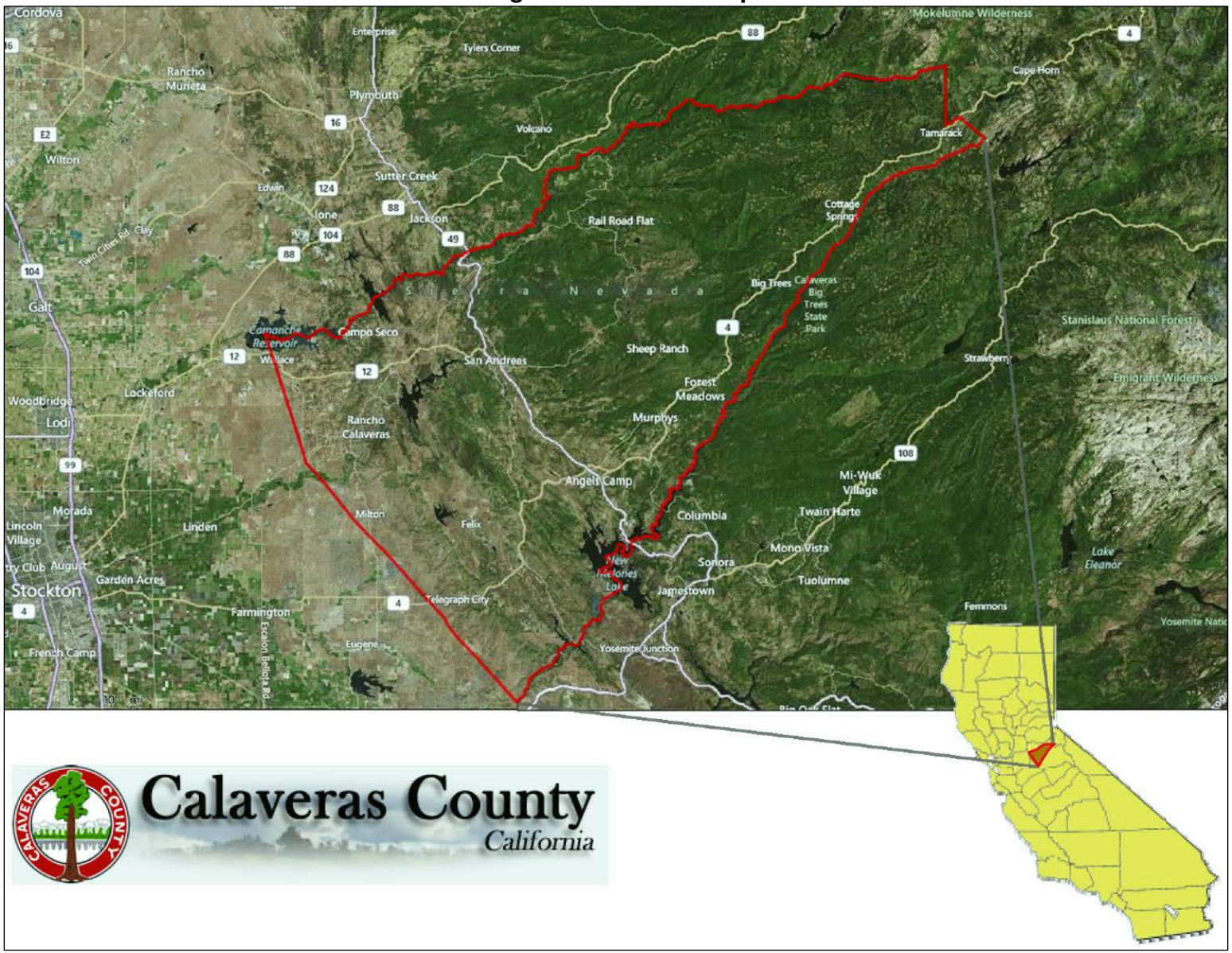
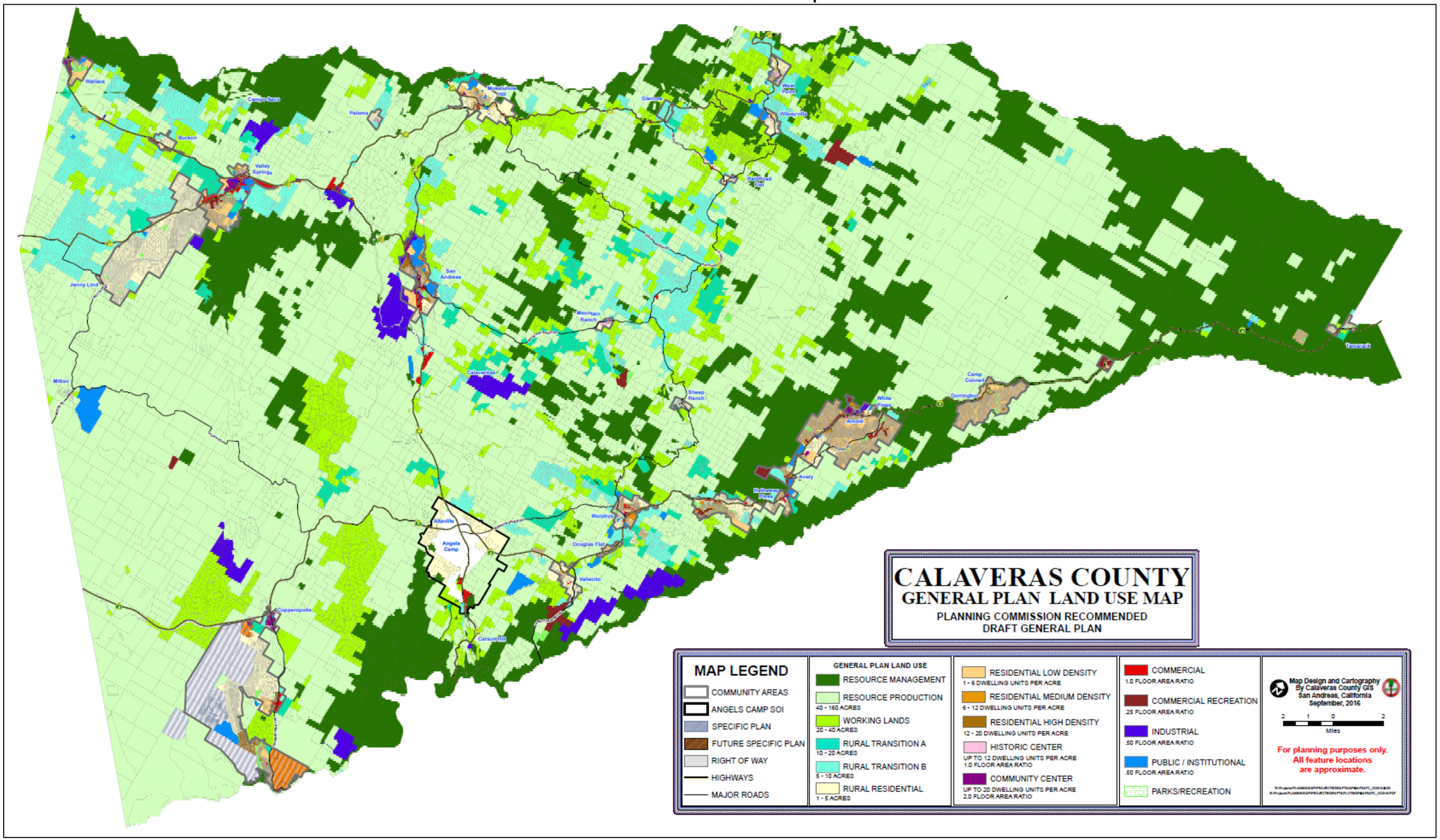


**Figure 2**
**General Plan Land Use Map**




Available at: http://planning.calaverasgov.us/GeneralPlanUpdate.aspx

**DEPARTMENT OF TRANSPORTATION**
DISTRICT 10
P.O. BOX 2048, STOCKTON, CA 95201
(1976 E. DR. MARTIN LUTHER KING JR. BLVD. 95205)
PHONE (209) 948-7325
FAX (209) 948-7164
TTY 711

*Serious drought.*
*Help save water!*

February 16, 2017

10-CAL-VAR-VAR
Calaveras County
General Plan Update
NOP
SCH # 2017012043

Mr. Peter N. Maurer, Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

Dear Mr. Maurer:

The California Department of Transportation (Caltrans) appreciates the opportunity to review the Notice of Preparation (NOP) for the Calaveras County General Plan Update (Plan). The Plan represents the County's vision for the future of Calaveras County setting goals and policies to guide County growth and development.

Caltrans applauds the direction of the Plan toward land use diagrams and policies guiding the County to create more livable communities with increased transportation choices and reduced traffic impacts.

The Draft Environmental Impact Report (DEIR) for the Plan should evaluate whether planned circulation improvements with funding are identified to mitigate the level of service (LOS) impacts of the County's projected growth. If insufficient funding is available through existing traffic fees and regional transportation funds, new development in the County needs to help fund transportation improvements to mitigate the growth of the County. CEQA requires that the lead agency implement feasible mitigation measures to reduce the severity of any significant and unavoidable impacts of the Plan.

Currently, Calaveras County doesn't require discretionary review of private development projects when the proposed use is consistent with the existing land use designation and zoning of the parcel. Under these conditions, large projects with significant transportation impacts can be constructed with ministerial approvals which can lead to unmitigated significant impacts to the transportation system. Also, projects with similar traffic impacts may have widely different mitigation requirements depending on whether a tentative map or other discretionary permit is required. While ministerial projects pay only traffic fees, discretionary projects are required to identify and mitigate for project-specific impacts. Because ministerial projects don't mitigate

project-specific impacts, those impacts are deferred to be addressed as last-in impacts for subsequent projects requiring discretionary permits.

The DEIR should consider whether policies requiring discretionary approval including identification and mitigation of project-specific impacts for commercial, industrial, and high-density residential projects generating in excess of an appropriate threshold of vehicle trips would be a feasible way to reduce the severity of any significant and unavoidable transportation impacts of the Plan.

Caltrans recommends that the DEIR consider the need to review traffic impact fee programs and their associated capital improvement programs to ensure that the cumulative impacts of development are adequately mitigated. Incorporating active transportation, goods movement, and transit facilities into the fee programs would help improve funding of Complete Streets and provide improved transportation choices to reduce reliance on private vehicles. Upon implementation of anticipated SB 743 CEQA Guidelines changes, these change might also act to mitigate vehicle miles traveled (VMT) impacts. The NOP should also consider VMT as a contributor to greenhouse gas emissions impacts.

The Plan references four locations where highway improvements would be required to address LOS deficiencies. Caltrans suggests the County consider modeling LOS for the proposed Murphys Center Turn Lane project on State Route (SR) 4 to determine if the described four lane widening is necessary.

If you have any questions or would like to discuss these comments, please contact Kevin Schroder at (209) 948-1947 (email: kevin.schroder@dot.ca.gov) or me at (209) 948-7325 (email: carl.baker@dot.ca.gov)

Sincerely,

CARL BAKER, Chief
Office of Rural Planning & Administration

c: Jeff Crovitz, Calaveras County Public Works
Melissa Eads, Calaveras Council of Governments
State Clearinghouse

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

*EDMUND G. BROWN JR., Governor*
*CHARLTON H. BONHAM, Director*

February 16, 2017

Peter N. Maurer
Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

Subject: CALAVERAS COUNTY DRAFT GENERAL PLAN (PROJECT)
NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)
SCH# 2017012043

Dear Mr. Maurer:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation from the Calaveras County Planning Department (County) for the Project pursuant the California Environmental Quality Act (CEQA) statues and guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code (Fish & G. Code).

**CDFW ROLE**

As a trustee for California's fish and wildlife resources, the CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code § 1802). The CDFW may also act as a Responsible Agency (Cal. Code Regs. § 21069) for a project where it has discretionary approval power under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and the Lake and Streambed Alteration Program (Fish & G. Code, § 1600 et seq.). The CDFW also administers the Native Plant Protection Act, Natural Community Conservation Program, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

## PROJECT DESCRIPTION SUMMARY

The Project site is located in Calaveras County which encompasses approximately 662,791 acres. Watersheds within the County include the Mokelumne River watershed at the County's northern border, the Stanislaus River and Lower San Juaquin River watersheds at the County's southern/southwestern border, and the Calaveras River watershed in the north-central portion of the County.

The Project consists of an update to the existing 1995 General Plan. The Project is intended to guide growth and development within the county through the year 2035. The project includes a general plan land use map, buildout projections, and a total of eight elements: Land Use, Circulation, Resource Production, Conservation and Open Space, Noise, Safety, Public Facilities and Services, and Community Plan. If the determination is made that buildout of the General Plan will result in impacts to the environment, the EIR will identify appropriate feasible mitigation measures to ensure that the necessary improvements are implemented over the course of the next 18 years.

The Project description should include the whole of the action as defined in the CEQA Guidelines § 15378 and should include appropriately detailed exhibits disclosing the Project area, which include all temporary, permanent, direct, and indirect impacts.

As required by § 15126.6 of the CEQA Guidelines, the EIR should include an appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under CDFW's jurisdiction.

## ENVIRONMENTAL SETTING

CDFW recommends that the EIR includes a complete assessment of the existing biological conditions within the Project area including but not limited to the type, quantity and locations of the habitats, flora and fauna. Adequate mapping and information regarding the habitat assessment and survey efforts should be included within the EIR. All surveys as well as the environmental analysis should be completed by qualified personnel with sufficient experience in assessing the wildlife and habitats associated with the Project.

To identify a correct environmental baseline, the EIR should include a complete and current analysis of the likelihood of presence of endangered, threatened, candidate, and locally unique species. CEQA guidelines § 15125, subdivision (c) requires lead agencies to provide special emphasis to sensitive habitats and any biological resources that are rare or unique to the area. This includes, but is not limited to vernal pools, streambeds, riparian habitats, and open grasslands that are known to be present within the Project boundaries or its vicinity. CDFW recommends that the environmental documentation identify natural habitats and provide a discussion of how the proposed Project will affect their function and value.

CDFW recommends that the California Natural Diversity Database (CNDDB), as well as previous studies performed in the area, and other species databases, be consulted to assess the potential presence of sensitive species and habitats. Recent surveys for the different species that have the potential to be present within the project limits and its vicinity shall be included within the EIR. Additionally, species-specific surveys should be conducted in order to ascertain the presence of species with the potential to be directly or indirectly impacted. CDFW recommends the lead agency rely on survey and monitoring protocols and guidelines available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols,

**IMPACT ASSESSMENT AND MITIGATION MEASURES**

Based on habitat assessments and survey results, the EIR should clearly identify and describe all short-term, long-term, permanent, or temporary impacts to biological resources under CDFW's jurisdiction, including all direct and foreseeable indirect impacts caused by the proposed Project.

The EIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)) The EIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed and it must permit the significant effects of the Project to be considered in the full environmental context. CDFW also recommends that the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the project's significant impacts upon fish and wildlife and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines Section 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions.

CDFW is concerned that the proposed Project may result in direct, indirect and cumulative adverse impacts to environmental and Public Trust resources within the Project area. The Project area may be impacted by reducing riparian and terrestrial habitats, including habitats for sensitive species and could result in the direct "take" of State-listed species.

The EIR should discuss the project's direct, indirect and cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The EIR should include a list of present, past, and probable future projects producing related impacts to resources under CDFW's jurisdiction or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects.

Mitigation measures should establish performance standards to evaluate the success of the proposed mitigation, provide a range of options to achieve the performance standards, and must commit the lead agency to successful completion of the mitigation. Mitigation measures should also describe when the mitigation measure will be implemented, and explain why the measure is feasible. Therefore, the CDFW recommends that the environmental document include measures that are enforceable and do not defer the details of the mitigation to the future.

*Threatened, Endangered, Candidate Species*

The Project area as shown in the General Plan includes habitat for State and/or federally listed species, such as but not limited to, California tiger salamander (*Ambystoma californiense*), Sierra Nevada yellow-legged frog (*Rana sierrae*), bald eagle (*Haliaeetus leucocephalu*), California red-legged frog (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*), great gray owl (*Strix nebulosa*), Chinese Camp brodiaea (*Brodiaea pallida*), lone manzanita (*Arctostaphylos myrtifolia*), Delta button-celery (*Eryngium racemosum*), and steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and vernal pool fairy shrimp (*Branchinecta lynchi*).

The EIR should require that future projects developed under the plan, obtain appropriate permits prior to starting construction, if it is determined that the project may have the potential to result in "take", as defined in the Fish & G. Code, section 86, of a State-listed species. EIR must include all avoidance and minimization measures to reduce the impacts to a less than significant level. If impacts to listed species are expected to occur even with the implementation of these measures, mitigation measures shall be proposed to fully mitigate the impacts to State-listed species (Cal. Code Regs., tit. 14, § 783.2, subd.(a)(8)). CDFW encourages early consultation with staff to determine appropriate measures to offset Project impacts, facilitate future permitting processes and to coordinate with the U.S. Fish and Wildlife Service to coordinate specific measures if both State and federally-listed species may be present within the Project area.

*Jurisdictional Waterways*

The EIR should identify all of the areas in which the Project falls under CDFW's jurisdiction per section 1602 of the Fish & G. Code. These areas include all perennial, intermittent, and ephemeral rivers, streams, and lakes, including ponds and drainages, in the State and any habitats supported by these features such as wetlands and riparian habitats. If these jurisdictional features are found within the General Plan Area, the EIR should identify any potential impacts to these resources. The EIR should include a delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed Project including an estimate of impact to each habitat type.

If it is determined that projects developed under the General Plan would impact areas under CDFW's jurisdiction the EIR must propose mitigation measures to avoid, minimize, and mitigate impacts to these resources.

*Migratory Birds and Birds of Prey*

Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C., §§ 703-712). CDFW implemented the MBTA by adopting the Fish & G. Code section 3513. Fish & G. Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Potential habitat for nesting birds and birds of prey is present within the project area. The proposed Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the General Plan Area. Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the EIR. Measures to avoid the impacts should include species specific work windows, biological monitoring, installation of noise attenuation barriers, etc.

**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB data submission survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

**FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

**CONCLUSION**

Pursuant to Public Resources Code §21092 and §21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed Project. Written notifications shall be directed to the address listed in the header of this letter. CDFW appreciates the opportunity to comment on the Notice of Preparation to assist in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize

impacts. Questions regarding this letter or further coordination should be directed to Sandra Jacks, Senior Environmental Scientist (Specialist) at 916-358-2916 or Sandra.Jacks@wildlife.ca.gov.

Sincerely,

Tina Bartlett
Regional Manager

ec: Jeff Drongesen, jeff.drongesen@wildlife.ca.gov
Isabel Baer, isabel.baer@wildlife.ca.gov
Jennifer Garcia, Jennifer.garcia@wildlife.ca.gov
Sandra Jacks, sandra.jacks@wildlife.ca.gov
*Department of Fish and Wildlife*

State Clearinghouse, state.clearinghouse@opr.ca.gov
*Office of Planning and Research*

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PETER J. BRODERICK
Attorney
broderick@smwlaw.com

February 8, 2017

***Via E-Mail and U.S. Mail***

Peter N. Maurer
Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, California 95249
E-Mail: gpupdate@co.calaveras.ca.us

Re: Notice of Preparation of EIR for Proposed Calaveras County General Plan Update

Dear Mr. Maurer:

Shute, Mihaly & Weinberger LLP submits this letter on behalf of the Central Sierra Environmental Resource Center ("CSERC"), to provide comments on the County's Notice of Preparation ("NOP") of an Environmental Impact Report ("EIR") for the Proposed Calaveras County General Plan Update ("GPU").

CSERC is committed to working constructively with the County to ensure that changes to land use in the County under the GPU do not impair the regional environment, natural resources, and rural quality of life for the County's residents. The County must undertake careful planning to ensure that the region accommodates growth and development in a manner that does not seriously impair the very resources that draw residents and visitors to County in the first place. To that end, CSERC is concerned that the NOP provides insufficient assurance that the County's EIR will fully and accurately evaluate the potential impacts associated with the GPU.

We have previously explained that the GPU vastly over-allocates land in the County for residential development. As the NOP acknowledges, the GPU proposes to accommodate well over *six times* the number of residential units as projected to be required by the State. NOP at 7 (Table 3). The County has yet to offer a persuasive justification for an approach that allows far more development growth than is realistic or necessary.

In fact, the State's most recent housing and population projections, which the NOD does not cite, further erode the GPU's approach. For example, the Department of Finance's ("DOF") Baseline 2013 numbers predict a slightly *smaller* increase (to a total population of 54,912 in 2035) than the numbers the County relied on in the NOD, and 6% less than the additional population prediction of 9,963 used in the NOD.[1] This unsurprising, given that DOF's most recent population estimates show that from 2010 to 2016, the County's total population *decreased* from 45,578 to 45,207.[2] What *is* surprising, however, is that despite this data, the County continues to move forward with a GPU that nonetheless proposes to allocate land for development several times the amount necessary to accommodate growth at levels projected by the DOF. This over-allocation will have profound effects on the County's environmental review for the project.

**A. The baseline for environmental analysis is existing conditions in the County.**

Under the California Environmental Quality Act ("CEQA"), a lead agency preparing an EIR must establish an appropriate baseline against which to assess whether a project's environmental effects are likely to be significant. *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 447. "The key [to determining the proper baseline] is the EIR's role as an informational document." *Id.* at 453. The lead agency must "employ a realistic baseline that will give the public and decision makers the most accurate picture practically possible of the project's likely impacts." *Id.* at 459. This baseline normally reflects "the existing physical conditions in the affected area, that is, the real conditions on the ground." *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321 (citations omitted). Accordingly, agencies cannot use hypothetically allowable development under an operating permit as the baseline for environmental review, when such development has not been realized. *Id.* at 320-22. However, under certain circumstances, adjustments to the baseline may be "necessary to prevent misinforming or

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[1] California Department of Finance, Demographic Research Unit, State and County Population Projections July 1, 2010-2060 (December 15, 2014), *available at:* http://www.dof.ca.gov/Forecasting/Demographics/Projections/documents/P-1_Total_CAProj_2010-2060_5-Year.xls.

[2] California Department of Finance, Demographic Research Unit, Population Estimates for Cities, Counties, and the State, 2011-2016, with 2010 Benchmark (May 1, 2016) *available at:* http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-4/2011-20/documents/E-42016InternetVersion.xls.

misleading the public and decision makers." *Neighbors for Smart Rail,* 57 Cal.4th at 448, 451.

Accordingly, the County's EIR for the GPU must use existing conditions in the County as the baseline against which to measure the environmental impacts of the development allowable under the GPU. Yet the NOP appears to suggest that the County is considering using the *allowable development under the existing General Plan* as the project's baseline. *See* NOP at 7 ("the proposed General Plan Land Use Map reduces the amount of potential development allowed by the current General Plan"). This approach would impermissibly downplay the project's impacts by measuring them against the unrealized development allowed under the outdated current General Plan. What's more, much of the current General Plan's allowable development actually overlies parcels in rural northeastern areas of the County where there is no realistic possibility of providing necessary infrastructure and where the terrain is generally steep and rugged. The prospect of development in these areas under the current General Plan exists only on paper. Any EIR prepared by the County that were to rely upon such a misleading baseline would be fundamentally flawed.

**B. The County must analyze and mitigate the impacts from full buildout.**

As the County is surely aware, the EIR will be required to analyze the impacts of the GPU's *full* build-out scenario against baseline conditions. Courts have consistently held that an EIR must examine a project's potential to affect the environment, even if the development may not ultimately materialize. *Bozung v. Local Agency Formation Comm'n* (1975) 13 Cal.3d 263, 279-82. Because general plans serve as the crucial "first step" toward approving future development projects, a general plan EIR must evaluate the amount of development actually allowed by the plan. *City of Carmel-By-the-Sea v. Bd. of Supervisors of Monterey Cnty* (1986) 183 Cal.App.3d 229, 244; *City of Redlands v. Cnty of San Bernardino* (2002) 96 Cal.App.4th 398, 409. Thus, the County will be committed to considering the full extent of all environmental impacts from development of the more than 27,000 additional residential housing units proposed under the GPU, even if it expects that not all of those housing units will ultimately materialize.

This, in turn, will require the County to develop and implement feasible, enforceable mitigation measures to mitigate the significant environmental impacts from a population increase of well over 100% and the development of over 27,000 new housing units. Under CEQA, public agencies may not approve projects unless feasible mitigation measures are included that mitigate the project's significant environmental effects. Pub. Res. Code §§ 21002, 21002.1(b); CEQA Guidelines § 15126.4(a)(2); *see, e.g., City of*

*Marina v. Board of Trustees of the California State University* (2006) 39 Cal.4th 341. The mitigation measures must be concrete and enforceable, not vague policy statements. *See* Pub. Res. Code § 21081.6(b); *Federation of Hillside and Canyon Ass'n v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261 (agency must take steps to ensure mitigation measures are fully enforceable through permit conditions, agreements, or other measures).

Impacts from the population growth and development anticipated in the GPU, which is several times in excess of the County's state-projected needs, will be far-reaching. They will include, but are not limited to, impacts on air quality, climate change, biological resources, agriculture, traffic, wildfire hazards, and flood risks. The County must be prepared to include concrete, enforceable mitigation measures to mitigate these impacts. The extensive mitigation required for such impacts demands that the County solicit public comment and suggestions for proposed mitigation at the earliest possible stage in the process.

Additionally, the NOP states that the EIR will contain "program-level, or 'first-tier', analysis" for the GPU, and that the County will "review subsequent projects for consistency with the Program EIR and prepare appropriate environmental documentation." NOP at 8. While we agree that the EIR must provide a region-wide analysis that captures the full spectrum of impacts from the project—including cumulative impacts—over a long-term planning horizon, the "program-level" nature of the EIR does not excuse the County from examining project-specific impacts that are a reasonably foreseeable result of adopting the GPU. For example, the GPU's Land Use Map redesignates to "Future Specific Plan" designation property in the Copperopolis area that is the site of the proposed Sawmill Lake development project by Castle & Cooke. It does the same for acreage adjacent to Lake Tulloch owned by the Sanguinetti Cattle Company and which is proposed for a destination resort, golf course, and 1,500 homes—all on land that does not currently have a single residence. As we explained in our August 17, 2016 letter, the Sawmill Lake project by itself would have significant negative environmental impacts by, for example, removing thousands of oaks, allowing development close to sensitive riparian habitat, obstructing critical wildlife corridors, and overburdening the public infrastructure in the Copperopolis area. The County may not avoid analyzing these significant impacts or identifying concrete, enforceable mitigation measures to reduce or avoid them.

### C. The EIR should analyze a "Rural Character – Moderate Growth Alternative."

As the NOP correctly acknowledges, an EIR must analyze a range of reasonable alternatives to the project. NOP at 9. These alternatives must feasibly attain most of the basic project objectives while avoiding or substantially lessening the project's environmental impacts. *See* Public Resources Code § 21100(b)(4); *see also* CEQA Guidelines § 15126.6(a). The analysis of alternatives to a proposed project lies at the "core" of an EIR. *Citizens of Goleta Valley v. County of Santa Barbara* (1990) 52 Cal.3d 553, 564. CEQA prohibits public agencies from approving projects as proposed if a feasible alternative would substantially lessen their significant environmental effects. *Berkeley Keep Jets*, 91 Cal.App.4th at 1354 (quoting § 21002); Guidelines § 15126.6(b). As the Supreme Court has explained, "Without meaningful analysis of alternatives in the EIR, neither the courts nor the public can fulfill their proper roles in the CEQA process." *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 404. Thus, the CEQA Guidelines state that the selection and discussion of alternatives should foster informed decision-making and informed public participation. *See* CEQA Guidelines § 15126(d)(5).

There is growing public recognition of the need to change local government approaches to land use development in order to slow climate change and ensure proper management of the region's economic, social and environmental capital. Future development must be sustainable. There are reasonable and feasible alternatives to the GPU as proposed that would greatly reduce impacts to biological and scenic resources, open space, and the rural character of the County. Given the County's unique and environmentally sensitive resources, the County should carefully and thoroughly consider an alternative that alters allowable development patterns in order to reduce the environmental impacts of the project and promote sustainability.

To this end, we strongly recommend that the County identify and analyze a "Rural Character - Moderate Growth Alternative" in the EIR. Such an alternative would allow increases in land use intensity and density within the County's urbanized areas, while discouraging low-density development within rural communities and natural areas. Specifically, the Rural Character – Moderate Growth Alternative would allow a level of development in keeping with more realistic projections of need than the level of development allowed under the proposed GPU. This need not be a rigid number—the Rural Character – Moderate Growth Alternative could still allow for up to two or even three times the amount of development that the DOF's population and housing need projections warrant—but it would be far less than what would be allowed under the GPU as currently proposed. In addition to being far more realistic about meeting predicted

growth in the planning period, this moderate growth alternative would limit the need to extend new infrastructure into rural areas. Curtailing sprawl and leapfrog development minimizes premature need for expensive water and sewer line extensions, new and wider roads, and the extension of public services. A Rural Character – Moderate Growth Alternative would therefore have the additional benefit of reducing taxpayer and ratepayer costs.

We reiterate CSERC's position, stated in our March 11, 2015 letter, that the proposed GPU itself should avoid over-allocating land for residential development. Barring this change to the proposed project, however, the EIR should include and consider a Rural Character – Moderate Growth Alternative.

### D. The County should adopt thresholds of significance early in the process.

Finally, the County should prepare and publish proposed thresholds of significance for environmental impacts in advance of publishing the draft EIR for the GPU. Thresholds of significance establish, for each impact area, the level of effect over which a project's impact is likely to be determined significant. Many counties have adopted advance thresholds of significance (including Santa Barbara County, San Diego County, and Ventura County, among others) for general use in their environmental review documents. Even if the County chooses not to formally adopt such thresholds, it should still publish the thresholds of significance it proposes to use for each environmental impact area (e.g., biological resources, hydrology and water quality, population and housing, transportation and circulation) analyzed in the EIR. In light of the County's extensive environmentally sensitive resources and the far-reaching consequences of the GPU, the public should have an opportunity to comment on the completeness and adequacy of proposed thresholds of significance at the earliest possible stage in the environmental review process. Ideally, draft proposed thresholds will be made public early, with opportunities to comment on them as part of the additional scoping sessions or workshops.

### E. Conclusion

We hope that the above will assist the County in preparing a thorough and legally adequate EIR for the GPU. Given the lack of detailed information in the NOP and the County's decision not to prepare an Initial Study, the public should have an opportunity to participate fully in the County's upcoming scoping process. To this end, we strongly recommend the County make information—such as proposed thresholds of

significance—available as early as possible and hold public workshops throughout the process.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Peter J. Broderick

862732.3

Stanislaus County
Striving to be the Best

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*1010 10th Street, Suite 6800, Modesto, CA 95354*
*Post Office Box 3404, Modesto, CA 95353-3404*

*Phone: 209.525.6333 Fax 209.544.6226*

**STANISLAUS COUNTY ENVIRONMENTAL REVIEW COMMITTEE**

February 17, 2017

Peter N. Maurer, Planning Director
Calaveras County Planning and Community Development
891 Mountain Ranch Road
San Andreas, CA 95249

**SUBJECT: ENVIRONMENTAL REFERRAL – CALAVERAS COUNTY – PROPOSED CALAVERAS COUNTY GENERAL PLAN UPDATE – NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT**

Mr. Maurer:

Thank you for the opportunity to review the above-referenced project.

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and has no comments at this time.

The ERC appreciates the opportunity to comment on this project.

Sincerely,

Patrick Cavanah
Management Consultant
Environmental Review Committee

PC:ss

cc: ERC Members

RECEIVED
FEB 24 2017
Calaveras County
Planning Department

FEB 0 3 2017

**United States Department of the Interior**
BUREAU OF LAND MANAGEMENT
Mother Lode Field Office
5152 Hillsdale Circle
El Dorado Hills, CA 95762

February 2, 2017

6840
CA-180.20

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

RECEIVED
FEB 0 6 2017
Calaveras County
Planning Department

Subject: Environmental Impact Report for the Proposed Calaveras County General Plan Update

Dear Mr. Maurer:

We received the notice of preparation of an Environmental Impact Report for the proposed Calaveras County General Plan Update. For your consideration, we would like to offer the following comments:

There is a federally threatened plant species, Chinese Camp brodiaea (*Brodiaea pallida*), found on private land south of Copperopolis off of Copper Cove Road in Calaveras County. Chinese Camp brodiaea is also listed by the State of California as an endangered plant species.

A core population of Chinese Camp brodiaea grows along the banks of both Sawmill Creek and Black Creek. This is one of three known occurrences in the world. The other two occurrences are located within 10 miles of this population on private land. One small occurrence is found west of Lake Tulloch along Little Johns Creek and a slightly larger population occurs near the town of Chinese Camp in Tuolumne County.

Changes to current zoning designations along Sawmill Creek, Black Creek and Little Johns Creek that would allow for activities that may affect this species, could result in consultation pursuant to the Endangered Species Act. The county should consider a regional planning approach that includes addressing rare plant and wildlife conservation. Such an approach could result in the avoidance or minimization of effects to state and federally listed species.

We appreciate the opportunity to share our concern for the protection of this federally listed plant species. If you have questions or would like more information, please call Beth Brenneman, Mother Lode Field Office botanist, at (916) 941-3138.

Sincerely,

William Haigh
Field Manager, Mother Lode Field Office

EAST BAY
MUNICIPAL UTILITY DISTRICT

RECEIVED

FEB 13 2017

Calaveras County
Planning Department

February 9, 2017

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

Re: Notice of Preparation of an Environmental Impact Report for the Proposed Calaveras County General Plan Update

Dear Mr. Maurer:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Proposed Calaveras County General Plan Update (General Plan). EBMUD has the following comments.

**RIGHT-OF-WAY**

The General Plan encompasses portions of EBMUD's Mokelumne Aqueducts (Aqueduct) right-of-way (owned in fee). Any projects being planned within or immediately adjacent to EBMUD property will need to follow EBMUD's Procedure 718 – Raw Water Aqueduct Right-of-Way Non-Aqueduct Uses. A copy of the procedure is enclosed for your reference.

Design drawings for any project encroachment (roadway, utility, facility, etc.) or restoration projects crossing or within the Aqueduct right-of-way will need to be submitted for review, permitting and approval. Design drawings will also need to be submitted to EBMUD for review of possible drainage, site grading, fencing, construction access, and other conditions that may impact EBMUD property. EBMUD requires a full set of drawings (full size or 11x17) as well as an electronic copy in PDF format. All submittals shall be sent to the attention of Vincent H. Pon, P.E., Superintendent of Aqueduct Section, 1804 West Main Street, Stockton, CA 95203. Additional information and an encroachment package are included in EBMUD's Procedure 718. Applications for non-EBMUD uses will not be processed unless accompanied by the appropriate application fees outlined in the current applicable Water and Wastewater System Schedule of Rates and Charges and Fees. Contractors must secure an encroachment permit from EBMUD Aqueduct Section prior to mobilizing and starting construction work. A pre-construction meeting with EBMUD is mandatory.



Recycled Paper

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:SHJ:dks
sb17_035.doc

Enclosure: EBMUD Procedure 718 – Raw Water Aqueduct Right-of-Way Non-Aqueduct Uses

EBMUD

# Procedure 718

EFFECTIVE 21 AUG 15

SUPERSEDES 26 JUL 13

LEAD DEPARTMENT O&M

## RAW WATER AQUEDUCT RIGHT-OF-WAY NON-AQUEDUCT USES

**PURPOSE** - To establish procedures and criteria for review and authorization of surface and sub-surface use of District-owned property containing raw water aqueducts and raw water pipelines for purposes other than installation, maintenance, and operation of District raw water aqueducts.

**Forms Used**

| | |
|---|---|
| L-14 | Limited Land Use Permit |
| K-47 | Work Request Agreement |
| N-15 | Certificate of Public Liability Insurance |
| N-17 | Certificate of Workers' Compensation Insurance |
| | Application for Use of EBMUD Property or Request for Information |
| | General Fund Receipts for Miscellaneous Payments |

**Authority and Responsibility**

Use, development, and control of fee-owned rights-of-way for District and non-District uses must be consistent with water supply operation and security and the rights and obligations of the District. District and non-District uses of District-owned aqueduct rights-of-way may be permitted when they conform to Policy 7.01, Aqueduct Rights-of-Way Maintenance.

- No use of District aqueduct properties by others will be permitted as a condition to meet city/county zoning requirements or to obtain any land use permit, approval, or entitlement affecting properties not owned by the District.
- No use of District properties by others will be permitted except under terms of a written agreement.
- Use of raw water aqueduct rights-of-way for District purposes shall have the concurrence of the Aqueduct Section Superintendent.
- Use of aqueduct rights-of-way for District treated water lines shall include all applicable aqueduct protections required for similar third-party utility water line crossings.
- The decision whether to authorize any party other than the District to use District-owned property containing raw water aqueducts and raw water pipelines for any non-District purpose is a legislative act undertaken in the sole discretion of District staff. No notice or hearing is required to consider an application for use of such property, and staff's decision is not subject to appeal.

For all raw water aqueducts and pipelines, acceptable long-term uses of the rights-of-way include but are not limited to: utility crossings, road crossings, limited agriculture, equestrian and pedestrian trails, parks, oil and gas leases, and District-owned ground water wells. Acceptable, long-term uses of rights-of-way and easements for future raw water aqueducts will be evaluated upon facility completion. Such uses will be authorized by letter, limited land use permits, revocable licenses, leases or easements, as appropriate. All approved uses will conform to the requirements and limitations described in Requirements for Entry or Use of Mokelumne, Lafayette, and Moraga Aqueducts and Raw Water Pipeline Rights-of-Way (Requirements for Entry or Use) (Supplement No.1 to Procedure 718) and all other conditions as specified in the written approval, permit or easement for each individual use.

The Water Supply Division is responsible for monitoring permitted uses and detecting and preventing unauthorized uses of raw water aqueduct rights-of-way. The Office of General Counsel and the Manager of Real Estate Services will be consulted when an unauthorized user will not voluntarily desist.

The Water Supply Division is responsible for coordinating the development of recommendations with respect to the terms and conditions to be stipulated when a District or non-District use of a raw water aqueduct right-of-way is to be permitted.

The Director of Engineering and Construction shall be consulted when needed to supply location analysis or to determine what structural, grading, drainage, corrosion protection or other engineering measures are required and to obtain estimates of engineering, design and inspection costs.

**Inquiries and Applications for Use**

For all raw water aqueducts and pipelines, applications and inquiries for use of raw water aqueduct rights-of-way shall be processed by the Water Supply Division. Applications for non-District uses will not be processed unless accompanied by the appropriate application fees outlined in the current applicable Water and Wastewater System Schedule of Rates and Charges and Fees.

**The Water Supply Division** is responsible for:

- Providing requirements for use of the District's raw water aqueduct rights-of-way to applicants and to other District departments requesting use of the right-of-way. See Supplement No. 1, Requirements for Entry or Use.
- Checking for completeness to ensure compliance with the requirements for entry or use of raw water aqueduct rights-of-way contained in Requirements for Entry or Use plus any other conditions applicable to the proposed use.
- Collecting engineering, plan review and construction inspection costs and documentation of insurance coverage, if necessary.
- Monitoring existing encroachments and inspection of the construction of new approved encroachments.
- Providing information to the Engineering and Construction Department for technical input regarding additional permit requirements or special restrictions that may be applicable (in addition to those outlined in Supplement No. 1, attached) and for update of District raw water aqueduct right-of-way drawings.
- Collecting application fees and charges associated with the preparation and execution of revocable licenses.
- Assuring proper environmental documentation.

**Real Estate Services** is responsible for:

- Advising the Manager of Water Supply Division, or designee, of any real estate matters which relate to a specific proposed use.
- Collecting application fees and charges, preparing and executing limited land use permits, leases, easements, and all other property-related agreements (except for revocable licenses and temporary entry permits) and recommending fees and charges appropriate to the property use allowed, and for securing payment. See the current applicable Water and Wastewater System Schedule of Rates and Charges and Fees.
- Maintaining records relating to rights-of-way crossings and use, and providing information to the Survey Section and Engineering Services Division for the update of District raw water aqueduct right-of-way drawings.

**Types of Permit License or Easement**

The Manager of Water Supply Division shall keep available the forms listing the general requirements set forth in Requirements for Entry or Use for each of the following:

Temporary Entry/Temporary Construction Permit

For temporary access to raw water aqueduct right-of-way such as for surveying, potholing, construction, for temporary access via the District's right-of-way to property adjacent to the right-of-way, and other similar short-term situations.

Revocable License and Revocable Landscape License

For pipelines, sewers, storm drains, overhead and underground cables, public trails, landscaping and other crossings or lateral encroachments.

Limited Land Use Permit

Provides for agricultural or other surface use of the right-of-way for a period not to exceed one year (vehicular parking is prohibited). These permits are renewable annually if inspection reveals satisfactory conformance to conditions of permit.

Easement

For streets, highways, large pipelines, canals and railroads, and other permanent publicly owned encroachments. Easements are officially recorded with the county having jurisdiction. The fee or consideration will be significant and based on the value of the property being encumbered.

The Manager of Water Supply Division shall request review of any proposed revisions to application forms and lists of requirements from the Engineering and Construction Department, Real Estate Services Division, Office of General Counsel, and the District's Pipe Committee.

**Processing Applications**

Temporary Entry Permits

The Manager of Water Supply Division, or designee, may issue temporary entry permits including standard and temporary conditions relating to the use. The Manager of Real Estate Services and the Office of General Counsel will be consulted regarding unusual circumstances.

Revocable Licenses

The Water Supply Division, if warranted, shall conduct a field investigation to determine requirements for aqueduct protection and, in consultation with the Design Division or the Pipeline Infrastructure Division, will set forth the engineering and operating requirements.

The Manager of Water Supply Division shall then specify any and all requirements, including special conditions to the applicant, discuss the terms and conditions of the license agreement as well as any processing, design and inspection costs and license fee. The Manager of Water Supply Division may then enter into a standard license agreement with relevant special conditions on behalf of the District. The Manager of Real Estate Services and the Office of General Counsel shall be consulted regarding any unusual circumstances.

Copies of all revocable licenses issued by the Water Supply Division shall be provided to the Manager of Real Estate Services.

Limited Land Use Permits

The Manager of Water Supply Division, or designee, shall convey the District's requirements to the applicant and investigate to determine any special conditions.

Real Estate Services shall prepare the Limited Land Use Permit (Form L-14) in duplicate, including special conditions or stipulations, accompanied by a District-prepared location sketch that will refer to aqueduct stationing and other appropriate location identifiers, including adjacent aqueduct structures.

Engineering and Construction shall prepare the District-prepared location sketch.

After payment of the stipulated consideration determined by Real Estate Services, the Manager of Water Supply Division shall review and execute the permit. These copies are then returned to the Manager of Real Estate Services, together with any stipulated consideration.

Forty-five days before expiration of a Limited Land Use Permit, the Manager of Real Estate Services shall notify the Manager of Water Supply Division, who shall investigate the permittee's operations. If renewal of the permit is recommended, the permit will be renewed by letter from the Manager of Real Estate Services.

Leases and Easements

The Manager of Water Supply Division shall conduct a field investigation to determine requirements for aqueduct protection and, in consultation with the Design Division or Pipeline Infrastructure Division, if necessary, will set forth the engineering and operating requirements.

If structural or corrosion protective facilities are required, the Manager of Water Supply Division, or designee, shall request the Manager of Design Division or Pipeline Infrastructure Division to proceed with the required design or plan reviews. (During design, the designer will communicate with the applicant's engineer.) Upon completion of design, the plans will be delivered to the applicant via the Manager of Water Supply Division, who will arrange for inspection as required.

The Manager of Real Estate Services shall discuss with the applicant the terms of the agreement and the amount of the consideration, including any processing, design, and inspection costs. Real Estate Services shall obtain an appraisal and engineering estimates, if necessary.

Upon agreement with the applicant, the Manager of Real Estate Services, shall draft, for review and approval by the Water Supply Division and Office of General Counsel, an agreement granting the applicant the property interest under the terms and for the consideration as approved. Real Estate Services shall assure that evidence of insurance is provided, if required. The lease or easement shall be submitted to the District's Board of Directors for approval, if required by Procedure 108. Two copies of the lease or easement shall be sent to the applicant with instructions to sign and return the copies, together with the consideration, to the Manager of Real Estate Services. Easements shall be recorded and the applicant shall provide the Manager of Real Estate Services with the recording data.

**Approvals**

District uses of the raw water aqueduct right-of-way shall be confirmed in writing listing any special conditions which may apply to the proposed use to the requesting District departments by the Manager of Water Supply Division.

**Terminations**

Any third-party use of the District's aqueduct property may be terminated in the District's sole discretion, so long as the termination is authorized by and done in a manner compliant with the terms and conditions of the permit, license, or lease that governs the use. If the Water Supply Division terminates any permit or license, the Manager of Real Estate Services and the Design Division shall be so notified by memo.

**Terms and Conditions**

The final determination of generally applicable terms and conditions appropriate for District uses of aqueduct properties rests with the Director of Operations and Maintenance.

A specific third party applicant for use of aqueduct property may be required, as a condition of approval of the application, to comply with the generally applicable terms and conditions, or with different or additional terms and conditions that are determined to be in the District's best interest. The decision to approve or deny an application, and the selection of terms and conditions of any approval, shall rest with the Director of Operations and Maintenance or his or her designee. There is no right to an administrative appeal or hearing, and the decision of the Director or designee is final..

**Records**

The Manager of Real Estate Services shall maintain a file containing copies of all documents relating to right-of-way crossings or uses and is responsible for the assignment of right-of-way crossing numbers to approved documents.

The Engineering Services Division of the Engineering and Construction Department shall maintain working sets of right-of-way prints for each District raw water aqueduct right-of-way. These prints shall be updated following:

1. Grant of Revocable License or Easement. Notice to be supplied by the Manager of Real Estate Services.

2. Completion of crossing construction covered by license or easement. Notice, including "as built" location data, to be supplied by the applicant to the Water Supply Division for transmittal to the Engineering and Construction Department. This notice will be routed through the Engineering and Construction Department., as necessary, then to the Manager of Real Estate Services. After right-of-way tracings are revised, new prints will be released to those having sets.

3. Termination of any raw water aqueduct right-of-way use. Notice to be supplied by the Manager of Real Estate Services.

Revised prints shall be released following all right-of-way drawing revisions.

**Requirements and Fees**

Requirements for use of raw water aqueduct right-of-way and fees for the processing of applications and documents related to such uses are included in the documents Requirements for Entry or Use and Fees and Documentation Charges, Use of Aqueduct Rights-of-Way by Others, respectively (see the current applicable Water and Wastewater System Schedule of Rates and Charges and Fees). The Manager of Water Supply Division is responsible for periodic review and updating of Requirements for Entry or Use. The Manager of Real Estate Services is responsible for review and updating of Fees and Documentation Charges, Use of Aqueduct Rights-of-Way by Others.

**References**

Policy 7.01 – Aqueduct Rights-of-Way Maintenance
Procedure 108 – Real Estate Transactions
Procedure 436 – Miscellaneous Accounts Receivable and Cash Receipts
Requirements for Entry or Use of Mokelumne, Lafayette, and Moraga Aqueduct and Raw Water Pipeline Rights-of-Way (attached)
Water and Wastewater System Schedule of Rates and Charges and Fees Schedule of Rates and Charges to Customers of the East Bay Municipal Utility District – Real Property Use Application Fees – Resolution 33046-97




# REQUIREMENTS FOR ENTRY OR USE OF MOKELUMNE, LAFAYETTE, AND MORAGA AQUEDUCTS and RAW WATER PIPELINE RIGHTS-OF-WAY

## SUPPLEMENT NO. 1 TO PROCEDURE 718

East Bay Municipal Utility District

1. Requests for encroachment rights or for other uses of the District's raw water aqueduct and pipeline properties shall be directed to the Manager of Water Supply Division, 1804 West Main Street, , Stockton, California 95203. Property uses shall only be permitted subject to appropriate written permit, license, easement, or lease agreement.

2. Requests for property uses shall be in writing and accompanied by a completed application, application fees, plan and profile drawings of the area and work involved. District aqueduct stationing and adjacent above-ground structures must be shown. Applicant's horizontal and vertical control must be correlated to the District's. Drawings and maps shall be ANSI D size (22x34 inch) or ANSI B size (11x17 inch) and must also be provided in electronic .pdf format. Application must include complete insurance documentation.

3. The applicant must agree to indemnify and hold harmless the District from any loss, claim, or liability which may arise by reason of applicant's use of District property and may be required to provide insurance coverage.

4. All requests for uses of District property must be consistent with requirements and limitations set forth by Procedure 718 and will be reviewed and approved on a case-by-case basis.

5. District land and facilities shall be restored to a condition as good as that which existed before applicant's entry on the right-of-way.

6. Applicant's use of property shall not increase District costs or interfere with District access, operations, maintenance, or repair of its facilities.

7. The applicant must pay the District the appraised value of the easement or lease, if appropriate, for the rights granted to the applicant. Appropriate environmental documentation must be completed in accordance with the California Environmental Quality Act before the rights can be granted. The District may require the applicant to prepare the documentation at its expense before the application will be considered for approval. The District may rely on any existing environmental documentation for the applicant's project if the District determines that the existing documentation is legally compliant and adequately describes and analyzes the impacts of the applicant's proposed use of District property.

8. For any District-approved encroachment, the applicant must pay the District for any of the following measures, as needed:

    a. Design of structural protective measures
    b. Design of fences or other structures
    c. Corrosion control protective measures
    d. District engineering, plan review, and inspection of activities
    e. Environmental documentation
    f. Application, permit or license fees.

9. The plan for the execution of the work must be approved by the District.

10. The type and weight of equipment working over the aqueduct must be approved by the District.

11. The use of vibratory compaction equipment is prohibited on the aqueduct right-of-way unless otherwise approved by EBMUD. Allowable compaction effort, allowable equipment, and maximum depth of each lift of fill shall be subject to District review and approval before start of construction.

12. A minimum of 48 hours notice must be given to the District before work commences. To contact the District by telephone, call: the Aqueduct Section's Stockton Office at (209) 946-8000.

13. A preconstruction meeting is required prior to start of work.

14. No building or portions of buildings shall be constructed on the property. No other types of structures shall be constructed unless specific approval is given by the District.

15. No longitudinal encroachments such as drainage ditches; gas, phone, or electrical lines; pipelines, or roads will be permitted. All property line fences (including footings) must be located completely outside the aqueduct property lines.

16. No pile driving will be allowed within 100 feet of the aqueducts.

17. Railroad, freeway and highway crossings of the aqueduct right-of-way shall be on permanent bridges with a minimum vertical clearance of 14 feet 6 inches between the finished ground surface and the underside of the bridge. Crossings on grade will be over structurally-encased aqueducts with a sleeve for a fourth aqueduct.

18. Street and road crossings constructed on grade shall incorporate protection of the aqueducts. Protective measures will be designed by the District or by applicant's licensed engineer to District standards with specific District approval of each design.

19. Existing aqueduct protective measures such as concrete slabs shall not be cut, penetrated, or otherwise disturbed. If a protective measure is cut, penetrated, or disturbed, it shall be replaced with a new protective measure, designed by a District engineer or applicant's licensed engineer to District standards with specific District approval of design.

20. Traffic control fences or approved barriers shall be installed along each side of the street, road or trail before opening to the public.

21. Temporary construction fences and barricades shall be installed by contractor as directed by the District.

22. No geotechnical exploration such as drilling or boring shall be allowed on an Aqueduct right-of-way.

23. Any changes in finished grade must be approved by the Aqueduct Section. Earthfills or cuts on adjacent property shall not encroach onto District property except where authorized for vehicular crossings on grade and where the District determines that there will be no detrimental effect on the aqueducts or their maintenance.

24. Crossings shall be perpendicular to the aqueducts and on a constant grade across District property.

25. Sanitary sewers, water lines, petroleum product lines, or other lines crossing above the aqueducts must be encased in a steel, polyvinyl chloride (PVC), or reinforced concrete pipe conduit or be imbedded in reinforced concrete with a minimum vertical clearance of two (2) feet between the casing/embedment and the top of District aqueducts. The casing shall extend the entire width of the aqueduct right-of-way.

26. All pipelines crossing below the aqueducts must be encased in a steel or reinforced concrete conduit and provide a minimum of three (3) feet of clearance between the casing and the bottom of the District aqueducts.

27. Trenchless construction methods such as horizontal directional drilling or jack-and-bore between the top of the aqueducts and the bottom of the protective structure (slab) are prohibited.

28. On pressurized pipe crossings, shutoff valves shall be provided outside and adjacent to both sides of District property.

29. At the point of crossing, steel pipeline crossings and steel casings shall incorporate electrolysis test leads, bond leads, and leads necessary for interference testing. Corrosion control devices, when required, must be approved by the District.

30. Cathodic protection for steel encasements must be installed as follows:

    - Provide a dielectric coating to the exterior surface of the steel casing within the District's right-of-way, 16 mil epoxy or equivalent.

    - Provide galvanic protection to the portion of the steel casing within the District's right-of-way in accordance with the National Association of Corrosion Engineers RP-01-69.

    - If the carrier pipe is constructed of ductile iron or steel, provide electrical isolation between the carrier and casing using casing insulators; redwood skids are not permitted.

    - Provide test results to the District demonstrating the adequacy of the cathodic protection system, and the adequacy of the electrical isolation of the carrier (if metallic) from the casing. The District reserves the right to witness any such tests.

31. Gravity drainage of District property shall be maintained. Open channels constructed across the right-of-way shall be paved with reinforced concrete. Headwalls, inlets, and other appurtenances shall be located outside District property. Drainage facilities shall be provided outside the District's property at the top and/or toe of fill slopes or cuts constructed adjacent to District property to assure adequate drainage.

32. Overhead electrical power conductors across the property shall be a minimum of 30 feet above ground. Communication and cable TV crossings shall be a minimum of 20 feet above the ground. Supporting poles or towers shall be located outside the aqueduct right-of-way.

33. Buried electrical cables passing over the aqueducts shall be installed in PVC conduit and encased in red concrete across the entire width of the right-of-way. In some cases, PVC-coated steel conduit with a red concrete cap may be substituted. All other buried cables shall be installed in conduits and marked in the appropriate Underground Service Alert (USA) colored marking materials and with surface signs installed at 4-foot intervals that include the utility name, type, and emergency contact information across the entire width of the aqueduct right-of-way. The minimum vertical clearance between the conduit and the top of the District's aqueducts is two (2) feet.

34. Electrical or telecommunications cables passing under the aqueducts shall be encased in conduit and marked at both edges of the aqueduct right-of-way with the appropriate USA color coded markers. The minimum vertical clearance between the conduit and the bottom of the District's aqueducts is three (3) feet. For directional bored conduits the minimum vertical clearance is five (5) feet.

35. Vehicular parking and storage of equipment or material on aqueduct property are specifically prohibited.

36. Extraction of oil and gas from aqueduct properties may be permitted under appropriate lease agreements.

37. All District survey monuments and markers shall be undisturbed. If any District survey markers or monuments must be disturbed, they will be replaced or relocated by the District at applicant's expense prior to the start of any ground disturbing work.

38. All aqueduct crossings involving mechanical excavation on the right-of-way require potholing of all aqueducts at the site of the proposed crossing. Visible reference markings showing the aqueduct alignments and depths to top of pipe shall be maintained for the duration of any mechanical excavation on District property. Excavations within two (2) feet of aqueducts shall be made by hand. Entry permits are required for pothole work.

39. All grading or excavating of the right-of-way requires USA notification and the maintenance of a current inquiry identification number.

40. Certified six-sack mix is the minimum acceptable concrete batch to be used on the aqueduct right-of-way. Concrete compression strength shall be 3,000 per square inch (PSI) or better at 28 days. If samples do not reach 3,000 PSI at 28 days, the entire section of slab or encasement related to that sample must be removed and replaced at applicant's expense.

41. Each truckload of concrete to be placed on the aqueduct right-of-way may be sampled by the District. No water may be added to the mix after sampling.

42. Maximum allowable slump is three inches. All concrete exceeding three inches will be rejected and cannot be used on the aqueduct right-of-way.

43. No traffic will be allowed over protective slabs until 3,000 PSI is reached.

44. All work areas shall be inspected by the District for final approval. As-built drawing submittals are required for District approval.

45. No work is allowed on weekends or District-recognized holidays unless otherwise authorized in the required permit.

LAW OFFICES OF DANIEL F. REIDY
A PROFESSIONAL CORPORATION
P. O. Box 760
270 Blair Mine Road
Angels Camp, CA 95222
(209) 736-0712 Telephone
dfreidy@pacbell.net

RECEIVED
FEB 13 2017
Calaveras County
Planning Department

February 7, 2017

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

Re: Comments on Notice of Preparation of an Environmental Impact Report for the Proposed Calaveras County General Plan Update

In response to the Notice of Preparation of an Environmental Impact Report for the Proposed Calaveras County General Plan Update issued on January 18, 2017, this letter has comments and recommendations for the sections of the Environmental Impact Report on the General Plan Update that will address mineral resources in the County.

In general, the Resource Production Element of the General Plan Update contains a good number of appropriate measures to assess the potential environmental impacts of the presence of and any future extraction of mineral resources in the County and related mitigation measures. Below are some suggestions for additional points that should be included in the Environmental Impact Report:

1. Expand references to how future extraction of mineral resources can be a significant positive contribution to the economy of the County.

2. Suggest collaboration and cooperation of agencies with jurisdiction over the mining of mineral resources to positively promote the growth of this industry in addition to joint efforts to mitigate potential environmental impacts of future mining activities.

3. Include a reference on State law restrictions on suction dredging in streams, i.e. a technique used by miners to remove matter from the bottom of waterways with high-powered suction hoses, extract materials, and return the residue to the water. A moratorium on suction dredging imposed by the California Department of Fish and Game was recently upheld by the California Superior Court in a case out of Plumas County. (People v. Rinehart, issued August 22, 2016).

4. For existing piles of mine tailings left over from prior gold mining operations, include references to provisions for testing for the presence of hazardous or toxic substances in the tailings, such as arsenic, for assessment of potential harm due to human contact, and measures

for clean-up or containment, such as those that have been conducted by the U.S. EPA and California Department of Toxic Substances Control on mine tailings in Amador County.

5. For future extraction of minerals, either by on-surface mining or below-surface mining, include reference to measures for safe transport of mined materials off the sites for further processing or for delivery to markets. Also, include reference to measures to control any potential adverse air quality impacts from mining operations or from off-site transport of materials.

6. Include reference to the potential need to improve access to potential mineral mining sites, including measures to promote the granting of easements or roadway encroachments to enable access to sites for mining equipment and for ingress and egress of transport vehicles.

Sincerely,

Daniel F. Reidy

DANIEL F. REIDY

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC





January 31, 2017

Peter Maurer
Calaveras County

Sent by Email: gpupdate@co.calaveras.ca.us

RE: SCH#2017012043, Calaveras County Draft General Plan, Calaveras County

Dear Mr. Maurer:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

**CEQA was amended significantly in 2014**. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or

tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.
b. The lead agency contact information.
c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: sharaya.souza@nahc.ca.gov.

Sincerely,



Sharaya Souza
Staff Services Analyst
cc: State Clearinghouse

California Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

Central Valley Regional Water Quality Control Board

RECEIVED
FEB 13 2017
Calaveras County
Planning Department

10 February 2017

Peter Maurer
Calaveras County
891 Mountain Ranch Road
San Joaquin, CA 95249

CERTIFIED MAIL
91 7199 9991 7035 8487 3366

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, CALAVERAS COUNTY DRAFT GENERAL PLAN PROJECT, SCH# 2017012043, CALAVERAS COUNTY**

Pursuant to the State Clearinghouse's 18 January 2017 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environment Impact Report* for the Calaveras County Draft General Plan Project, located in Calaveras County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

## I. Regulatory Setting

### Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-2017-
TA-1146

FEB 14 2017

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, California 95249

Subject: Comments on the Notice of Preparation for the Environmental Impact Report for the Proposed Calaveras County General Plan Update

Dear Mr. Maurer:

This letter responds to a Notice of Preparation of an Environmental Impact Report for the Proposed Calaveras County General Plan Update. For your consideration, we would like to offer the following comments. These comments are provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*; Act).

The federally threatened plant species Chinese Camp brodiaea exists in two known locations in Calaveras County; along the banks of Sawmill and Black Creeks south of Copperopolis, and along the banks of Little Johns Creek, as well as in one location in Tuolumne County. Chinese Camp brodiaea is also listed by the State of California as an endangered plant species.

Changes to current zoning designations along Sawmill, Black or Little Johns Creeks that would allow for activities that may affect this species could result in consultation pursuant to the Act. The County should consider a regional planning approach that includes addressing rare plant and wildlife conservation. Such an approach could result in the avoidance or minimization of effects to state and federally listed species.

These comments are provided to assist you in your environmental review of the proposed project and are not intended to preclude future comments from the Service. Please address any questions or concerns regarding these comments to Valary Bloom, Recovery and Listing Division, at the letterhead address, telephone (916) 414-6600, or by electronic mail at valary_bloom@fws.gov.

Sincerely,

E. Tattersall

Eric Tattersall
Assistant Field Supervisor

the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

## II. Permitting Requirements

**Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

**Phase I and II Municipal Separate Storm Sewer System (MS4) Permits**[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

**Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

**Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

**Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

**Waste Discharge Requirements – Discharges to Waters of the State**

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

**Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

**Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently $1,084 + $6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

**Low or Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

**NPDES Permit**

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.

Stephanie Tadlock

Stephanie Tadlock
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

# Scoping Comments
# in response to the Notice of Preparation
# for the Calaveras County General Plan Update
# Environmental Impact Report




Submitted by

The Calaveras Planning Coalition

February 16, 2017

# Dedication



*"My question to you is why there are no Objectives that would measurably nail down the timelines, techniques and staff/programs necessary to accomplish our Goals?*

*"Thank you for taking time to answer my insecurities,*

*Cathryn Jackson"*

Comments on the Draft Water Element, January 2009

These scoping comments are lovingly dedicated to Cathryn Jackson, who participated actively in the General Plan Update, but who passed away before the plan was completed. From the inception of the General Plan Update, Cathryn's southern charm graced the halls of Calaveras County government. She smiled as she spoke of the need for a general plan update before the Board of Supervisors. She rolled up her sleeves and worked side by side with neighbors during the general plan workshops. She diplomatically navigated the meetings of Water Element stakeholder group. In public she shared her respectful tone in polite conversation with supporters and opponents alike. In these days of when good manners and good judgment seem to have vanished from national public discourse, her folksy wisdom and pleasant demeanor are sorely missed.

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2/16//17

Peter N. Maurer, Planning Director
Calaveras County Planning Department
891 Mountain Ranch Road
San Andreas, CA 95249

RE: Response to NOP for General Plan Update DEIR.

Dear Mr. Maurer:

My name is Tom Infusino, and I am providing these scoping comments on behalf of the Calaveras Planning Coalition (CPC). Please note that these scoping comments supplement previous comments we have made including two volumes of input for the Background Report submitted in 2007, comments on the Baseline Report submitted in 2008, comments on the draft setting sections for the general plan EIR submitted in March of 2013, policy input we submitted in August 2013, and comments on the draft general plan submitted in March of 2015. We strongly encourage you and your consultants to review these comments for background information and potential mitigation measures that would be useful as you prepare the General Plan Update DEIR. If you have misplaced your copies these documents, copies are available for your review on our website www.calaverascap.com .

As you know, the CPC is a partnership of member organizations, groups, and individuals. Its mission is to promote public participation in sensible land use and resource planning, ensuring a healthy human, natural, and economic environment. That is why we have been trying to constructively participate in the General Plan Update process since its inception in 2006. During the last decade we have assisted local residents to participate in public workshops, to comment on background studies, to review land use maps, to help in drafting elements, and to brief new planning directors as they enter the general plan update process.

The General Plan Update will set the County on a course that will affect many of the aspects of Calaveras County that residents value most, including our rural quality of life, our safety, our ability to travel freely, our property values; agriculture, scenic beauty, natural places, cultural and historical resources, rivers and creeks, dark night skies, and much more. As a locally-based organization largely made up of local residents and taxpayers, the CPC will continue to make a good-faith effort to put forward solutions to maintain these and other aspects of local life, and to craft a good, legally defensible

general plan. The EIR for the general plan is the first real, fact-based analysis of the impacts of the plan update on our communities and environment. It's critical for the County to get it right. Our scoping comments are intended to help the County do just that.

Much to our dismay, many of our recommendations have not survived the General Plan Update process, and in some ways the County has gone in the exact opposite direction. Of most concern to us at this time is the County's desire to develop a general plan that is primarily grounded in vague goal and policy platitudes rather than on clear directions to keep Calaveras County a safe, affordable, and attractive place to live, work, and play. We do not feel that there should be such equivocation is a document referred to as the County's Land Use "Constitution." We can't help but wonder if the freedoms that we so dearly treasure in these United States of America would have survived centuries of turbulent history, if our revered Constitution had read, "Consider the freedom of speech and assembly," or "Encourage the right to bear arms."

We live in challenging times. Never in recent history has there been a more critical time for our local leadership to inspire its people to band together and work for a better future. The County needs to lead, or to join, and it needs do so collaboratively—not by ignoring or worse, running roughshod over the concerns of many county residents and taxpayers who want a county grounded on both modern realities and our county's rich history. Through its actions on the general plan, the County can deepen the divisions that have emerged in the process to date, or work to heal them for the benefit of our communities. We strongly urge you to do the latter.

Following this cover letter is a list of those who have contributed to the drafting of these comments, along with their contact information. Please provide them with notice when the DEIR is available for review and comment.

Following the list of contributors is a detailed set of general recommendations to follow in preparation of the General Plan Update EIR. These recommendations are based upon the CEQA Guidelines, CEQA case law, and our experience reviewing environmental review documents over the last decade. We strongly encourage you to follow these recommendations, and to avoid the pitfalls they identify. We have watched as our neighbors to the north, El Dorado and Amador counties, completed general plan updates in 2015 and 2016 that ignored this sage advice, and ended up in litigation It is in Calaveras County's best interest to develop a strong, clear, valid, and legally defensible EIR.

Following the general recommendations, there are specific recommendations regarding your evaluation and mitigation of specified impacts of the general plan. We strongly encourage the County to embrace these recommendations.

As you prepare the General Plan Update DEIR, we anticipate that the significant impacts may trigger the need for mitigation measures. In fact, you may need to reconsider policy suggestions that were unceremoniously jettisoned in earlier phases of the general plan update process. On the disk that accompanies these comments, we have provided

numerous sources of practical mitigation measures on the subjects of agricultural land protection, air quality, biological resources, child care, conservation and open space, economic development, fire hazards, global climate change, historic preservation, public services, trails, and water. Please use these sources as you evaluate impacts, develop mitigation measures; and draft objectives, implementation programs, and standards.

To help reverse this disturbing trend toward meaningless "politician speak" in the general plan, we have included a copy of the OPR 2003 General Plan Guidelines, and the 2015 Draft General Plan Guidelines, on the disk that accompanies these comments. Please follow the general plan structure suggested in those guidelines, complete with quantified objectives, implementation programs, and specific standards. Note the need for a comprehensive general plan that covers all important County issues. Note the requirement for general plan elements to be consistent with each other. For example, do not again approve a land use map with so much development potential that the County is hundreds of millions of dollars short of the funds needed to build the accompanying roadways. (Calaveras COG, 2012 Draft Regional Transportation Plan, p. 110.) Also, please follow OPR's recommendation to use mandatory language in policies. Without such mandatory provisions, the county cannot meet its obligations to include enforceable mitigation measures in the plan. (CEQA Guidelines, sec. 15126.2, subd. (a)(2).) The OPR General Plan Guidelines are more than just an excellent cookbook for developing a general plan, they are the State's official guidance in interpreting general plan law, and thus provide somewhat of a safe harbor for County's wanting tom meet their general plan responsibilities. We urge you to follow the OPR General Plan Guidelines and not to cut corners.

Finally, we want the County to acknowledge that there are divergent points of view on the general plan, and to separately engage these interests in crafting separate general plan alternatives, that would be comparatively and quantitatively evaluated in the EIR, along with the General Plan Project Description. This would best meet the purposes of CEQA to foster informed public participation and informed decisionmaking. We would be glad to work with you in the crafting of such an alternative.

We offer your fine staff our best wishes for their successful execution of the challenging tasks ahead. We hope that our County will lead the region by developing a general plan that makes ours a more healthy, prosperous, and attractive county in which to live, work, and play. Since an outstanding general plan EIR is an essential step toward achieving those goals, our hopes are entrusted to your capable hands.

Sincerely,



Thomas P. Infusino

P.S. Please retain a copy of these comments for the administrative record.

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# CHAPTER 1

## CEQA REQUIREMENTS FOR A GENERAL PLAN EIR

The goal of scoping is to solve "many potential problems that would arise in more serious forms later in the review process." (CEQA Guidelines, sec. 15083.) To ensure that everyone is clear on the County's CEQA responsibilities, this document will review the basic requirements of a program EIR on a General Plan. It will also make suggestions for constructive ways to integrate the CEQA process and the General Plan Update to utilize and inform public participation.

We strongly encourage the board of supervisors, county counsel, planning staff, and EIR consultants to review this information. We strongly encourage the County to strictly follow the CEQA Guidelines and case law referenced in this letter in order to promote the purpose of CEQA: to provide the greatest feasible protection of the environment. Developing a good and legally sufficient EIR will help the county avoid a successful challenge of its general plan EIR by any party, saving the taxpayers significant cost. Please note that the legal claims made below are supported by quotations from and citations to the Public Resource Code, the CEQA Guidelines, and to case law; much of it from the California Supreme Court and our own Third District Court of Appeal. We strongly encourage you to ignore consultants who tell you the information we provide here is incorrect without providing some accurate citation to contrary legal authority of equivalent weight. Remember, most of the EIRs found lacking by the courts have been written by such consultants.

Solving problems takes work on all sides. We have done our part to date by frequently stating our concerns regarding potential problems with the general plan and by participating in the general plan update process from its inception. **If you take issue with some of the guidance in these comments, which is intended to ensure full compliance with CEQA, we respectfully ask that you respond to us in writing and/or set up a meeting so that the issues can be resolved.**

We strongly believe that an adequate EIR is essential to informed public participation and decisionmaking. Unfortunately, we have seen other cities and counties try to circumvent the CEQA process during general plan updates, to avoid taking a serious look at alternatives and mitigation measures to protect the human and the natural environment. We urge you not to follow that path.

## A. FORMAT AND SUBSTANCE OF AN EIR

### 1) GENERAL STANDARDS

That the enactment or amendment of a general plan is subject to environmental review under CEQA is well established. (De Vita v. County of Napa (1995) 9 Cal.4th 763, 793-795; Muzzy Ranch (2007) 41 Cal 4th 372, 384.)

While judicial review of CEQA decisions extends only to whether there was a prejudicial abuse of discretion, "an agency may abuse its discretion under CEQA either by failing to proceed in the manner CEQA provides or by reaching factual conclusions unsupported by substantial evidence. (§ 21168.5.) Judicial review of these two types of error differs significantly: while we determine de novo whether the agency has employed the correct procedures, 'scrupulously enforc[ing] all legislatively mandated CEQA requirements' (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564), we accord greater deference to the agency's substantive factual conclusions." (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova, (2007) 40 Cal.4th 412, 435.)

"A program EIR, as noted, is 'an EIR which may be prepared on a series of actions that can be characterized as one large project' and are related in specified ways. (Cal. Code Regs., tit. 14, § 15168, subd. (a).) An advantage of using a program EIR is that it can '[a]llow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.' (*Id.*, § 15168, subd. (b)(4).)" (In re Bay-Delta (2008) 43 Cal.4th 1143, 1169-1170.)

"[T]he 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (Communities for a Better Environment v. California Resources Agency (2002) 103 Cal.App.4th 98, 110; citing Laurel Heights Improvement Association v. Regents of University of California (1988) 47 Cal.3d 376, 390.) When trying to determine if staff, or consultants, or the Board of Supervisors are proceeding properly with the EIR, the public must ask: Is what they are doing affording the fullest possible protection to the environment? If the answer is no, the County should do something else.

An EIR should employ "an inter-disciplinary approach that will ensure the integrated use of the natural and social sciences and the consideration of qualitative as well as quantitative factors." (CEQA Guidelines, sec. 15142.) EIRs should be "analytic rather than encyclopedic." (CEQA Guidelines, sec. 15006, subd. (o).) "The courts have favored specificity and use of detail in EIRs." (Whitman v. Board of Supervisors (2d Dist. 1979) 88 Cal.App.3d 397, 411 [151 Cal.Rptr. 866].) In Whitman, the Court found that the discussion of cumulative impacts lacked "even a minimal degree of specificity or detail" and was "utterly devoid of any reasoned analysis." The document relied on unquantified and undefined terms such as "increased traffic" and "minor increase in air emissions."

That means you may have to hire outside help to do technical traffic and air quality studies. That means you need to quantify impacts when impacts can be quantified. (See Attached Data Analysis Letter, 2010.) You can use qualitative analysis as well, but not as a substitute for otherwise available quantitative analysis. You can't just say traffic will get worse; you have to do the math and show how a conclusion was reached.

EIRs must be "organized and written in a manner that will be meaningful and useful to decisionmakers and to the public." (Pub. Resources Code, sec. 21003, sub. (b).) EIRs should "emphasize feasible mitigation measures and alternatives to projects." (Pub. Resources Code, sec. 21003, subd. (c).) At the end of the day, the EIR should have enough detailed information to allow the Board of Supervisors and the public to understand the choices among general plan alternatives, and to logically advocate for the one they think best. In the case of a General Plan EIR, we strongly recommend that the alternatives be sufficiently defined, and the analysis be sufficiently detailed, to allow the board to select any of the alternatives, without further environmental review or project description. We also encourage the County to be prepared to take the best components of

each alternative, and to combine them into a General Plan, even if supplemental environmental review would be required. We hope that you will not lose sight of the goal to produce the best plan, and to afford the fullest protection to the environment. Anything less is not in the interest of the county's taxpayers.

"The EIR shall cite all documents used in its preparation including, where possible, the page and section number." (CEQA Guidelines, sec. 15148.) "A conclusory statement 'unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind' not only fails to crystallize issues [citation] but 'affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives.'" (People v. County of Kern (5th Dist 1974) 39 Cal.App.3d 830, 841-842 [115 Cal.Rptr. 67], quoting Silva v. Lynn (1st Cir. 1973) 482 F.2d 1282, 1285.) A clearly inadequate or unsupported study will be entitled to no judicial deference. (State Water Resources Control Board Cases **(**App. 3 Dist. 2006) 136 Cal.App.4th 674.) "Argument, speculation, unsubstantiated opinion, or narrative evidence which is clearly erroneous or inaccurate … does not constitute substantial evidence." (CEQA Guidelines, sec. 15384.)

Proper citation is an often and needlessly neglected requirement that is of critical importance in an EIR. Without proper citation, an EIR is legally vulnerable and it will be nearly impossible for the County to formulate findings of fact.

Ultimately, the board will be required adopt findings of fact supported by substantial evidence in the record. The EIR is the summary of the record. The findings of facts rationally explain the board's findings based upon information in the EIR. When citations to the record back up factual statements in the EIR, which in turn back up the County's well-reasoned ultimate findings of fact, then the record forms tidy chains of facts and reason that support the County's findings. When that chain is broken by unsupported or uncited statements in the EIR, the chains of facts and reason fall apart, and the findings of fact fail to conform to the law. Information scattered in EIR or buried in appendix is not a substitute for good faith reasoned analysis. (California Oak Foundation v. City of Santa Clarita (2005) 133 Cal.App.4th 1219, 1239.)

The general plan background documents prepared in 2008 and 2014, and the draft setting sections distributed in 2013, frequently included uncited "facts" and outdated information. (See CPC Baseline Report Comments, 2008; CPC Comments on the Environmental Setting Section, 2013; CPC comments on the 2014 Draft General Plan.) The County should make sure to correct these problems in the EIR rather than carry them forward.

## 2) WHAT CONSTITUTES AN ADEQUATE EIR?

As noted above, the EIR should provide a sufficient degree of analysis to allow decisionmakers to make an intelligent judgment. In addition, it must reflect a good faith effort at full disclosure. (CEQA Guidelines, sec. 15151.) "A prejudicial abuse of

discretion occurs if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692, 712 [270 Cal.Rptr. 650].) A failure to comply with the law subverts the purposes of CEQA and thus cannot be deemed harmless, if it omits material necessary to informed decision-making and informed public participation. (Planning and Conservation League v. Department of Water Resources (App. 3. Dist. 2000) 83 Cal.App.4th 892).

That means that the EIR must admit the full truth about the proposed general plan, warts and all. If you are wondering whether the EIR is being done right, ask yourself, "Are we holding back any information that may reflect badly on the project or one of the alternatives when it comes to adverse impacts or infeasible mitigation? If the answer is yes, then disclose the additional information. CEQA requires full disclosure regardless of how any staff member, consultant, or decisionmaker may feel about the information.

## B. CONTENTS OF A DRAFT EIR

### 1. BRIEF SUMMARY

An EIR must contain a brief summary that identifies the significant effects of the project, the proposed mitigation measures and alternatives, the areas of controversy, and the issues to be resolved. (CEQA Guidelines, sec. 15123.) The most common EIR flaws in this section are the failure to admit the numerous areas of controversy, and the failure to comprehensively list the issues to be resolved. Since an EIR is used and commented upon by distant state and federal agencies, and by property owners who reside outside the county, there is an obligation to let these people know the controversies that have arisen, even if they may appear obvious to those who live in the area. Also, the list helps the public and officials to ensure that the stubborn issues do not get swept under the rug. Finally, these requirements are directly connected to the standard that the EIR reflect a good faith effort at full disclosure. There is no room for spin or denial in an EIR.

### 2. PROJECT DESCRIPTION

The project description shall contain the precise location of the project on a detailed map, the objectives of the project, a description of the project's technical, economic, and environmental characteristics, and a statement of the intended uses of the EIR. (CEQA Guidelines, sec. 15124.)

General Plan EIRs usually have no problems identifying the location of the project and providing a map. They often do *not* provide a sufficient project description to allow for proper quantitative analyses of impacts. This is another reason why quantified objectives are so useful in a general plan. They give the county the parameters need to evaluate the impacts of the plan. If the EIR ends up including phrases like, "It would be too speculative to assess the impacts of this general plan policy," then the project description is inadequate, and the general plan is substandard. For example, a policy to

"consider streamside setbacks in the future" is too speculative to allow for the evaluation of the impacts of future development on riparian areas. On the other hand, a policy that would "require 50-foot development setbacks from streams pending completion of a new and more effective standard in ten years," has sufficient specificity to allow for environmental review.

General Plan EIRs sometimes neglect to include a comprehensive list of the intended uses of the EIR. This list is needed to reassure the public that the County has properly consulted, during the EIR process, with the many agencies who will use the EIR in the future. It also helps to reassure the public that the County will continue to properly consult with these agencies as they implement their shared jurisdiction over county resources including land, water, highways, emergency response, wildlife, wetlands, and air quality.

"An accurate, stable, and finite project description is the sine qua non of an informative and legally sufficient EIR." (County of Inyo v. City of Los Angeles (3d Dist. 1977) 71 Cal.App.3d 185, 193, [139 Cal.Rptr. 396].) "A curtailed or distorted project description may stultify the objectives of the reporting process." (Id. at pp. 192-193.) A "curtailed, enigmatic or unstable project description draws a red herring across the path of public input." (Id. at pp. 197-198.) A project description should account for reasonably foreseeable future phases of proposed projects if they may change the scope of the initial project or its environmental impacts. (Laurel Heights Improvement Association of San Francisco v. Regents of the University of California (1988) 47 Cal.3d 376, 393-399 [253 Cal.Rptr. 426.]. An accurate and complete project description is necessary to fully evaluate the project's potential environmental impacts. (El Dorado County Taxpayers for Quality Growth v. County of El Dorado (App. 3 Dist. 2004) 122 Cal.App.4th 1591; Center for Sierra Nevada Conservation (App. 3 Dist. 2012) 202 Cal.App.4th 1156, 1171.) A description of the project is an indispensable component of a valid environmental impact report under CEQA. (Western Placer Citizens for an Agricultural and Rural Environment v. County of Placer (App. 3 Dist. 2006) 144 Cal.App.4th 890.)

The tragedy of starting with the wrong project description is that the project description is the foundation from which the rest of the EIR is constructed. When a project description is wrong, the impact analyses are wrong, the alternatives are wrong, the mitigation measures are wrong, and the findings of fact are wrong. There is no recovery from a flawed project description.

### 3. DESCRIPTION OF THE PROJECT'S ENVIRONMENTAL SETTING

"An EIR must contain an accurate description of the project's environmental setting. An EIR "must include a description of the physical environmental conditions in the vicinity of the project ... from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." (Guidelines, § 15125, subd. (a).) There is good reason for this requirement: "Knowledge of the regional setting is

critical to the assessment of environmental impacts.... The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context." (Guidelines, § 15125, subd. (c).) We interpret this Guideline broadly in order to "afford the fullest possible protection to the environment." (*Kings County Farm Bureau, supra*, 221 Cal.App.3d 692, 720.) In so doing, we ensure that the EIR's analysis of significant effects, which is generated from this description of the environmental context, is as accurate as possible." (Friends of the Eel River v. Sonoma County Water Agency (2003) 108 Cal.App.4th 859, 874.) An EIR must describe the physical conditions and environmental resources within the project site and in the project vicinity, and evaluate all potential effects on those physical conditions and resources. (County of Amador v. El Dorado County Water Agency (App. 3 Dist. 1999) 76 Cal.App.4th 931, 952.) "Finally, use of existing conditions as a baseline makes the analysis more accessible to decision makers and especially to members of the public, who may be familiar with the existing environment but not technically equipped to assess a projection into the distant future." (Neighbors for Smart Rail (2013) 57 Cal.4th 439, 455-456.)

Information on the setting may come from a variety of sources. This is why coordination with outside agencies is so important. Air quality data is available from the State Air Resources Board. Wildlife habitat data and fire risk maps are available from state agencies. Water supply information can be gleaned from utility district data.

Setting information in the form of both maps and numerical data is especially useful in a General Plan EIR, because of the large geographic scope of the project. It helps to know not only what the impact is, but where it will be felt. For example, it is not enough to say that 10 intersections will go to level of service F, it is also important to know where they are.

Among the most relevant aspects of the environmental setting that must be disclosed in an EIR, is that the agency must divulge harm to the environment caused by current and past mismanagement, and any efforts being made to remedy that harm that might affect the proposed project. (Friends of the Eel River v. Sonoma County Water Agency (2003) 108 Cal.App.4th 859, 874.) So often in the past, EIRs would list the regulatory setting, and then say that the impact will be mitigated by all these outside agencies, so the project impact will be insignificant. Too often however, these outside agencies had track records of failing to effectively mitigate significant impacts, and so should not have been relied upon for impact mitigation. In other instances, the outside agency plans specifically called for active efforts at the local level to mitigate the impact, and so when a local agency did not do so, but merely passed the buck back up to the outside agency, it resulted in a mitigation shell game without any effective on the ground fix. To avoid this in the future, the courts have gotten very strict about both identifying conflicts with other agency plans (as noted below), and about identifying regulatory failures. So for example, a lead agency cannot simply rely on the existing wastewater treatment plant to mitigate future water pollution impacts, if that plant has numerous past permit violations. Also, the past permit violations must be disclosed in the EIR as part of the environmental setting. An EIR cannot rely on current levels and techniques of law

enforcement to mitigate the impacts of crime, if there is a decade long history of increasing per capita levels of criminal activity.

Another important use of the environmental setting is in helping the County establish the proper thresholds of significance for impacts. "[T]he significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area." (CEQA Guidelines, sec. 15064, subd. (b).) An EIR can be ruled inadequate when it uses an inappropriate noise threshold for an area or adjacent use. (Los Angeles Unified School Dist. v. City of Los Angeles (1997) 58 Cal.App.4th 1019, 1026.)

When the proposed project involves changing land use designations or zoning, the potential impacts should be compared not only to what would occur under the existing plan, but also to the existing physical conditions. (Environmental Planning and Information Counsel v. County of El Dorado (3d Dist. 1982) 131 Cal.App.3d 350, 354 [182 Cal.Rptr. 317].) This is a key consideration in evaluating the impacts of a General Plan. The project description's impacts must be compared to the current environmental baseline at the time the NOP was issued. That is the current snapshot in time. In addition (not instead), the project description's impacts must be compared to the impacts of continued development under the existing general plan, during the time horizon of the new plan, and at plan buildout.

The setting section of the DEIR must discuss any inconsistencies between the proposed project and existing general plans and regional plans. (CEQA Guidelines, sec. 15125.) This requirement is especially critical in a General Plan EIR. The General Plan Guidelines encourage cities and counties to review the plans of other neighboring areas, and of other agencies with jurisdiction; and to tailor general plans to conform, so that all the government agencies are pulling in the same direction, toward the same goals, as citizens and taxpayers prefer. For example, it is ridiculous to try to designate new areas for intensive new development if the long-term plans of water supply and transportation agencies show that they cannot fund service to the areas. By identifying conflicts among plans in the DEIR, the County can work on ways to eliminate these conflicts in the final general plan.

"The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." (CEQA Guidelines, sec. 15064, subd. (b).)

## 4. SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

The environmental effects that must be considered in an EIR include, direct and indirect effects, short and long-term effects, physical changes in an area, potential health and safety problems, changes in ecological systems, changes in population distribution and concentration, changes in land use, effects on public services, and effects on natural resources including water, scenic beauty, etc. (CEQA Guidelines, sec. 15126.2, subd.

(a).) There is a good list of impact topics in the County's NOP. It is worthy to note that among the impact that must be evaluated and mitigated are the energy use and conservation impacts of the general plan. These should be evaluated in accord with Appendix F of the CEQA Guidelines.

A common mistake in General Plan EIRs is the failure to consider short-term significant effects. For example, if the County commits to full impact mitigation, but then only commits to developing that mitigation between years 5-10 of plan implementation, then the EIR must disclose that the impacts will remain significant in the short term, from 5 to 10 years, until the mitigation program is developed. "An EIR stating that in 20 or 30 years the project will improve the environment, but neglecting, without justification, to provide any evaluation of the project's impacts in the meantime, does not 'giv[e] due consideration to both the short-term and long-term effects' of the project (Cal. Code Regs., tit. 14, § 15126.2, subd. (a)) and does not serve CEQA's informational purpose well." (Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439.)

Another common mistake is trying to use the terms "Program EIR" and "tiering" as excuses to dodge analyzing critical environmental impact analysis at this time. "Calling it a 'program' does not relieve the County from having to address the significant environmental effects of that project. Respondents are therefore incorrect in asserting that the County may (1) deem the environmental effects of adopting the specific plan, whatever those effects may be, to be significant, then (2) approve the specific plan, and then (3) at some later time determine what the significant environmental effects are of the specific plan that has already been approved." (Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal.App.4th 182, 202-203.) "[A] decision to 'tier' environmental review does not excuse a governmental entity from complying with CEQA's mandate to prepare, or cause to be prepared, an environmental impact report on any project that may have a significant effect on the environment, with that report to include a detailed statement setting forth '[a]ll significant effects on the environment of the proposed project.' (Pub. Resources Code, § 21100.)" (Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal.App.4th 182, 197.) "'[T]iering' is not a device for deferring the identification of significant environmental impacts that the adoption of a specific plan can be expected to cause." (Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal.App.4th 182, 199.)

An agency must produce rigorous analysis and concrete substantial evidence to support a determination that the project's impacts are insignificant. (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692 [270 Cal.Rptr. 650].) The appropriate impact analysis process is as follows. The potential impact of the project is compared to a threshold of significance. If the impact is below the threshold, the conclusion is that the impact will be less than significant. If the impact exceeds the threshold, then mitigation measures are identified, and their contribution to reducing the impact is estimated. If there are feasible mitigation measures that can reduce the impact below the threshold of significance, the lead agency **is required to adopt them**, and the conclusion is that the impact is less than significant. If, even after adoption of all the

feasible mitigation measures the impact still exceeds the threshold, then the conclusion is that the impact is significant and unavoidable.

The common mistake is to skip logical steps in the above analytical process. Often an impact is deemed significant, an agency adopts a short list of mitigation measures, and then jumps to the conclusion that the impact is mitigated. There needs to be an evaluation of the *degree to which* the mitigation measures will reduce the impacts, and a determination of whether the residual impact remains significant. A good example of this process can be found in the attached CEQA guides to air quality impact analysis produced by Sacramento, and by the Bay Area Air Quality Management District.

Another common mistake occurs with school impacts, because mitigation fees are capped by the state, and deemed sufficient to reduce impacts to insignificance by law. As a result, many DEIRs skip the step associated with actually measuring the impacts. This is not permitted. An EIR is an impact disclosure document. Just because the mitigation is capped, does not exempt the lead agency from analyzing the impact. The residual impacts still need to be disclosed so that the public and the decisionmakers can make an informed decision. These "insignificant" impacts can easily run into the tens of millions of dollars, and can affect decisionmaking. In addition, increases in school attendance can trigger off-site impacts on traffic and public transportation that also need to be evaluated and mitigated. (Chawanakee Unified School District v. County of Madera (2011) 196 Cal.App.4th 1016.)

There are also special rules when it comes to evaluating water supply impacts. An EIR is inadequate for not disclosing possible alternative water sources and their impacts. In light of the uncertainty regarding future water supplies, the EIR "cannot simply label the possibility that they will not materialize as 'speculative,' and decline to address it. The County should be informed if other sources exist, and be informed, in at least general terms, of the environmental consequences of tapping such resources." (*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 373.)

Finally, it is important to remember that it is insufficient to disclose only the primary project impact without correlating it to the ultimate impacts on the human environment. (Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4$^{th}$ 1184.) Thus, it is not enough for an EIR to show the additional traffic trips on a highway for an entire day. That does not explain how a person's life is affected. The EIR needs to identify the time delay for somebody commuting during peak traffic periods on that road. That explains how the primary project impact affects real people.

## 5. MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS

CEQA requires agencies to adopt feasible mitigation measures in order to substantially lessen or avoid otherwise significant environmental effects. (Pub. Resources Code, secs. 21002, 21081, subd. (CEQA Guidelines, secs. 15002, subd. (a)(3),

15021, subd. (a)(2), 15091, subd. (a)(1).) A mitigation measure is something that avoids an impact, minimizes an impact, reduces the impact over time, restores the impacted environment, or compensates for an impact by providing substitute resources or environments. (CEQA Guidelines, sec. 15370.) The EIR must distinguish between mitigation measures proposed by a project proponent for inclusion in a project and those that, if included as conditions of approval, could reasonably be expected to reduce the level of impacts. (CEQA Guidelines, sec. 15126.4, subd. (a)(1)(A).)

The biggest mistake made in General Plan EIRs is the random rejection of mitigation measures without a rational reason. (Masonite Corp. v. County of Mendocino (July 26, 2013) 218 Cal.App.4th 230.) A mitigation measures is not infeasible simply because a member of the board of supervisors does not like it, is prejudiced against environmental protection, or doesn't believe in global climate change (for example). Whether a mitigation measure is proposed by staff, commenting agencies, or members of the public, it cannot be rejected without a reasoned analysis based upon facts in the record. (See CEQA Guidelines, sec. 15088, subd. (c).) We discourage the County from wasting valuable staff time trying to justify the rejection of mitigation measures that have proven effective in other communities. We encourage the County to embrace sound solutions to ongoing problems. When seeking mitigation measures, we encourage the County to review information provided in our appendix to these comments in the folder labeled "Mitigation Measures & Alternatives."

When approving projects that are general in nature (e.g. general plan amendment), agencies must develop and approve whatever general mitigation measures are feasible, and cannot merely defer the obligation to develop mitigation measures until a specific project is proposed. (Citizens for Quality Growth v. City of Mount Shasta (3 Dist. 1988) 198 Cal.App.3d 433, 442 [243 Cal.Rptr. 727]). *In City of Marina*, the program EIR on campus expansion identified needed mitigation for significant off-site impacts on drainage, water supply, traffic, wastewater management, and fire protection. Certification of EIR without adoption of a feasible mitigation measure was an abuse of discretion under CEQA. Adopting a statement of overriding considerations did not justify certification of the EIR absent adoption of the mitigation measure. (*City of Marina v. Board of Trustees* (2006) 39 Cal.4$^{th}$ 341.)

a. STANDARDS FOR THE ADEQUACY OF MITIGATION MEASURES

The administrative record must contain substantial evidence supporting the agency's view that the measures will mitigate the impacts. "A clearly inadequate or unsupported study is entitled to no judicial deference." (Laurel Heights Improvement Association of San Francisco v. Regents of the University of California (1988) 47 Cal.3d 376, 422 & 409 fn. 12 [253 Cal.Rptr. 426.]).

A common problem in a General Plan EIR is the philosophical collision between a county's desire to keep General Plan policies noncommittal, and CEQA's requirement that there be substantial evidence of a commitment to mitigation. On the one hand, counties are often poorly advised or lobbied to keep General Plan policies noncommittal

so that the County cannot be held accountable for policy failures. The County, besieged by numerous significant impacts associated with its laissez faire general plan, then seeks to rely on these noncommittal policies as part of their impact mitigation program. However, CEQA requires that mitigation measures be enforceable commitments. (Neighbors for Smart Rail (2013) 57 Cal.4th 439, 445.)

One way to resolve these conflicting requirements is the adoption of quantified Objectives or Standards in the General Plan, to complement a series of optional policies. For example, a General Plan program to protect agricultural lands could list a number of optional programs. The County can commit to investigating and trying some of these programs, and, for example, to not converting more than 5,000 acres of agricultural land to urban uses over the next 25 years.

"Because an EIR cannot be meaningfully considered in a vacuum devoid of reality, a project proponent's prior environmental record is properly a subject of close consideration in determining the sufficiency of the proponent's promises in an EIR." "In balancing a proponent's prior shortcomings and its promises for future action, a court should consider relevant factors including: the length, number, and severity of prior environmental errors and the harm caused; whether errors were intentional, negligent, or unavoidable; whether the proponent's environmental record has improved or declined; whether he has attempted in good faith to correct prior problems; and whether the proposed activity will be regulated and monitored by a public entity." (Laurel Heights Improvement Association of San Francisco v. Regents of the University of California (1988) 47 Cal.3d 376, 420 [253 Cal.Rptr. 426.]).

Another common mistake is the unfounded assumption that a mitigation program will fully mitigate an impact. As discussed above, if an agency or a program has a poor track record of mitigating impacts, then its future action cannot be relied upon for impact mitigation. For example, since the Regional Transportation Plan has a many hundred million dollar funding shortfall, it would be wrong to rely on the Regional Transportation Plan to mitigate future traffic congestion impacts. As the courts have noted, “[E]even where a developer’s contribution to roadway improvements is reasonable, a fee program is insufficient mitigation where, even with that contribution, a county will not have sufficient funds to mitigate effects on traffic.” (Endangered Habitats League v. County of Orange (2005) 131 Cal.App.4th 777.) We strongly recommend that mitigation measures be evaluated for their economic feasibility. Many consultants will say that this is not required, or that it is outside the scope of an EIR. But CEQA Guidelines, section 15131, subd. (c), requires economic analysis of mitigation measure feasibility.

### b. DEFERRAL OF THE FORMULATION OF SPECIFIC MITIGATION STRATEGIES UNTIL AFTER PROJECT APPROVAL

Generally, an agency cannot rely on mitigating a significant impact by developing a mitigation plan *after* project approval. "The CEQA process demands that mitigation measures timely be set forth, that environmental information be complete and relevant,

and that environmental decisions be made in an accountable arena." (Oro Fino Gold Mining Corporation v. County of El Dorado (App. 3 Dist. 1990) 225 Cal.App.3d 872, 884-885 [274 Cal.Rptr. 720].) However, this may be permissible if the agency displays a commitment to mitigating the impacts by identifying performance criteria that the measures must satisfy. (Sacramento Old City Association v. City Council of Sacramento (3d Dist. 1991) 229 Cal.App.3d 1011, 1028-1029; Friends of Oroville (App. 3 Dist. 2013) 219 Cal.App.4th 832, 838.)

A common mistake in General Plan EIR is the improper deferral of impact mitigation. Often a jurisdiction is poorly advised to make no commitments in the general plan that it can be held accountable for in the future. This advice is contrary to that in the State's General Plan Guidelines, and can result in the County's attempting to remain noncommittal in the policies it also wants to count as impact mitigation. That kind of deferral is not allowed by CEQA unless the County commits to achieving specific performance criteria through program implementation.

For example, the county could not rely on a policy like this for mitigation: "Consider adopting a mitigation fee program for the open space impacts of new development." There is no commitment, and no performance criteria. On the other hand, the County could rely for mitigation on a policy that said, for example, "Within four years of plan adoption, the County will develop an open space mitigation program, to protect 80% of the existing agricultural land in the County from conversion to other uses. The program components will be selected from among the following list of feasible protection measures." (Followed by a list of feasible options.) The latter policy establishes a time-specific commitment, a mitigation standard, and a list of possible actions, just as the court approved in Sacramento Old City Association. In this fashion, the County can provide for flexibility in program development, while still providing clear standards for achievement.

Again, it's critical to note that while CEQA allows flexibility in this fashion, it does *not* allow the County to avoid making specific commitments to mitigate impacts simply because someone may one day hold it accountable.

c. MITIGATION MONITORING AND REPORTING

Prior to project approval, the lead agency must adopt a reporting and monitoring program that is designed to ensure compliance during project implementation. (Pub. Resources Code, sec. 21081.6.) "The purpose of these requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded." (Federation of Hillside & Canyon Associations v. City of Los Angeles (2000) 83 Cal.App.4th 1252, 1260 – 1261)

A common mistake is based on the misconception that no mitigation monitoring plan is required at the time of General Plan approval, because General Plan law allows a County one year to develop an implementation plan. Actually, the Government Code provision that allows a County one year to develop an implementation plan predates the

CEQA requirement and asks for a more advanced set of work products. The CEQA requirement in the Public Resources Code still applies to General Plan EIRs.

Another common myth is that some General Plan policies are self-implementing, and therefore their role as mitigation measures need not appear in the monitoring plan. There is no such thing as self-implementing policies or mitigation measures. This term is generally erroneously applied to policies that actually add additional burdens within existing work assignments. For example, they add new staff responsibilities during project review or new enforcement burdens during inspections. These policies that serve as mitigation measures still need to be in the monitoring and reporting plan and their implementation needs to be assigned to a specific staff, as does the monitoring and reporting on their implementation.

For example, a new "self-implementing" policy/mitigation may call for project proponents to select a list of greenhouse gas mitigation measures to incorporate into their project, to achieve a 40% reduction in greenhouse gas emission. To monitor the policy implementation staff during project review may need to keep a running tab of the selected greenhouse gas mitigation measures adopted by projects. Monitoring policy effectiveness may entail appointing building inspectors to see that the mitigation measures selected are actually installed. The inspector may have to report back to planning staff as to whether the condition of approval was complied with, and a final map can be issued. These mitigation monitoring responsibilities need to be spelled out in the monitoring and reporting plan.

## 6. ALTERNATIVES TO THE PROPOSED ACTION

### a. GENERAL PRINCIPLES

An EIR must evaluate a range of reasonable alternatives to the project capable of eliminating any significant adverse environmental effects of the project, or reducing them to a level of insignificance, even though the alternatives may somewhat impede attainment of project objectives, or may be more costly. (Pub. Resources Code, sec. 21002; CEQA Guidelines, sec. 15126, subd. (d); Citizens for Quality Growth v. City of Mount Shasta (3d Dist. 1988) 198 Cal.App.3d 433, 443-445 [243 Cal.Rptr. 727]; (In re Bay-Delta (2008) 43 Cal.4th 1143, 1162-1167.)

"An EIR is required to "ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official." (*Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 197 [132 Cal.Rptr. 377, 553 P.2d 537].) Therefore, "[a]n EIR must '[d]escribe a range of reasonable alternatives to the project or to the location of the project, which could feasibly attain the basic objectives of the project and evaluate the comparative merits of the alternatives.' (Guidelines, § 15126, subd. (d).) The discussion must 'focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives, or

would be more costly.' (Guidelines, § 15126, subd. (d)(3).)" (*Kings County Farm Bureau, supra,* 221 Cal.App.3d at p. 733.) This discussion of alternatives must be "meaningful" and must "contain analysis sufficient to allow informed decision making." (*Laurel Heights, supra*, 47 Cal.3d 376, 403-404.)" (Friends of the Eel River v. Sonoma County Water Agency (2003) 108 Cal.App.4th 859, 872-873.)

The lead agency, not the project opponents, has the burden of formulating alternatives for inclusion in an EIR. (Laurel Heights Improvement Association of San Francisco v. Regents of the University of California (1988) 47 Cal.3d 376, 406 [253 Cal.Rptr. 426].) "The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decisionmaking." (CEQA Guidelines, sec. 15126.6 subd. (f).)

The number of alternatives considered is limited by what is reasonably feasible. (Citizens for Open Government (App. 3d Dist. 2012) 205 Cal.App.4th 296, 312-313.) Throughout the development or the range of alternatives, keep asking yourself, "Are we fostering meaningful public participation and informed decisionmaking?" "Are we being unreasonable in eliminating an alternative from consideration?"

The law gives the County the right to define alternatives to the project description general plan. However, since the Board of Supervisors already supports the general plan project description, this can lead to problems.

One problem that crops up are alternatives insufficiently defined to allow for detailed comparison with the project description. We hope that the County will provide maps and text for the general plan alternatives, so that they can be fairly compared with the project description.

Another problem that comes up is the insertion of a poison pill into the alternatives that is not present in the project description. For example, the DEIR might come out with a project description that includes no proposed tax or fee increases, but the alternatives do. We hope that the County's EIR will be part of a General Plan Update process characterized by a fair competition of ideas so that the public can have faith in the result.

In this instance, there is a new problem. The Mintier and Associates draft general plan, that could have contributed to the development of a general plan alternative and mitigation measures, has been withheld from the public. This interferes with the interactive public participation processes that is needed in a general plan update, and is essential in the CEQA process. This is contrary to the notion of a broad and public administrative record. **This bad faith failure to disclose critical information that could be used to achieve CEQA's purpose to protect the environment, makes the general plan EIR hugely vulnerable to challenge by any aggrieved party**. In over 25 years of CEQA practice, I have witnessed counties and agencies that failed to evaluate a range of feasible alternatives in an EIR. However, I have never witnessed a County take

such extreme steps to prevent an alternative even being seen. No reasonable County seeking to approve a defensible general plan would take such action.

b. ALTERNATIVES DEEMED INFEASIBLE

An EIR must explain in detail why various alternatives are deemed infeasible. "Without meaningful analysis of alternatives in the EIR, neither the courts nor the public can fulfill their proper roles in the CEQA process. We do not impugn the integrity of the Regents, but neither can we countenance a result that would require blind trust by the public, especially in light of CEQA's fundamental goal that the public be fully informed as to the environmental consequences of action by their public officials." (Laurel Heights Improvement Association of San Francisco v. Regents of the University of California (1988) 47 Cal.3d 376, 404 [253 Cal.Rptr. 426].)

The essential ingredient in determining an alternative's feasibility if the assessment of the alternatives in relation to the objectives of the project. (Planning and Conservation League v. Department of Water Resources (App. 3 Dist. 2000) 83 Cal.App.4th 892.) Thus, it is important not to define the objectives so narrowly as to preclude the consideration of feasible alternatives. (Rural Land Owners Association v. Lodi City Council (3d Dist. 1983) 143 Cal.App.3d 1013, 1025-1026.)

When an alternative is found financially infeasible, some analysis of revenue and cost figures will be needed to support the finding. (Burger v. County of Mendocino (1975) 45 Cal.App.3d 322, 327.) The fact that an alternative project size might be less profitable and produce less tax revenue did not itself render the alternative infeasible, without evidence that the reduced profitability was sufficient to render it impractical to proceed with the project. (Preservation Action Council v. City of San Jose (2006) 121 Cal.App.4th 1490.) "[A]an EIR should not exclude an alternative from detailed consideration merely because it 'would impede to some degree the attainment of the project objectives.' (Cal. Code Regs., tit. 14, § 15126.6, subd. (b).)" (In re Bay-Delta (2008) 43 Cal.4th 1143, 1165.)

c. QUANTITATIVE AND COMPARATIVE ANALYSES

CEQA requires a "quantitative, comparative analysis" of the relative environmental impacts and feasibility of project alternatives. (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692, 730-737 [270 Cal.Rptr. 650].) As we stated in our letter of 2010, we encourage the County to prepare an EIR that will include quantitative and comparative analyses of the general plan project description and alternatives. (Attachment, Data Analysis letter 2010.) That includes running the traffic models, the air quality model, measuring agricultural land loss, estimating greenhouse gas impacts, calculating water supply impacts, and measuring noise impacts for the general plan project description *and all alternatives.* While a matrix of quantified impacts may be a useful way to provide a comparison, the mere ranking of alternatives by presumed but unsubstantiated impacts is not acceptable. This

is especially critical when doing a program EIR. A program EIR is supposed to, "Provide an occasion for a *more exhaustive consideration of effects and alternatives* than would be practical in an EIR on an individual action," and to "Allow a Lead Agency to consider *broad policy alternatives* and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts." (CEQA Guidelines, sec. 15168.)

d. THE IMPORTANCE OF ARTICULATING PROPER PROJECT OBJECTIVES IN FORMULATING A RANGE OF REASONABLE ALTERNATIVES

In the past, lead agencies have attempted to narrow the range of reasonable alternatives by defining the objectives so narrowly that there are no feasible alternatives to the project that meet its objectives. The courts have not allowed this. (Rural Land Owners Association v. Lodi City Council (3d Dist. 1983) 143 Cal.App.3d 1013, 1025-1026 [192 Cal.Rptr. 325].)

We feel the EIR should include a Success Through Accountability alternative. This alternative would balance the noncommittal goal and policy language with quantified objectives the County would strive to achieve, specific standards the County would enforce, identified programs the County would try to implement, designated funding sources the County would seek, and mitigation implementation and effectiveness monitoring the County would employ to track its progress.

This alternative would include a map and policies that better ensure the focusing of growth in existing communities. The plan would identify each individual communities existing ability to meet the needs of new growth, along with each communities needs to feasibly accommodate additional levels of development with transportation, water supply, wastewater disposal, and other infrastructure.

That alternative could, for example:

- Set public safety goals and threshholds for the creation of new parcels in areas classified as high or very hire fire risk, and to mitigate law enforcement impacts.

- Set circulation standards that address not only Level of Service, but also pedestrian access, bicycle facilities, noise, protection of habitat, cultural and historical resources, vehicle miles traveled, and scenic beauty.

- Set measurable objectives for the creation, maintenance, and enhancement of neighborhood and regional parks and recreation facilities.

- Set real, measurable standards to ensure continued preservation of agricultural lands, forest lands, open space, wildlife habitat, scenic beauty, and historic and cultural resources.

- Establish standards for protecting and maintaining natural, cultural and historical resources critical for local tourism and recreation income, including mines, prehistoric sites, rivers, lakes, trails, and scenic beauty.

- Establish standards that ensure the construction of workforce housing and child care facilities.

- Establish standards for green residential, commercial, and industrial construction.

- Establish standards for greenhouse gas reduction that would apply to all projects requiring a tentative map.

- Include performance measures and benchmarks to be met at years 5, 10, and 15 of the general plan, along with options to be implemented if the standards are not being met.

Additional components that may be suitable for including in this alternative are identified in Chapter 2.

A program EIR is supposed to, "Allow a Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts." (CEQA Guidelines, sec. 15168.) We feel that the above described alternative would provide the opportunity for the County and its citizens to consider a broad range of policy alternatives.

It seems obvious from public comment during the general plan update that some local residents like the county the way it is want a more safety-focused, low-cost, conservation-oriented general plan. We hope that County staff will again gather local groups and individuals together to help develop these alternatives, before time and money is spent on EIR technical analyses of straw-man alternatives having nobody's support. Such a set of straw-man alternatives would fail to "foster meaningful public participation and informed decisionmaking." (CEQA Guidelines, sec. 15126.6 subd. (f).)

e. THE "NO PROJECT ALTERNATIVE"

As suggested above in the environmental setting section, there can be some confusion when it comes to evaluating the "no project" alternative. An EIR must include an analysis of the "no project" alternative. (CEQA Guidelines, sec. 15126.6.) "When a project is the revision of an existing land use plan … the 'no project' alternative will be the continuation of the existing plan." (CEQA Guidelines, sec. 15126.6, subd. (e).) As noted above, the project description and the alternatives must also be compared to the existing baseline environment at the time the NOP was issued.

7. UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

An EIR must describe any significant impacts that cannot be reduced to a level of insignificance. (CEQA Guidelines, sec. 15126.2, subd. (b).) It is critically important for the EIR to try to express these impacts in quantitative and monetary terms whenever possible. This is because, at the end of the EIR process, the County is going to have to make a finding, based upon substantial evidence in the record, that the benefits of the proposed General Plan outweigh its environmental harm. It is essential that the magnitude of residual impacts be well defined for the County to make a supportable finding. In addition, an easy way to compare otherwise unlike impacts and benefits is to estimate their economic costs and benefits whenever possible.

For example, if one alternative will result in getting a $5 million sewage treatment plant for free, that is a $5 million benefit. On the other hand, if the alternative results in roadway impacts costing $10 million to fix, that is a $10 million cost. Thus, rather than struggling to try to balance sewage treatment benefits with traffic congestion impacts, it becomes a simple math exercise to compare the sewage treatment value to the roadway costs. (See, CEQA Guidelines 15141.)

## 8. SIGNIFICANT IRREVERSIBLE CHANGES

CEQA requires that an EIR for a general plan to identify the significant irreversible environmental changes caused by the project. (CEQA Guidelines, sec. 15126.2, subd. (c).) For a General Plan EIR, the primary impacts are likely to include the conversion of agriculture, forest, and mineral lands to other developed uses like residential development. The secondary impacts are likely to include the extension of road and utility infrastructure to previously inaccessible areas. The evaluation in the EIR is used to determine if such current consumption of the resources is justified, or if the resources should be conserved for future use. Please evaluate these impacts in the General Plan Update EIR.

## 9. GROWTH INDUCING IMPACTS

The EIR must "Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." (CEQA Guidelines, sec. 15126.2, subd. (d).)

Growth inducing impacts can result from a General Plan that sets out land use designations and public works projects that will remove barriers to growth.

For example, "Construction of the road way and utilities cannot be considered in isolation from the development it presages." (City of Antioch v. City Council of Pittsburgh (1st Dist. 1986) 187 Cal.App.3d 1325 [232 Cal.Rptr. 507].) "It is obvious that constructing a large interchange on a major interstate highway in an agricultural area where no connecting road currently exists will have substantial impact on a number of environmental factors." (City of Davis v. Coleman (9th Cir. 1975) 521 F.2d 661, 674-675.)

"It also is settled that the EIR must discuss growth-inducing impacts even though those impacts are not themselves a part of the project under consideration, and even though the extent of the growth is difficult to calculate. The case law supports this distinction. The court in *City of Antioch v. City Council* (1986) 187 Cal.App.3d 1325 [232 Cal.Rptr. 507] found that a project required an EIR notwithstanding that the project itself involved only the construction of a road and sewer project which did not in and of themselves have a significant effect on the environment. The court recognized that the sole reason for the construction was to provide a catalyst for further development in the immediate area. It held that because construction of the project could not easily be undone, and because achievement of its purpose would almost certainly have significant environmental impacts, the project should not go forward until such impacts were evaluated in the manner prescribed by CEQA. ( *Id.* at pp. 1337-1338.)" (Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 368.)

Growth inducing impacts can result from a General Plan that does not provide for a jobs - housing balance. For example, if the land use designations facilitate the creation of many low-paying jobs, but insufficient affordable housing for the workers, that affordable housing will need to be produced elsewhere. Thus the jobs-housing imbalance is growth inducing. Sometimes EIR preparers try to avoid the requirement to evaluate such growth inducing impacts using the excuse that such future growth is too speculative to evaluate. This excuse has not and will not work. "In *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144 [39 Cal.Rptr.2d 54], the court considered a proposed construction of a country club and golf course and attendant facilities. It was contended there that an EIR was not required because the growth-inducing impacts of the proposed project were too remote or speculative, and EIRs would be prepared in connection with any application for a housing development. The court responded, "The fact that the exact extent and location of such growth cannot now be determined does not excuse the County from preparation of an EIR.... [R]eview of the likely environmental effects of the proposed country club cannot be postponed until such effects have already manifested themselves through requests for amendment of the general plan and applications for approval of housing developments." ( *Id.* at pp. 158-159, fn. omitted.)" (Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 368-369.)

## 10. CUMULATIVE IMPACTS

"'Cumulative impacts' refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, sec. 15355.) In some cases, a cumulative impact "results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." (CEQA Guidelines, sec. 15355.) An EIR must discuss significant cumulative impacts, and/or explain why the cumulative impacts are not significant. (CEQA Guidelines, sec. 15130; Citizens to Preserve Ojai v. County of Ventura (2d Dist. 1985) 176 Cal.App.3d 421, 432; Citizens for Open Government (App. 3d Dist. 2012) 205 Cal.App.4th 296, 320.)

a. THRESHHOLDS OF SIGNIFICANCE

Problems often arise in evaluating the significance of cumulative impacts.

In many cases, the existing environmental conditions (e.g. air quality, traffic congestion, etc.) may already be cumulatively significantly impacted, even without the additional development in a general plan. At times, consultants have argued that in such situations, additional cumulative impacts should not be considered significant. The courts have disagreed. In fact, the courts have concluded the opposite. Namely, the more severe the existing environmental problems are, the lower the threshold for treating the project's cumulative impacts as significant. (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692, 718-721 [270 Cal.Rptr. 650].) The relevant question is whether any additional amount of effect should be considered significant in the context of the existing cumulative effect. (Communities for a Better Environment v. California Resources Agency (App. 3 Dist. 2002) 103 Cal.App.4th 98; Mount Shasta Bioregional Ecology Center (App. 3 Dist. 2012) 210 Cal.App.4th 184, 210-211.)

Another suspect approach is choosing thresholds that are so ridiculously large that the project's cumulative impacts are incorrectly judged insignificant. For example, too often EIRs of late have identified tons of project-related greenhouse gas emission, and then said that the impact is insignificant because the threshold is the entire state's production of GHGs. For the reasons noted above, this logic is flawed and the analysis is not compliant with CEQA. The County should avoid trying to minimize significant impacts by using ridiculously large thresholds.

b. SCOPE

The California Supreme Court has ruled that lead agencies have an obligation under CEQA to consider geographically distant environmental impacts of their activities. (Muzzy Ranch (2007) 41 Cal.4th 372, 377-388) The lead agency must justify its choice of scope for each cumulative impact analysis. (CEQA Guidelines, sec. 15130, subd. (b)(3).) The scope will be different for different impacts, because different cumulative impacts affect different geographic areas. For example, the cumulative air quality impact analyses of major projects should consider the cumulative impacts over the entire air basin. (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692, 721-724.) Similarly, cumulative traffic congestion impacts on inter-county highways will be felt across the county line, and the analysis should not stop at the county border. Cumulative impacts on localized wildlife populations may only come from local projects, while cumulative impacts on migratory wildlife may accrue from throughout their migratory range. Water removed from the Mokelumne River may not only impact local fish populations in Amador County, but also salmon and steelhead populations in the Delta.

c. DETAILED ANALYSIS

Quantitative data is often needed in cumulative impact analyses. "Absent some data indicating the volume of ground water used by all such projects, it is impossible to evaluate whether the impacts associated with their use of ground water are significant and whether such impacts will indeed be mitigated by the water conservation efforts upon which the EIR relies." (Kings County Farm Bureau et al. v. City of Hanford (5th Dist. 1990) 221 Cal.App.3d 692, 728-729 [270 Cal.Rptr. 650].) Where a "sophisticated technical analysis" is "not feasible" the lead agency is still bound to conduct "some reasonable, albeit less exacting, analysis." Citizens to Preserve Ojai v. County of Ventura (2d Dist. 1985) 176 Cal.App.3d 421, 432 [222 Cal.Rptr. 247]

d. MITIGATING THE IMPACTS OF INCREMENTAL DEVELOPMENT

"Assessment of a project's cumulative impact on the environment is a critical aspect of the EIR. [3] 'One of the most important environmental lessons evident from past experience is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant, assuming threatening dimensions only when considered in light of the other sources with which they interact.' " (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 720 [270 Cal.Rptr. 650], quoting Selmi, The Judicial Development of the California Environmental Quality Act (1984) 18 U.C. Davis L.Rev. 197, 244, fn. omitted.)" (Los Angeles Unified School Dist. v. City of Los Angeles (1997) 58 Cal.App.4th 1019, 1025 – 1026.) This statement refers to the phenomenon sometimes referred to as "death by 1,000 cuts."

When evaluating cumulative impacts and their mitigation, it is important to ensure that the mitigation applies to the projects causing the impacts, even if they are smaller projects of 10 to 50 units. Also, large development projects (250 units or more) are often preferred by public officials over smaller projects (10 – 50 units), because the large projects offer more impact mitigation and other community benefits, while smaller projects are often exempted from impact mitigation. This inequity need not be the case. As the County develops impact mitigation programs, it would be better to include smaller projects as well, so that they are not put at a competitive disadvantage in the competition for project approvals. In addition, mitigation programs with broader application will have a better chance at achieving mitigation objectives.

# Chapter 2

# Scoping Comments by Impact



Reservoir induced “Bathtub Ring,” Stanislaus River



# Section 2.1 Scoping Comments on Agriculture

## 1) BACKGROUND

Calaveras is blessed with over 212,000 acres of agricultural land. It is no surprise that over the last few years Calaveras County agriculture has produced 25 to 30 million dollars in sales annually, primarily from livestock, fruits and nuts, field crops, and timber. (Attached, Calaveras County, 2015 Crop Report.)

While we commonly refer to these lands as agricultural lands, they actually provide a great variety of benefits to our community, in addition to their annual production of agricultural products.

## A) Other Values Provided by Ag. Land

Ag. lands are a net fiscal benefit to local governments. Numerous studies show Ag. lands are a net fiscal benefit relative to developed uses, that tend to consume more government revenues than they produce.

Ag. lands help us meet our responsibility to be good stewards of many natural resources through groundwater recharge, storm water filtration and retention, providing fish and game habitat, maintaining endangered species habitat, preserving oak woodlands, carbon sequestration, soil conservation, air pollution reduction, establishing fire breaks, and sharing scenic beauty.

Our Ag. lands help us to carry on the areas rich history and traditions. Many local families want to carry on the agricultural tradition of their ancestors, some of whom date back to the days of the Gold Rush.

Our Ag. lands provide an important reserve of food and fiber production that supports our national security. So long as an army "marches on its stomach," wears leather, and builds things out of wood, the food and fiber produced on the Ag. lands of Calaveras County will be one of our major local contributions to national security.

Maintaining our Ag. lands preserves land use options for the future. As we pave over farmland, we take the option of farming it away from the next generation, who may value that farmland even more than we do. Their interests are not represented in the current economic competition for the land.

Our Ag. lands are an important component of the character development of our youth. Ag. land not only produces good food and fiber, the families who work it produce good people. We owe it to future generation to ensure that they will be as blessed as we are, by the fine community leaders and public servants that are raised on Ag. lands.

## B) Many Acres of Farmland are Converted to Development Every Year

Because Ag. lands are such a large and valuable component of the county land base, and because they are threatened by conversion to other uses, an adequate general plan would include proven methods to protect agricultural lands so that those lands will continue to produce a stream of both economic and non-pecuniary benefits long into the future. Unfortunately, to date Calaveras has been losing farmland to other uses at an alarming rate. According to the USDA, between 2004 and 2012, farm acreage dropped by over 50,000 acres. (Attached, Calaveras County, Crop Report 2004; Crop Report 2012.)

In response to the conversion of Ag. land to other uses, a number of concerned citizens drafted an Agricultural Element for the General Plan Update. (Attached, 2008 Draft Agriculture Element.) After reviewing the draft element, members of the community raised a number of concerns. As a result, the mitigation measure and

implementation details that would have reduced the impact of agricultural land conversion were removed from the General Plan Update project description.

As the general plan update progressed in 2010, consultants developed conceptual alternative maps for review and consideration by the Board of Supervisors. The UPLAN model was then used predict development of these mapped lands over a 30 year period. Under Alternative A, the model estimated that over 48,000 acres of Agricultural land and Residential-Ag. lands would have developed for housing. Under Alternatives B and C, the model estimated that over 29,000 acres would have been developed for housing. (Calaveras County, General Plan Update Alternatives Report, 2010, p. 55.)

In 2014, individual landowners sent in requests to have their land given a designation different than that on the proposed land use designation map. A number of these requests were to allow increased development densities on Ag. land properties. A total of over 18,000 acres in such new designations were proposed, and about 5,000 acres were approved by the Planning Commission.

**C) Ag. Land Conservation raises concerns that can be addressed.**

As noted below, the community concerns regarding the potential adverse effects of the proposed Ag. Element can and must be addressed so that the County can move forward with a feasible and effective set of Ag. land conservation strategies. Such feasible mitigation approaches cannot be rejected based upon bias and misinformation.

1) One comment raised during the Planning Commission review of the Draft General Plan was that the conservation of agricultural lands is not an appropriate activity for county government. Actually, the general plan law that empowers the County to approve land use development also makes the County responsible for preserving open space lands, including agricultural lands, whenever feasible. Similarly, although CEQA empowers the County to approve development projects with significant impacts, it also makes the County responsible for mitigating those impacts whenever feasible. The courts have held that requiring the purchase of conservation easements to offset the impacts of developing agricultural lands is an acceptable type of impact mitigation for local governments to employ. As much as they may wish this were not so, neither the Planning Commission nor the Board of Supervisors has the authority under the law to cherry pick their powers and ignore their responsibilities. If people want to make their arguments against agricultural land conservation in Sacramento to get the state to change the law, that is their right. However, the County has must comply with the existing law as it prepares its general plan.

2) Another concern expressed during the Planning Commission review was that permanent conservation easements may tie up land that is later unsuitable for agriculture, or more appropriately developed in the future. First, it is worth noting

that in other instances, conservation easements have been moved to other properties upon agreement of the parties granting and holding the easement. This could also happen with agricultural easements. Second, the County typically confers in perpetuity the right to develop agricultural land for residential and commercial uses. There is no guarantee that the owners holding those rights will relinquish them when the developed use is past its prime. There is no requirement that owners return those lands to agricultural production. Thus, conservation easements pose no more serious threat to the future efficient use of land than other land use entitlements. Finally, as expressed by the state laws seeking to conserve agricultural lands, the people of California recognize that while there is ample space to convert to developed uses, there is a limited amount of productive agricultural land. As a result, the State of California and the counties within it are tasked with the effort to conserve these lands for future generations.

3) One concern is that the loss of property value if the Ag. land cannot be developed. One adverse effect of this loss in value is that it limits the ability of the owner to get loans from the bank to invest in continued agriculture on the property. This objection can be addressed by employing Ag. land conservation strategies that maintain the value of the agricultural land. For example, an Ag. land easement and/or County policy could allow an owner to cluster available development density onto a small percentage of the Ag. land, while maintaining the remainder permanently in agriculture. Thus, the owner retains the potential for valuable development that the banks look for when evaluating loans. Another approach is to encourage and seek funding for long-term conservation leases that could protect the agricultural, scenic and natural values of the land for 50 years while providing a reliable revenue stream to landowners for managing their land just as they do today.

4) Another concern is that Ag. land mitigation requirements would lower the value of Ag. land for conversion to developed uses, since the mitigation is costly. This depends on the type of mitigation proposed. In the example provided above, there is no need to reduce the value of the land to mitigate the conversion impacts.

   Of course, there are other mitigation strategies that require a developer to purchase conservation easements on other Ag. lands before developing his own. While it is true that such a strategy would lower the value of the land to be developed, it also has the affect of *improving* the economic viability of the remaining Ag. lands. Thus, there is no net loss, merely a transfer in value and the creation of a mitigation market that can be highly profitable to those who wish to stay in agriculture. As noted above, Ag. lands provide a great deal of the scenic beauty and rural setting that is a key attractant of people to this area, and a key component of the area's real estate value. This benefit is currently not being

compensated in the market. Thus, this mitigation is merely providing a market mechanism to cure a market flaw, and improve its efficiency.

5) Another concern was that Ag. land conservation strategies could result in a loss of property rights. At this time, there are no rights to intensively develop agriculturally designated land on the County's land use map. Such intense development requires changes in the general plan and zoning that are at the discretion of the Board of Supervisors. Any process that requires such action by the county is not a fundamental property right. Similarly, recent CEQA cases have limited the Board's discretion, by confirming that they must employ feasible mitigation measures to mitigate significant impacts to Ag. lands. In addition, physical constraints and infrastructure limitations in the County preclude intense development of the entire inventory of the County's agricultural lands. Development of these lands will necessitate major investments of public and private funds for infrastructure that will not be available during the 30-year or so time horizon of the general plan. Thus, for many of these lands, the "property right" to develop to intense uses is illusory at this time.

   Furthermore, the intent of Ag. land conservation is not to preclude the development of all agricultural lands. There is acknowledgement that Ag. lands will develop. The strategies try to limit the adverse impacts of that development by limiting its footprint, and/or by securing conservation easements on other lands. They also try to enhance the economic viability of Ag. lands to provide more attractive options to conversion. Finally, they aim to help Ag. land owners to successfully negotiate financial management, estate planning, and land sales challenges in a way that conserves the agricultural lands.

6) A common complaint is that Ag. landowners want equal treatment with others who can change their land use designations and zoning. All land owners who seek to change their land use designations and zoning are treated equally in that they all must feasibly mitigate the significant impacts of their development proposal. All land owners who seek to change their land use designation and zoning will have their proposals evaluated for compatibility with surrounding uses. While some Ag. elements do include special standards that must be met before Ag. land is converted to intensely developed uses (e.g. buffers, fences, compatibility with neighboring uses, etc.), these standards generally deal with the burdens of impact mitigation and nuisance avoidance applied to all general plan amendments and rezones.

7) Some Ag. land owners expressed a desire to be able to develop some of their l and, and to keep other parts in agricultural uses. As noted above, that is a very viable Ag. land conservation strategy that could be employed in Calaveras County.

8) Some Ag. land owners expressed a desire to have the right to totally convert their land to non-Ag. use. As noted above, changing one's land use designation and zoning currently requires a discretionary approval from the Board of Supervisor. As noted above, the General Plan Update expects that some property owners will want to convert their land to intensely developed non-Ag. uses. As also noted above, CEQA requires mitigation of significant impacts associated with Ag. land loss. One purpose of Ag. conservation policies is for the County to publicly craft the most appropriate means for consistently meeting the CEQA obligation, when a property is totally converted from Ag. to another use.

9) Some commenters were concerned that Ag. land conservation could interfere with the orderly growth of existing communities, by preserving Ag. lands too close the communities, and triggering later leap-frog growth. An Ag. Element map can place a higher priority on preserving some Ag. lands, and a lower priority for preserving other Ag. lands. In addition, identifying suitable spheres of influence, or urban limit lines, can help to provide space for orderly growth of existing cities and town centers, while maintaining the separations among distinct towns.

10) Some commenters noted the need for financial compensation for Ag. land preservation. Of course that is needed. Programs for Ag. easements, conservation easements, open space districts, mitigation banking are all available options to meet this need. We believe the public at large would strongly support contributing to Ag. land preservation.

11) One concern is that requirements of buffers for developments adjacent to Ag. lands are uncompensated takings. For a buffer to be a taking, the buffer mitigation would have to be insufficiently connected to an impact of the development (e.g. no nexus), or disproportional to the impact of the development (e.g. not roughly proportional). The Ag. buffers and fences are usually provided to protect future residents from noise, odors, pesticides, and trespass by livestock; and to protect Ag. neighbors from nuisance law suits, trash, noise, and trespass by dogs and minors. The requirements for buffers and fences can easily be shown to have a nexus to the impacts of the proposed development. The County will have to design the buffer and fencing requirements so that the buffers are roughly proportional in size to that needed to mitigate the harm. For example, the size of the buffer should not be much larger than needed to mitigate the noise impacts and pesticide spraying impacts. In these ways, the County can avoid buffer requirements becoming an unconstitutional taking.

12) Another concern regarding Ag. buffers is that their non-development puts pressure on other Ag. lands to develop. In one sense this is correct, in that it takes more land to develop the same number of homes when there are buffers. Thus

buffers create pressure to develop more land. However, there are other factors that may reduce this pressure. Because buffers increase the cost of developing Ag. land, they make development of infill lands more competitive, thus decreasing the development pressure on Ag. land. Finally, because buffers limit threats to viable agricultural operations on neighboring land, they provide land owners with economic options to development, and thereby reduce the pressure to convert Ag. lands.

By addressing these concerns as noted above, the County can move forward with an Agricultural Element that specifies impact mitigation for the development of agricultural lands, and includes programs to assist in the long-term conservation of agricultural lands. This would be a feasible means of mitigating the otherwise significant impacts of agricultural land conversion associated with future development consistent with the General Plan Update map. This would help the County to comply with general plan law requirements to preserve open space lands.

## 2) Regulatory Framework

Ag. land conservation currently can involve a number of players.

In government, the State level, the Department of Conservation monitors the conversion of Ag. land to non-Ag. uses, but it does not regulate the loss in any way. Other state agencies, including the Sierra Nevada Conservancy, have programs to fund the acquisition of easements on Ag. land to protect oak woodlands and endangered species. While these may improve the economics of Ag. land uses, they do not keep the land in Ag. production per se. By contrast, the Williamson Act provides tax reduction incentives to Ag. land owners who agree to keep their land in agricultural production. However, since the Williamson Act subventions have been de-funded by the State, there is an even greater need for local Ag. land conservation efforts.

At the regional level, the County LAFCO can evaluate an annexation to a City for the potential impacts to Ag. land loss. However, unless the development of County Ag. lands requires annexation to a special district over which LAFCO has responsibilities, the issue of Ag. land loss does not reach LAFCO.

At the local level, the city and the County have the responsibility under CEQA to mitigate significant impacts associated with Ag. land conversion, but they do not have uniform or stable thresholds of significance, so Ag. land loss is often found insignificant. In addition, since they lack programs to mitigate the loss of Ag. land, they may consider the impact significant and unavoidable. Since CEQA has not been enforced by the State in Calaveras County, questionable government findings that allow for the unmitigated conversion of Ag. lands largely go unchallenged.

In the private and nonprofit sector, there are Ag. land owners and non-profit conservancies that can voluntarily enter into agreements to conserve Ag. lands for Ag. production or other conservation objectives. However, these private efforts are underfunded and understaffed.

Also, the real estate market is unregulated when it comes to paying for the amenities that Ag. land provides to home purchasers. Those amenities (open space, scenic vistas, bucolic splendor, etc.) are the cornerstone of the rural atmosphere that attracts people to live in this area. The value of those amenities is capitalized into the purchase price of the homes people buy. However, none of that money goes to compensate the Ag. land owners who provide the amenities. This market flaw results in the retention of too little open space. To correct this market flaw, other communities have created property transfer fees dedicated to the acquisition of open space easements.

## 3) Impact Analysis

An impact analysis begins with thresholds of significance.

The General Plan Update project description or alternatives would result in significant adverse impacts on Ag. lands if they would:

1) Convert a substantial amount of Ag. land and/or Ag. operations to non-agricultural uses,
2) Extend urban services and infrastructure to or through Ag. lands,
3) Create conflicts by expanding the interface between urban development and Ag. lands,
4) Reduce the availability of water to agriculture,
5) Conflict with or result in cancellation of Williamson Act contracts, or
6) Otherwise interfere with the economic viability of agriculture.

The General Plan project description or alternatives would result in significant adverse impacts on forest lands if they would:

1) Convert forest land to non-forest use,
2) Extend urban services and infrastructure into forest lands,
3) Create conflicts by expanding the interface between urban development and forest land,
4) Conflict with or result in removal of lands from the TPZ,
5) Increase the threat of stand-replacing wildfire in forested areas,
6) Result in unsustainable levels of harvesting of forest products,
7) Interfere with USFS or BLM land uses or management, or conflict with their local plans, regional guides, or national directives.

An impact analysis proceeds by identifying useful tools for evaluating the impacts. Where possible, in addition to describing the impacts in the text qualitatively, it

will be helpful to provide maps that provide geographic perspectives on the impacts, and tables that provide quantitative data. The maps and quantitative data are necessary to allow the public and decisionmakers to objectively compare the impacts of the project description and the alternatives. This information will also be essential to allow the decisionmakers to determine if the benefits of any option outweigh the unmitigated significant impacts. The County's failure to provide this information would not reflect a good faith effort at full disclosure.

Many aerial photos of Calaveras County, useful in identifying Ag. lands and forest lands, are readily available on the internet. By overlaying the proposed land use designation boundaries from the project description and the alternatives onto these photos, the DEIR would help provide a geographic perspective on the lands proposed for conversion to urban uses.

Similarly, County Ag. land maps can be reproduced with an overlay of the proposed land use designations of the project description and the alternatives. This will provide a qualitative and geographic perspective on the lands proposed for conversion to urban uses.

A map of the Williamson Act Contract lands and their proposed land use designations under the project description and the alternatives would geographically depict the areas where the conflicts with the contract will occur.

A map of the current TPZ lands and the proposed land use designations under the project description and the alternatives would geographically depict the areas where conversion pressure will be heightened.

Another useful overlay would show the existing utilities, and the planned extensions of roads, water, sewer, and power utilities into the forests and Ag. lands for the project description and the alternatives. This would geographically depict lands where conversion pressure will be heightened.

Finally, an overlay of the land use designations onto the map of ground water availability from the County's groundwater study would highlight isolated areas where scarce groundwater resources should remain set aside for agricultural use, and not allocated to more intensive development.

These maps can then be used to calculate the miles of interface between urban uses and Ag. /forest land uses for the project description and the alternatives.

The County has used the U-plan model during the general plan update process. Please employ U-plan to depict likely development patterns under the project description and all of the alternatives, at both the plan horizon year and at plan build-out.

In table format, please identify the acres of Ag. lands and forest lands subject to Medium or High conversion potential by the project description and the alternatives,

similar to the table EDAW produced for the 2004 El Dorado County General Plan EIR, seen below.

**Table 5.2-5**
**Agricultural Land Subject to Medium or High Conversion Potential[1]**

| Agricultural Land Category | No Project/1996 General Plan Alternatives[2] (acres) | Roadway Constrained 6-Lane "Plus" Alternative (acres) | Environmentally Constrained Alternative (acres) |
|---|---|---|---|
| Important Farmland | | | |
| Prime | 78 | 50 | 70 |
| Statewide Importance | 37 | 27 | 27 |
| Unique | 757 | 604 | 632 |
| Local Importance | 21,082 | 11,990 | 15,984 |
| Subtotal | 21,954 | 12,671 | 16,713 |
| Grazing Land | 40,783 | 28,715 | 21,689 |
| Choice Soils | 36,658 | 30,788 | 24,663 |
| Agricultural District/Agricultural Land | 172 | 287 | 0 |
| Williamson Act Contract | 4,582 | 216 | 242 |
| **Total** | **104,149** | **72,677** | **63,307** |

[1] For the purposes of this analysis, land with medium or high conversion potential is designated to be land defined in the General Plan for nonagricultural land uses: High-Density Residential, Medium-Density Residential, Low-Density Residential, Multifamily Residential, Commercial, Tourist Recreational, Research and Development, Adopted Plan, and Public Facility.

[2] Although the No Project and 1996 General Plan alternatives have the same land use designations, development intensity would differ. Under the No Project Alternative, development would be restricted to one dwelling unit per parcel regardless of size. Subdivision would be allowed under the 1996 General Plan Alternative.

Sources: El Dorado County Planning Department 2002, 2003; EDAW 2003

Also, in tabular form, please identify acres of each land use designations placed on Williamson Act Contract lands for the project description and the alternatives, similar to similar to the table EDAW produced for the 2004 El Dorado County General Plan EIR, seen below.

**Table 5.2-6**
**Land Use Designations of Williamson Act Contract Lands by Equal-Weight Alternative**

| General Plan Designation | No Project/1996 General Plan (acres) | Roadway Constrained 6-Lane "Plus" (acres) | Environmentally Constrained (acres) |
|---|---|---|---|
| Agricultural Land [1] | N/A | N/A | 32,768 |
| Adopted Plan | N/A | 0 | 2 |
| Low-Density Residential | 4,168 | 107 | 135 |
| Medium-Density Residential | 309 | 3 | 0 |
| Natural Resources | 5,480 | 34,551 | 7,458 |
| Open Space | 87 | 87 | 867 |
| Rural Residential/Rural Lands [2] | 31,704 | 6,999 | 1,297 |
| Tourist Recreational [3] | 105 | 105 | 105 |
| **Total** | **41,853** | **41,853** | **41,853** |

[1] The Agricultural Lands designation is used only in the Environmentally Constrained Alternative.

[2] The Rural Lands designation is used in the Roadway Constrained 6-Lane "Plus" and Environmentally Constrained alternatives; the Rural Residential designation is used in the No Project and 1996 General Plan alternatives.

[3] The Bacchi Ranch, which is under Williamson Act contract, includes a 98-acre portion that is separated from the bulk of the property by SR 49 and, in addition to being used as grazing land during winter, is used by river rafting companies under special use permits. For this reason, this portion of the property and the adjoining portion of SR 49 are designated Tourist Recreational.

Notes: Numbers may not total due to rounding. N/A = This designation is not used with this alternative.

Source: EDAW 2003

# 4) Mitigation Measures

The proposed Agriculture Element is plagued by provisions that are phrased in optional and promotional language rather than in mandatory and enforceable language. As yet, there are no quantified objectives or standards, in the General Plan Update to protect agricultural lands. As a result, many of these provisions cannot be relied upon for CEQA mitigation. To make these general goals and vague policies effective, it is essential for the General Plan Update to set quantified Ag. Land conservation objectives, and to select feasible implementation programs to achieve those objectives, and to mitigate Ag. land loss. Two to one mitigation for Ag. land conversion, or 200-foot setbacks for conflicting uses from Ag. lands, are good examples of quantified implementation measures. Such measures could be combined with others to form the open space action plan required in the general plan.

With regard to the Ag. land conservation policies in the general plan project description; we again encourage you to strengthen the policy language to give county government, Ag. land owners, nonprofit conservancies, real estate speculators, and land developers clear direction regarding their roles, rights and responsibilities.

In addition to the above modifications to the project description draft general plan policies, we also encourage the County to follow the suggestions of our member group the Foothill Conservancy. Although originally drafted for use in Amador County, they may have similar utility in Calaveras County.

**Ag preservation principles**

**(Drafted January 1, 2007)**

- Preserve agricultural lands for their economic, social, scenic, wildlife, watershed, and other values.
- Promote policies and programs that help keep land in agricultural use, both now and in the future.
- Avoid land use planning policies and practices that encourage or facilitate conversion of agricultural lands to other uses.
- Avoid infrastructure extensions or improvements that encourage or facilitate conversion of agricultural lands to other uses.
- Adopt mitigation policies for conversion of agricultural land to other uses to ensure no net loss of agricultural land.
- Ensure that increased commercial uses allowed on agricultural lands serve the preservation of agriculture rather than allowing or encouraging the conversion of agricultural lands or areas to other uses.
- Ensure that increased commercial uses allowed on agricultural lands do not require urban levels of service and infrastructure.

As seen below, many of the proposed General Plan Update policy strategies are well known and commonly used in other communities. However, their effectiveness depends on the implementation tools selected to give effect to the policies. The General Plan Update needs to select the type of implementation tools the County will employ to make the policies effective, and to mitigate Ag. land loss.

**Policy Strategies:**

- Direct Growth to Urban Centers
- Restrict Residential Development in rural areas
- Economic Incentives

- Boosting Local Farm Economies
- Agriculture Element in General Plan
- Reducing Conflicts at Farm-Urban Edge
- Higher Density and Infill development
- New Towns not on Ag. Land

**Implementation Tools:**

- Agricultural Zoning
- Williamson Act Contracts
- Right to Farm Ordinances
- Mitigation for Farmland Loss
- LESA – Land Evaluation & Site Assessment
- Ag. Buffers
- Conservation Easements
- Monitoring Farmland Conversion
- Resource Incentives to Landowners
- Urban Limit Lines
- LAFCO Annexation Reviews
- City & County Tax Revenue Sharing
- City & County Development Project Standards & Review Cooperation

(From: UC Extension, *Optional Policies and Tools for Farmland and Open Space Protection in California*, 2004.)

Case studies indicate that communities that include more than one strategy for Ag. land conservation are more likely to be successful.

| Case Study | Stabilize agricultural land use & values | Direct growth away from best farmland | Promote more efficient development | Finance permanent farmland protection | Promote agricultural economic viability | | |
|---|---|---|---|---|---|---|---|
| **Marin** Agricultural Land Trust & County Zoning | X | X | | X | X | | |
| **Monterey** County Agricultural & Historical Land Conservancy | X | X | X | X | | | |
| **Ventura** "Save Our Agricultural Resources" Initiative | X | X | X | | | | |
| **Napa** County Agricultural Land Preservation Initiative | X | X | X | | | | |
| **Tulare** County Rural Valley Lands Plan | X | X | X | | | | |
| **Yuba City** Sphere of Influence Adjustment | X | X | X | | | | |
| **South Livermore** Agricultural Mitigation Plan | | X | | X | X | | |
| **Yolo-Davis** Development Control & Tax Sharing | X | X | | | | | |
| **Visalia** Concentric Growth Boundaries | X | | X | | | | |
| **Gilroy-Santa Clara** Joint Growth Boundary Agreement | X | | | | X | | |
| **Sonoma** Agricultural & Open Space District | | X | | X | | | |
| **San Diego County** Plan for the Future of Agriculture | | X | | | X | | |
| **Fresno** Landscape of Choice | | | X | | | | |
| **Sutter** County Ranchette Zoning | | | X | | | | |
| **Davis** Farmland Mitigation Ordinance | | | | X | | | |
| **Fairfield** Mello-Roos Community Facilities Districts | | | | X | | | |
| **Martis Valley** Real Estate Conveyance Fees | | | | X | | | |
| Farmland Mitigation in **San Joaquin County** | | | | X | | | |

***(Case Studies in Ag. Land Protection, From American Farmland Trust)***

There are a number of keys to a successful program Ag. land conservation program:

- The program must be adopted by the County and/or City.
  (No adoption = No program)

- The program needs to inspire participation.
  (No participants = No program)

- The program needs an Ag. anchor.
  (Protecting land for trails, and habitat, and value added stores may not be enough to keep the land in Ag. production.)

- Multiple financing methods are best.
  (I.e. Private conservation easements, and mitigation fees, and public grants.)

- For mitigation: actual easements are better than in lieu fees.
  (You can't raise cattle in a bank account.)

- Your program needs management.
  (No staff = No program. There is no such thing as a "self-implementing" program.)

We encourage the County staff and consultants to gather both the proponents and opponents of the draft Ag. Element, along with representatives of the Planning Commission and the Board of Supervisors, to try to work out Ag. goals, policies, and implementation programs that all can support. This may involve both deleting policies or programs that the County has reconsidered, and adding other policies or programs that may work better in Calaveras County. Good ideas can be gleaned from the surrounding counties that have included or proposed Ag. land conservation policies in their general plans. This process may also involve locating some Ag. land conservation policies and programs to more suitable elements of the General Plan Update (e.g. Land Use, Housing, Conservation, Open Space, Safety, Noise, Economic Development) and cross referencing them in the Ag. Element. We believe this would be a fruitful process to achieve effective Ag. land conservation in Calaveras County.

# SECTION 2.2 - GREENHOUSE GAS EMISSIONS

## I. Background

The Introduction to the Calaveras County Draft General Plan describes it as a document that "guides rather than dictates." What that translates into throughout the document is a level of generality that provides little specific direction and few specific commitments. Throughout the 10 year General Plan Update process many of the Supervisors and Planning Commissioners involved have been resistant to state requirements or oversight, and skeptical about the reality of climate change. Therefore:

**The EIR process can greatly strengthen the General Plan by requiring that there be specific implementation steps, timelines, monitoring methods and naming of accountable personnel/positions for achieving the stated goals. Otherwise, the Plan remains largely at the level of intentions.**

Two clear commitments are at the heart of the document, and are forcefully stated: private property rights and economic development.

Even given these priorities, the issue of climate change must be addressed in the Environmental Impact Report, because not only is the State is requiring a robust response, but also because the changing climate will have enormous impacts upon the economic functioning and wellbeing of the County and its residents within the time frame of the General Plan.

The focus of these scoping comments is upon emissions of greenhouse gases (GHG). AB32, passed in 2006, called for a reduction of emissions of GHG to 1990 levels by 2020. Since 1990 levels were not determined for each county, the recommendation was for reductions of "…approximately 15 percent below emissions expected under a "business as usual" scenario." (Air Resources Board, Assembly Bill 32 Overview. https://www.arb.ca.gov/cc/ab32/ab32.htm)

The Calaveras County General Plan Update process commenced the same year as AB32 was passed. For emissions to be reduced, there must be a measure of baseline emissions. To date, there has been no such measurement. The need is addressed in COS-5B of the Draft Plan:

> "Undertake a greenhouse gas (GHG) emissions inventory to establish baseline levels of GHGs generated from all major emissions sources in the County consistent with the requirements of Assembly Bill 32 (California Global Warming Solutions Act)."
>
> COS-5C:
>
> "Develop a GHG reduction plan outlining the strategies, goals, and actions for contributing to the overall reduction in greenhouse gas (GHG) emissions consistent with AB 32."

The Update identifies responsible entities as the Air Pollution Control District, CAO and Planning Department. There are, however, no deadlines provided for when the inventory and resulting plan will happen. A calendar for the process needs to be provided, with interim steps

specified along the way, especially given that 2020 is probably only 2 years away from when this General Plan will be completed.

That is even more crucial now, since in 2016, the State passed SB32, which calls for reducing GHGs to 40% below 1990 levels by 2030. That is only 13 years away, and the County has not yet begun the necessary processes. Nailing down steps and accountability is crucial because the task is immense. Together the two laws call for a reduction of GHG emissions of 55% in the next 13 years. The argument can be made that the vast majority of California emissions are generated in urban areas, not in a rural county with 44,000 people and no heavy industry. Moreover, the County is in the unfortunate position of sitting between the emissions-producing coastal areas and the mountains, so many of the GHGs and other forms of pollution that arise elsewhere are trapped here.

Nonetheless, rural counties are not exempted from the legislation.

## II. Cumulatively Significant Impacts of Greenhous Gas Emissions

Climate change scenarios for Calaveras County have been developed by the California Energy Commission and are available on their website, http:caladapt.org/tools/factsheet. The Commission estimates that on average, under a high emissions scenario, Calaveras temperatures will rise 6.4 degrees by century's end, and under a low emissions scenario, by 3.7 degrees. These changes will impact areas identified in the General Plan Update as fundamental to the County's economy: agriculture, forestry, recreation and tourism (Int.1)

Warmer temperatures mean a smaller snowpack and earlier melting of that snowpack in the spring. That means:

- The possibility of water shortages for agriculture, animals and human use
- The gradual decline of winter sports, especially skiing and the ski industry
- Increasingly stressed upper elevation forests – which we are already seeing – with pest infestations, die-offs, and increased risk of severe wildfires, which in turn will both emit carbon into the atmosphere and reduce the carbon sequestration capacity of the forests, as well as reducing timber available for harvest
- Increasingly stressed oak woodlands
- A landscape increasingly unattractive to hikers, cyclists and other outdoor enthusiasts and perhaps less attractive to new residents
- Increased electricity demand, especially in summer

These climate trends are in place, and as population growth and some build out are likely, there will be cumulative impacts from the combination of climate changes and human activity. So a **mitigation measure** should be added to the Land Use Element stating that the County will work with the Air Pollution Control District to develop or use available metrics to estimate the likely increases of GHG emissions from new development and its associated traffic, and factor those

increases into the overall GHG inventory for the County (which will be updated regularly since there will be interim steps).

### III. Impact Mitigation and Compliance with AB 32 & SB 32

As with other general plan impacts, meeting CEQA mitigation requirements and meeting other planning requirements go hand in hand. Mitigation for greenhouse gas emissions from future development should be integrated with general plan programs to implement AB 32 and SB 32. So to address GHG emissions, the goal for the Calaveras County General Plan would be a 15% reduction from current levels as determined by the inventory (COS-5B), with a date set for that goal if, as is likely, it cannot realistically be achieved by 2020. An added goal in the Plan, given SB32, would be a 40% reduction from the 15% level by 2030, again with a timeline of interim steps and defined personnel accountability.

Traffic is a major producer of GHGs. This is a challenge for a rural county in which people have to cover long distances in their vehicles. But a specific State goal is the reduction of vehicle miles traveled.

> "While [in the] County LOS [Level of Service] has been used as a measure of impact analysis, recent state legislation (SB 743, codified as PRC §21099) now mandates that environmental impact analysis utilize a different metric: Vehicle Miles Travelled (VMT). The County will utilize VMT with California Environmental Quality Act (CEQA) analysis when new guidelines are adopted." (GPU, pp.C-1-2)

Use of the VMT guidelines together with the requirement to factor the GHG implications of any new development provide added incentive for the County to encourage infill and community-centered development, and energy-saving building methods.

Buildings and the built environment are another major source of GHG emissions and another realm in which emissions can be reduced. The Land Use Element of the General Plan Update identifies as two Implementations:

> LU 5.9 Encourage and facilitate the renovation and reuse of underutilized and vacant parcels, industrial sites, buildings, and retail centers. (IP LU-2D and LU-5G)
>
> LU 4.1 New development shall be designed to be compatible with the natural, scenic, and historic resources of Calaveras County. (IM LU-4A, LU-4C and LU-4F)

The Air Resources Board (AB32 scoping plan update, Appendix B: Local Action) provides many measures for new building and upgrades. We recommend the following be included in the GP Update to **mitigate** for GHGs:

> Adopt local ordinances to require energy-efficiency upgrades for existing buildings at the time of a major remodel or change of ownership
>
> Reduce permit fees and streamline permitting requirements for energy-efficiency- and renewable energy-related building renovations

> Implement building energy audit and retrofit programs and residential solar programs
>
> Incentivize energy-efficiency upgrades to existing buildings, where appropriate, upon issuing a permit for substantial modification
>
> Require that air conditioning and refrigeration units in new construction (and at major renovation) rely on refrigerants with low global warming potential (e.g., they use CO2 or ammonia instead of hydrofluorocarbons)

And this recommendation, from The First Update to the AB32 Scoping Plan, Appendix D: Local and Regional Efforts to Implement Climate Protection Strategies, Feb. 10, 2014:

> When determined to be feasible and achievable within the local jurisdiction, adopt "Tier 2" residential and commercial green building standards of the 2016 California Green Building Standards (CALGreen Code), or a third party green building certification such as the LEED or GreenPoint rating systems

And as with all implementation measures, include timelines, interim steps, and accountable personnel/agency/position information.

# SECTION 2.3 - LAND USE AND PLANNING

## I. EXISTING SETTING/BASELINE FOR LAND USE

*"The general plan must be based on solid data if it is to serve as the primary source of community planning policy."*
*"When preparing or revising a general plan, planners need an accurate picture of the existing land uses in the planning area."* (2003 General Plan Guidelines p.36)



*"Fire, post-fire removal of dead trees and marijuana have dramatically changed the landscape in central Calaveras County. From the air, it is vividly clear that much of the shady forest is gone, replaced by a patchwork of marijuana farms, graveyards of burned snags from last year's Butte Fire, and swaths of land clearcut to protect roads and utility lines... Meanwhile, a new type of agriculture is displacing the timber and beef production that once dominated here."*—Calaveras Enterprise, April 21, 2016, 'Makeover by fire, marijuana - Central Calaveras County gets a new landscape'

**Existing physical conditions and land uses in Calaveras County have changed significantly in recent years, and need to be updated and identified for the existing environmental setting and baseline for the EIR**. The following recent major land use changes are **not reflected** in the Technical Background Report or in the General Plan Update or Land Use Element:

- Rapid and extensive growth of commercial cannabis farms
- Large areas of forest, vegetation/ watershed, and homes destroyed by the Butte Fire
- Severe tree mortality from beetle infestations and drought.

**Cannabis farms**. There have always been cannabis grows in Calaveras County, but in recent years the number of farms has increased dramatically. Thousands of new, registered and unregistered, commercial farms have been developed, especially in 2016, and mostly in areas affected by the 2015 Butte Fire. The number of cannabis farms has been reported to be in the thousands, "There are now at least 1500 growers in the county" (Planning Staff Report to Board

of Supervisors, January 31, 2017). Impacts to the local economy, jobs, and population shifts have been significant. Reportedly, direct cannabis industry employment in 2016 was 2,605 jobs and there was over $251 million in sales (see attached 'Economic Impact Assessment of the Cannabis Cultivation Industry in Calaveras County', February 2, 2017). Negative impacts to public services have been tremendous, as cannabis registration processing, farm inspections, and enforcement/ abatement has overwhelmed staffing for the Sheriff Department, the Planning Department, and Code Enforcement. The Planning Department has a list of cannabis registrants with acreage and locations, the majority of which are in the Butte Fire area and District 2. Aerial mapping has been completed countywide, showing where both registered and unregistered cannabis farms are located. **The number, acreage, and location of existing cannabis farms in the county should be identified in the EIR.**

**2015 Butte Fire**. This 71,000-acre fire destroyed human lives, housing (888 structures), forests, and watersheds of the Mokelumne and Calaveras rivers. The fire also damaged roads, utilities, and other infrastructure. Many new cannabis farms moved into the Butte fire burn area; many long-time residents left the burn area. Neighborhoods have changed. **The impacts to the county from the Butte Fire should be thoroughly identified and quantified.**

**Tree mortality**. Climate change, drought, and beetle infestations have caused widespread tree mortality in the Sierra Nevada, moving over the last few years into Calaveras County. Especially hard-hit are pine trees in specific elevation ranges. Estimates are of nearly 700,000 dead trees in Calaveras. **The County's new aerial imaging and GIS mapping systems have the capacity and should be used to analyze and quantify acreage and numbers of impacted trees.**

There have been many impacts to the human environment from the above three major land use and environmental changes, including impacts to agriculture, timber production, aesthetics, community character, roads and traffic, water supplies and water quality, forests, quality of life, conflicts from incompatible uses, recreation, public safety, fire hazards, population shifts, new seasonal labor demands, loss of housing, increased need for farm worker housing, and much more. **Cannabis cultivation, Butte Fire, and tree mortality land use issues and changes need to be examined, quantified, included in the baseline for the existing environmental setting, and analyzed in the GPU and EIR**.

# II. IMPACTS & MITIGATION RELATED TO LAND USE.

## A) GENERAL PLAN UPDATE INTRODUCTION
## Vision & Guiding Principles, as Related to Land Use

The current draft Vision and Guiding Principles in the General Plan Introduction (pgs INT 1, 2) were edited by the Planning Commission, and do not adequately reflect the community's vision. The principles do not aim to protect open space, and do not reflect a balance between property rights and the public interest and natural environment. The emphasis is on protection of *private property rights*, to the exclusion of open space, scenic vistas, wildlife habitat, and the natural environment. In the edited principles, natural resources are only to be protected from "hazards." If resources are valuable, the "County government will respect and protect the property rights of people in their efforts to maintain or develop productive resources." Open space and wildlife habitat will only be "maintained" "by those who own, operate, or manage them", if they have "continued ability."

Where are our guiding principles for the protection of the public interest, open space, and the natural environment? The Planning Commission removed the following principle, gathered from many citizen workshops and suggested by the planning department: "*Open space, wildlife habitat, scenic vistas, agricultural lands, forests, rivers, and lakes will be protected and maintained for wildlife habitat, productive grazing and agricultural lands, and recreation.*"

In accordance with its revised Vision and Guiding Principles, the Planning Commission edited the General Plan policy document and Land Use Element, weakening goals and policies protecting and maintaining open space and natural resources and directing growth to existing communities (see comments under Land Use Element Impacts & Mitigations). **Deficiencies in protection language in the Vision and Principles are reflected in similar deficiencies in the General Plan and in its Land Use Element—lack of protection of the public interest, open space and natural resources. Please evaluate the impacts of deficient Guiding Principles and the ensuing policies.**

## B) LAND USE ELEMENT





*"At its best, the land use element will reflect the community's vision and promote thoughtful, equitable, and accessible distribution of different land uses, including residential, commercial, industrial, agricultural, and open space, as well as alignment with other general plan elements."*
(2015 Draft General Plan Guidelines)

## 1) BUILDOUT PROJECTIONS

Current 'Residential Buildout Projections' in the January 18, 2017, EIR Notice of Preparation have increased significantly from buildout projections in the current proposed GPU Land Use Element. We understand the statistics were updated based on the revised September 2016 General Plan Land Use Map. The November, 2015, Land Use Element section on Land Availability stated, "a more likely buildout scenario is approximately **23,000 new units**. At the current census rate of 2.41 persons per household, this could accommodate over **56,000 new residents**" (pg LU3).

**Buildout projections are now shown in the NOP at 27, 391 new units and 65, 949 new residents** (Tables 2 and 3). This is a nearly 20% increase in projected new units and population from 2015 to 2017. Is the new unit and population increase due to the more than 5,000 acres of increased density and development potential the planning commission allowed during land use map change request hearing in September, 2016? If so, where in Calaveras County did these increases occur? **In the DEIR, please explain the reason and the location of the recent 20% increases in new units and population.**

California **Department of Finance is projecting only 4,353 new units and 9,963 new residents** for the same planning period. **Current projections of 27,391 new units and 65,949 new residents are more than six times what the DOF projects Calaveras County will need**. There is already an oversupply of undeveloped 5-acre and other small parcels. Allowing and planning for excessive residential growth, especially Low Density and Rural Residential (land uses in Table 1 with the highest projected populations), could have significant negative impacts on our rural character, aesthetics, open space, circulation planning, infrastructure costs, and public services.

- **Please identify a more Moderate Growth Alternative in the EIR.**

## 2) LAND USE DESIGNATIONS & MAP

**Resource Production**. From Table LU-1, General Plan Land Use Designations, the description of Resource Production (RP) land uses includes:

> "This designation identifies those lands capable of and primarily used for agricultural operations, timber production and/or mineral resource production... **Resource Production Lands have the capability of being utilized for several resource production uses and/or compatible activities. The County's zoning code would allow for these multiple uses**."

- **Please evaluate the impacts of all allowable land uses in the Resource Production (RP) land use designation, and the affects on open space in Calaveras County.**

**New Future Specific Plan Designation**. A new category under Mixed Use Lands is the land use designation, Future Specific Plan (FSP). This was added to the GPU Land Use Map and Land Use Designation Table in September, 2016, for two proposed project areas. The 'Population Density' for FSP is "As determined by site designation*" and

"*See below for details of density and intensity of use." Building Intensity is marked "n/a" and is not specified.

> * Maximum Density and Intensity of Development for FSP, Future Specific Plan Designated Areas:
>
> 1. APNs 054-006-030, 054-006-031, 054-006-037, 054-007-003 and 054-007-019 – 580 total residential and lodging units.
> 2. APNs 064-029-049, 064-029-050, 064-029-052, 064-029-053 and 064-029-073 – 900 single family residential units, 550 fractional ownership/vacation units, 350 lodging units, 100-space RV park, and 70,000 square feet of commercial space.

The two new FSP Designated Areas total approximately 1,200 acres in the Copperopolis area, and include Sawmill Lake/ creek, and Table Top Mountain. These two FSP land areas are currently undeveloped, Zoned A1, and include critical habitat areas with threatened species, wetlands, steep slopes, and important viewsheds for the Lake Tulloch area. The potential intensity of development looks to be very high. *Doesn't the level of intensity of use need to be specified and located on these sensitive parcels in order to be able to evaluate the impacts of FSP developments on the existing setting, open space, wildlife habitat, and cumulative and regional impacts?* There is nothing in the FSP parameters that calls out building densities, on what portion of the parcels building will occur, or what percentage of the parcels buildings will occupy. ***There is nothing to preserve any percentage of open space, to protect critical habitat, and nothing to protect Lake Tulloch viewsheds***.

- **We request that the above concerns be evaluated and appropriate mitigations included for these FSP areas. <u>For the FSP designation, we suggest identifying and specifying that critical habitat and important viewsheds will be avoided and preserved, and specifying the percentage of open space to be protected (suggest 50% min.).</u>**

## 3) LAND USE ELEMENT TEXT IMPACTS & MITIGATIONS

> "*Some of the draft policies were of guiding and directing growth towards existing communities, and* ***while the community still feels development in communities is appropriate, the policies were modified somewhat to allow more development outside of those areas***," Maurer said. ('Planners OK general plan's land-use element', Calaveras Enterprise, November 10, 2015).

- **Please read the following comments on the Land Use Element, and address these concerns in the General Plan Update EIR. We have provided suggestions that may help remedy some areas of concern.**

### <u>a. Goals, Policies, Programs Weakened or Eliminated; Need for Improvement</u>

During its review in 2015, the Planning Commission edited and weakened goals and policies in the Planning Department's draft Land Use Element intended to create land use patterns and protections for open space, natural, scenic, and historic resources, and that directed growth to existing communities. Examples of these detrimental edits are given below. We have provided suggestions to remedy.

Goal LU-2, originally drafted by the Planning Department under Land Use Patterns as, "*A land use pattern that **maintains the open character** of Calaveras County, **sustain its natural resources**, **recognizes the physical constraints of the land** and the availability of infrastructure and public services, and ensures the long-term viability of resource-based industries*" was changed by the Planning Commission. Goal LU-2 now reads: "*A land use pattern that **allows those who own**, operate, or manage the productive resources in the county, **to maintain open space**, wildlife habitat, agricultural lands, mineral resources and forests*." This change weakens the original Goal's intention to protect and maintain county open space and natural resources, to protect current landowners from incompatible development, and to have land use patterns that direct growth to community centers with services.

- **PLEASE PUT THE ORIGINAL GOAL LU-2 BACK IN; ADD GOAL FROM THE EXISTING CALAVERAS COUNTY GENERAL PLAN**

"*A land use pattern that maintains the open character of Calaveras County, sustain its natural resources, recognizes the physical constraints of the land and the availability of infrastructure and public services, and ensures the long-term viability of resource-based industries*"
*"Goal II-3: Preserve and manage those lands identified as Natural Resource Lands for the future good of the general public."*

A Policy was then added by the commission that further weakened Goal LU-2 (LU 2.1, see below). Other Policies and Programs intended to implement the original goal were moved or eliminated (LU 1.2 and 1.12 below).

Policy LU 2.1 was added, "*Respect and protect the property rights of people in their efforts to maintain or develop productive resources*." **This policy does little or nothing to maintain and protect open space and natural resources in Calaveras County. This policy also does nothing to protect the property rights of current landowners from incompatible development in surrounding areas.**

Policy LU 1.2 "***Direct growth to existing communities...***", originally under Goal LU-2, was **moved** to Goal LU-1 and changed to "***Support growth in and around existing communities** while protecting and enhancing community and neighborhood character*". "Support" weakens the intention to direct growth; "in and around" existing communities makes the intention too vague to interpret or implement.

Policy LU 2.2, "Maintain availability of the Williamson Act contracts..." is the only other policy for Goal LU-2 (a land use pattern to maintain open character and sustain natural resources)., and the only implementation is "update the zoning ordinance." Williamson Act contracts are voluntary, and are not permanent protections for natural resource lands.

- **PLEASE PUT THE ORIGINAL POLICY LU 1.2 BACK IN, AND MOVE IT BACK TO GOAL LU-2**

*"Direct growth to existing communities while protecting and enhancing community and neighborhood character"*

There is also no implementation program listed under LU 1.2, although Measure LU-2E (originally LU-1F) 'Innovative Techniques' says "Implements Policy LU 1.2." But the program "Innovative Techniques", originally "Adopt standards for the application of clustered development, transfer of development rights (TDRs), or other innovative techniques that may

minimize development impacts on resource production or other sensitive lands" was also weakened by the Planning Commission. TDRs were eliminated, and the commission would not accept suggestions to include conservation easements, calling them "a destruction of development rights." **Measure LU-2E provides no implementation to support growth in existing communities, provides no permanent protection for resource lands, and does not clarify interpretation of "in and around" existing communities.**

- **PLEASE ADD PROGRAMS & MITIGATION MEASURES FOR POLICY LU 1.2 THAT EFFECTIVELY DIRECT GROWTH TO (NOT AROUND) EXISTING COMMUNITIES, AND THAT MAINTAIN OPEN SPACE AND NATURAL RESOURCE LANDS**

Policy LU 1.12 **ELIMINATED.** "**Community Areas shall not be expanded unless a finding is made by the Board of Supervisors that additional land area is necessary to accommodate growth in the County**" **was eliminated by the Planning Commission, as "a barrier to growth", deleting any restrictions on expanding Community Areas.** Of course, that was the point of LU 1.12—to discourage growth outside of community centers. **With no policy or program to guide community areas and growth, there is no barrier to endless expansion of Community Areas. This is growth-inducing.**

- **PLEASE PUT THE ORIGINAL POLICY LU 1.12 BACK IN, AND INCLUDE BUILDOUT CRITERIA TO DETERMINE WHEN DEVELOPMENT WOULD BE ALLOWED OUTSIDE COMMUNITY AREAS**

*"Community Areas shall not be expanded unless a finding is made by the Board of Supervisors that additional land area is necessary to accommodate growth in the County."*

**Buildout Criteria and a "finding" for expansion could be**: "*The community area is 75% built out, the proposed expansion is contiguous and forms a logical boundary; the proposal is accompanied by a specific project application that is consistent with Community policies, public water and wastewater are available and adequate.*"

Policy LU 3.4 **could actually encourage growth outside of community centers by *encouraging* infrastructure outside of existing communities**: "Infrastructure such as water and sewer and high capacity roads **shall be encouraged** within existing developed areas, **areas contiguous to existing communities**, **areas where future development is anticipated** by the General Plan as reflected in the General Plan land use map, existing, non-contiguous communities, and/or where essential to public health and safety." The original wording (originally Policy LU 2.4) was "shall not be extended unless..." but this was changed by the Planning Commission.

- **PLEASE PUT THE ORIGINAL POLICY WORDING BACK IN**

*"Infrastructure such as water and sewer and high capacity roads shall not be extended outside existing developed areas unless those areas are contiguous to existing communities, are in areas where future development is anticipated by the General Plan as reflected in the General Plan land use designation, to serve existing, non-contiguous communities, or are essential to public health and safety"*

Programs LU-3C and LU-3I ELIMINATED. Two Programs **recommended by the Planning Department to implement Community Character & Design policy were eliminated by the Planning Commission.** These program measures were intended to implement Policy LU 4.1

"***New development shall be designed to be compatible with the natural, scenic, and historic resources of Calaveras County***."

**Measures eliminated**:

LU-3C Hillside Development

*Draft Adopt a hillside management ordinance establishing acceptable hillside slope-related densities and alternatives for hillside construction standards that reduce grading and extreme physical alterations to topography.*

LU-3I Historic Design Standards

*Adopt historic design standards, or utilize existing standards or guidelines, to implement the Historic Community/Historic Mixed Use land use designation and zoning. Standards shall be unique to individual communities to recognize the architectural character of that community.*

With the elimination of these programs, new development will have no construction or design standards in place to ensure compatibility with natural, scenic, and historic resources, to protect hillsides from extreme grading, densities, and alterations to natural topography, or to ensure new construction is compatible in Historic Community Centers.

- **PLEASE PUT HILLSIDE DEVELOPMENT (LU-3C) AND HISTORIC DESIGN STANDARDS (LU-3I) MEASURES BACK IN (SEE ABOVE)**

We cannot find enough effective Goals, Policies, Programs or Mitigation Measures in the Land Use Element to adequately guide the general pattern of development in Calaveras County, to protect and maintain open space, agricultural lands, natural resources, community character, and to direct growth towards community centers and away from natural constraints. **Without adequate protection and direction, future growth and development will likely occur outside existing community centers, converting rangeland, and negatively impacting open space, wildlife habitat, forests, scenic, historic, natural resources, and public services; and increasing the costs of infrastructure borne by current and future residents**.

- **PLEASE ADD FEASIBLE POLICIES AND MITIGATION MEASURES IN THE LAND USE ELEMENT TO REDUCE IMPACTS OF DEVELOPMENT. SOME SUGGESTIONS ARE IN PART C BELOW**

**b. Implementation Programs—No Timeframes, Deadlines, or Funding**

Other than two 'General Measures', there are **no timeframes or deadlines in any Land Use Implementation Program Mitigation Measures, and no funding sources for implementation**. During the planning commission's draft GPU review and editing, there were opinions expressed that "deadlines were to be avoided" so as not to trigger legal challenges. This is an unnecessary concern, as mitigation measure deadlines can be changed as needed under General Measure 'Annual Work Plan' review and periodic 'General Plan Review.'

***Without timeframes for Mitigation Measures or funding sources, there is no clear path forward, no motivation for implementation of mitigations, and no clear way to create a priority list.*** **Implementation Programs need timeframes, funding, and mitigation deadlines to prioritize programs and actually mitigate impacts of the General Plan.**

- **PLEASE EVALUATE ALL LAND USE IMPLEMENTATION PROGRAMS AND MITIGATIONS IN THE EIR AND ENSURE THERE ARE CLEAR GUIDELINES, RESPONSIBLE PARTIES, SPECIFIED TIMEFRAMES, AND POTENTIAL FUNDING SOURCES**

## c. Additional Policies and Mitigation Measures to Reduce Impacts of Development

Suggested Policies and Programs to Add to the General Plan Update:

- Maintain parcel sizes outside of community growth boundaries large enough to sustain viable agriculture and discourage conversion to non-agricultural home sites

- Prohibit division of agricultural land for non-agricultural uses

- Require that the subdivision of agricultural lands shall only be allowed upon demonstration that long-term productivity on each parcel created would be enhanced as a result of the subdivision.

- Urban growth boundaries around county unincorporated communities with findings required for expansion.

- Clustering programs to preserve the best farmland, rangeland, and forestland, with conservation easements required on remainders, and 2:1 mitigation for all unavoidable conversions.

- Create and adopt an agricultural land and forestland conversion mitigation program and ordinance. Require compensation for loss of agricultural lands, including farm and rangeland, and forest lands. Establish appropriate mitigation ratios for the program or utilize a graduated mitigation mechanism. The mitigation ratio shall be a minimum of at least 2:1 (2 acres of farmland/rangeland/forestland protected through mitigation with land of equivalent value for each acre converted.) The program shall not present regulatory barriers to agritourism, agricultural services, and agricultural processing or uses compatible with timber harvest where such uses are permitted and where they are sited to avoid the best farmland/forestland. The program, where feasible, shall also establish mitigation within the agricultural/forestlands area where the conversion occurs as a preferred strategy. The program shall include a fee option and shall provide an exemption for farmworker housing, again ideally sited off of the best farmland and rangeland.

- Establish a resource mitigation overlay district within the zoning ordinance to encourage site and permit mitigation banks

- Development shall avoid, minimize and mitigate impacts to rare and special status species and critical habitat to the maximum extent feasible. Measures may include, but are not limited to:

- Clustering lots to avoid habitat areas and wildlife corridors
- Dedications of permanent conservation easements;
- Purchase of development rights from willing sellers; and
- Other appropriate means.

## C) COMMUNITY PLAN ELEMENT IMPACTS AND MITIGATION




"*This element provides a location for more detailed plans addressing individual communities' needs.*" (GPU pg. INT 6)

"*Individual communities make up the backbone of Calaveras County. Each is unique in many ways, but also share similarities with the other communities of the county. The purpose of the Community Plan Element is to identify the unique characteristics of these communities, the vision of its citizens, and provide policies to support and assist development and preservation of their social, economic, environmental, and historic assets.*" (GPU pg. CP 1)

We applaud and support the Board of Supervisors decision to include a Community Plan Element in the Calaveras County General Plan Update!
**But the element is incomplete and inconsistent:**
**1) Many communities and community plans are excluded**
**2) There are no implementation programs for community policies**
**3) An Alternative Community Plan Element should include Valley Springs**

With adoption of the GPU, communities that were *not* included in the Community Plan Element will have *existing community plans rescinded*, and other communities that submitted *draft* community plans to the county will have their *draft community plans excluded*. Exclusion from the General Plan means that individual and unique community needs and characteristics will not be addressed for the following communities: Arnold, Avery, Copperopolis, Ebbetts Pass, Murphys, and Valley Springs.

- **The Community Plan Element should include more Calaveras County communities and community plans, especially Valley Springs.**
- **The Community Plan Element needs Programs to implement its unique community plan policies.**

Please address *inconsistent inclusion* of Calaveras County communities and the *lack of implementation programs* for community policies in the EIR analysis. **We ask for inclusion of implementation programs for all community plan policies, and inclusion of as many community plans as possible. Without these, the plans will not reflect a commitment to mitigate the impacts of future development in these communities.**

- **A General Plan Alternative for the Community Plan Element should clearly include Valley Springs, the largest and fastest-growing area in Calaveras County**

Reasons to include Valley Springs:

1) **Support for inclusion of Valley Springs from the Calaveras County Planning Commission and Board of Supervisors**. On July 14, 2016, the Calaveras County Planning Commission gave direction to try to include the Copperopolis and Valley Springs community plan policy documents in the General Plan Update. On October 4, 2016, Planning Director Maurer told the Board of Supervisors about Commission direction for incorporation prior to EIR completion, and added, "We hope to incorporate Valley Springs and possibly Copper as we go through the [EIR] process". The Calaveras County Board of Supervisors then motioned & passed the General Plan Project Description for the EIR (see October 4, 2016, Planning Staff Report for "General Plan Project Description" and Director Maurer's verbal comments on the BOS meeting video for January 26, 2017).

2) **Valley Springs is unique**. Of course, all communities are unique, but Valley Springs stands out from other Calaveras communities due to its unique location, resources and growth pressures. The Valley Springs elevation (658 ft.) is the lowest of all Calaveras communities; its location in the most westerly part of the county is closest to Stockton, Sacramento, and the Bay Area for commuting purposes; there is more level and gently rolling land available attracting new development; lands are more suitable for bicycling and pedestrian use; vistas and viewsheds are more wide-open; there are more creeks with floodplains, farmland, mature heritage oaks and oak woodlands that need protection from development; the two major highways (SR 12 & SR 26) through town have led to more congestion and traffic to manage safely; there is a large population and greater development pressures; and there is a higher demand for sports fields, public parks, and recreational areas. Policies and programs in the Valley Springs Community Plan could address these unique development pressures, impacts and opportunities.

3) **Development pressures in Valley Springs**. There are tremendous development pressures in the Valley Springs area due to its unique location and resources. Project applications are pending for over 1,000 units of residential development (see Valley Springs 'Residential Projects' List at http://www.myvalleysprings.com/projects.html). New development will negatively impact the local environment without adequate mitigations to address unique local challenges and opportunities. Valley Springs' impacts cannot be adequately addressed in the General Plan Update with only "general" county policies. Provisions in the Valley Springs Community Plan could reduce or mitigate

impacts of development in Valley Springs, through specific community policies addressing Valley Springs historical features, view corridors, open space, conservation subdivision and commercial development design, traffic calming for high use pedestrian areas, community trails, local tourism and recreation, unique natural resources, heritage oak trees, steep hillsides, local riparian corridors and floodplains, crime prevention design strategies, and more (see Policies section in the attached Planning Commission Staff Report for January 26, 2017, "General Plan Update—Community Planning Element Valley Springs Community Plan").

4) **The Valley Springs Community Plan is ready**. Two completed drafts of the Valley Springs Community Plan were submitted to the County in 2010. These two plans were subsequently combined in the summer of 2016 and submitted to the Planning Department in September as a working draft. This working draft community plan "comparison" document was later revised by the Planning Department and condensed into a draft Valley Springs Section for the Community Planning Element, ready for a public hearing on January 26, 2017 (see the attached Planning Commission Staff Report for January 26, 2017, "General Plan Update—Community Planning Element Valley Springs Community Plan"). Once approved, the draft Valley Springs Community Plan Section of the Community Planning Element will be ready for inclusion in the General Plan Update.

# Section 2.4 – Noise




"Noise proves nothing. Often a hen who has merely laid an egg
cackles as if she had laid an asteroid."
Mark Twain

While noise may prove nothing, it is often an annoyance at least and a hazard at its worst. It can affect our mood and it can impact our health. "Sound" makes us think of bird song, the wind in the trees, voices of family and friends, kids playing, rain on the roof. "Noise" suggests ATVs, dirt bikes, large trucks, busy highways, machinery, rock concerts, construction, and generators.

What it comes down to, then, is when does sound become noise? And who decides?

## I. Setting, background, context

Calaveras County is small and rural. What residents value is a rural environment: scenic, quiet, a slower pace than cities and suburban areas. We do not have railroads or freeways. We have two lane highways, connector roads, and many small non-county maintained roads. People live in community centers, in rural residential subdivisions, and on farms and ranches. Criteria for noise would ideally be different in each of these areas. It is necessary to consider noise levels for residential areas, sensitive areas like hospitals and schools, commercial areas, recreational areas, farm and ranch lands, and housing and attractions for visitors. As one court put it, "It does not necessarily follow, and the EIR does not establish, an increase in the decibel level from 72.1 to 75.4 would have the same effect on a hearer trying to study in a classroom as a hearer waiting for a bus on a street corner." (Los Angeles Unified School Dist. v. City of Los Angeles (1997) 58 Cal.App.4th 1019, 1026.)

A quite complete analysis of the background for the Noise Element can be found in the 2008 Draft Baseline Report prepared by Mintier and Associates (Mintier Harnish).

Background noise measurements were conducted for the Calaveras Council of Governments by J. C. Brennan and Associates in 2013.

**A) Regulatory Setting**

The State of California Office of Planning and Research provides a table of Land Use Compatibility for Community Noise Environment. This can be found on page 11-11 of the 2008 Draft Baseline Report and on page 6 of the 2013 report by J.C. Brennan and Associates. In this table the Normally Acceptable range of noise for a residential area is between 50 and 60 Ldn. The same range is true for transient lodging, churches, hospitals, schools, libraries, nursing homes. Other more commercial or recreational uses begin also at 50 Ldn but have an acceptable range to higher levels (65-70).

Federal noise abatement criteria range from 52 to 72, with 52 dBA being the recommended level for interior levels of residences, schools, etc.

The Environmental Protection Agency sets 55 Ldn as the basic goal for residential environments, but admits that can be difficult to attain and allows up to 65 Ldn.

The Department of Housing and Urban Development states 65 Ldn is a level where all projects could be approved without mitigation.

It should be noted that these recommended numbers do not differentiate between urban and rural areas. In Caltrans Technical Noise Supplement, Traffic Noise Analysis Protocol 50 dBA is listed as “quiet urban daytime.” This would suggest that perhaps this would be the goal to aim for in a rural county.

**II. Impact Analysis and Levels of Significance**

“[T]he significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.” (CEQA Guidelines, sec. 15064, subd. (b).) Given the above data, it would suggest that in analyzing the impacts of noise levels in various settings in Calaveras County, and proposed in the current General Plan, levels at the lower end of state and federal regulations would be ideal. In Planning Commission discussion on noise policies, there was some discussion on whether State of California guidelines were adequate to our county situation. We believe that they went with State guidelines even as it was suggested that it might make more sense for them to be lower for a rural area. Please evaluate noise levels in the context of a rural area.

In the actual numbers in the J.C. Brennan report, while Ldn numbers of our major highways are often in the 60-70 range, the majority of our smaller roads do not really even get to 60. This suggests that evaluations of changes to noise levels for new projects need to be based on location, not a one-size-fits-all.

## III. Mitigation and Alternatives

In analyzing the Noise Element for possible mitigation, please consider the following:

1. The noise contour map on page N5 is still only a sample. Has it been replaced with the county map? It would be important to have the actual map.

2. Implementation measures 1A-1D are lacking in the specificity needed to analyze their impacts and effectiveness. When will the Noise Ordinance be updated and by whom? Who will determine noise reduction strategies and how will those be made available to developers? And how can we evaluate the effectiveness of noise reduction strategies if we are not told what they are? Who will evaluate truck route plans and by when? Who will generate the noise-management standards and best practices and by when? Will a developer have to go to the county planning office to know what these are?

   "Numerous cases illustrate that reliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decision making; and consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment. (See, e.g., *Gentry v. Murrieta* (1995) 36 Cal.App.4th 1359 , 1396 ( *Gentry* ) [conditioning a permit on 'recommendations of a report that had yet to be performed' constituted improper deferral of mitigation]; *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261 , 1275 [deferral is impermissible when the agency 'simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report']; *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777 , 794 ['mitigation measure [that] does no more than require a report be prepared and followed, . . . without setting any standards' found improper deferral]; *Sundstrom* , *supra* , 202 Cal.App.3d at p. 306 [future study of hydrology and sewer disposal problems held impermissible]; *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597 , 1605, fn. 4 [city is prohibited from relying on 'postapproval mitigation measures adopted during the subsequent design review process'].)" (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70) To qualify as mitigation, general plan provisions must identify the means to achieve specific performance criteria prior to the occurrence of the plan's impacts. (Sacramento Old City Association v. City Council of Sacramento (3d Dist. 1991) 229 Cal.App.3d 1011, 1028-1029.)

As alternatives, consider evaluating impacts:

1. Based on outdoor numbers in Table 1 that are 5 units lower (55 instead of 60).
2. Based on specific implementation measures that state who is responsible and by when these actions will be completed.

Studies referenced:

2008 General Plan Public Review Draft Baseline Report
2013 Calaveras County Council of Governments Background Noise Measurements

# Section 2.5 – Recreation



## I. Background

Historically, in Calaveras County, there was mining, timber, and a cement plant which were the equivalent of our "factory"; our economic engine. Today our "factory" is recreation-related tourism. Tourists come to the county to recreate all through the year. The future success of the recreation economy in Calaveras County could be insured with thoughtful land use decisions and planning.

Recreation is also a health and quality of life issue for Calaveras County residents.

People move here and also retire here because of the beauty of the area and the high level of outdoor recreation options that are available. With the increase in population and the increase in families with children, who are choosing to relocate to Calaveras County, different and expanded recreation facilities need to be planned for. Right now the softball leagues and soccer leagues facilities, for youth and adults, are maxed out and teams regularly have to travel great distances due to that lack of facilities. Skate park facilities have been high on the wish list for a lot of kids, for years, in the Valley Springs community. The recent addition of Disc Golf at some sites throughout the county has been very well received.

Cycling enthusiasts have exhibited a growing interest in enjoying their sport in our county. They should be accommodated and welcomed as an economic asset for the county.

One resident has mapped most of the existing trails contained in Calaveras County, and there are many. (See attached.) The Coast to Crest Trail has a section traversing Calaveras County. This segment is still under construction. The Coast to Crest also accommodates equestrian activity.

There are several large reservoirs where families can fish and enjoy boating, sailing and other water sports in addition to camping.

The recreation setting discussion EIR should include an inventory of existing recreational spaces and facilities, and an analysis of the current recreational demands of residents and tourists.

**II. Impact Analysis**

In addition to the growing recreation demands of the tourism sector of the economy, the EIR should assess future recreation demand based on population, demographic, and development trends.

**III. Impact Mitigation**

1) Including existing and planned open space for recreation on the land use map can help coordinate future development with anticipated recreational needs.

2) Plan recreational facilities equitably and with accessibility considerations, to ensure underserved communities are included.

3) The mitigation should include a diverse list of possible funding sources (federal, state, regional, local, private foundations, etc.). (CEQA Guidelines, sec. 15131, subd. (c).)

# Section 2.6 -Traffic and Circulation



*Concerned Citizens of Calaveras County v. Board of Supervisors (1985) 166 Cal.App.3d 90*

After defining "correlated," the *Concerned Citizens* court described a situation where correlation does not exist:

"We conclude the [Calaveras County] general plan cannot identify substantial problems that will emerge with its state highway system, further report that no known funding sources are available for improvements necessary to remedy the problems, and archive statutorily mandated correlation with its land use element (which provides for substantial population increases) simply by stating that the county will solve its problems by asking other agencies of government for money. To sanction such a device would be to provide counties with an abracadabra by which all substance in (Code) 65302's correlation requirement would be made to disappear."

> *Quote from State of California General Plan Guidelines 2003, Chapter 4: Required Elements of the General Plan-Circulation, Page 56, published by the Governor's Office of Planning and Research.*

## I. Background

**We continue to start off our comments with the above statement because nothing has changed.** This General Plan Draft continues to avoid acknowledgement of the County's inability or unwillingness to effectively address funding for roads and disclosing the factual status of our road system. Development is slowly recovering after a ten year lull, but the data and needed analysis of the system are still not available. RIM Fees and Benefit Basin fees are inadequate and out of date. The roads are increasingly congested and unsafe. Here we are doing a General Plan to carry this county to 2035 using information from 1988, in some cases.

IF THE PLAN IS TO ALLOW FUTURE DEVELOPMENT TO UTILIZE THE GENERAL PLAN PROGRAM EIR TO EXPEDITE THEIR REVIEW PROCESS, HOW WILL THAT BE POSSIBLE WITH THE LACK OF DATA AND ANALYSIS THAT AFFLICTS THIS GENERAL PLAN?

> *"The RTP recognizes that transportation needs exist beyond available revenues. These 'unfunded' projects reflect improvements and associated operations, maintenance, and rehabilitation that require funding outside anticipated revenues. These projects are included in Appendix 4M.* **The total cost of these unfunded projects is approximately $672 million."**
>
> (Draft Regional Transportation Plan (2012), page 110, emphasis added.)

An updated 2017 RTP will be out this next spring or summer. There are no expectations for an improved situation.

CALAVERAS COUNTY HAS ALLOWED HEAVY DEVELOPMENT FOR MANY YEARS WITHOUT ANY FEES IN PLACE UNTIL CITIZENS LEGAL ACTION FORCED THE COUNTY TO FINALLY START COLLECTING RIM FEES, BEGINNING IN 2004. OTHER LOCAL GOVERNMENTS AND CITIES COLLECT HIGHER RIM FEES, A VARIETY OF IMPACT FEES, SALES TAXES AND GAS TAXES FOR THE PURPOSE OF FUNDING INFRASTRUCTURE THAT IMPROVES THE SAFETY AND QUALITY OF LIFE FOR THE INCREASING POPULATION IN AN AREA. THESE FEES AND TAXES ALSO ALLOW A COUNTY OR CITY TO KEEP THEIR FACILITIES AND INFRASTRUCTURE TO A LEVEL THAT ATTRACTS BUSINESSES AND JOBS.

**The County had the 55th worst ranking out of the State's counties in deaths due to motor vehicle crashes. The County had the 53rd worst ranking in alcohol involved fatal and injury motor vehicle crashes.** (From 2005 MSR, Calaveras County LAFCO, Page lll-2.) Calaveras County roads are very unforgiving and many are also no longer safe for the motorist or pedestrian or bicyclist. LOS figures do not reflect that danger. We may look like a rural county but along with a 45,000+ population we have a growing tourist industry which brings 10, 20 or maybe 30 thousand people on a weekend to travel these unsafe roads. Accident rates are a measure of the level of safety on county roads. We can no longer accept the failure to fund our roads.

## II. Impacts and Mitigation

### A) Vague policies do not mitigate impacts.

The analysis of general plan impacts is complicated by the vagueness of the project description. It is particularly disappointing that policies that otherwise could mitigate the impacts are too vague to do so.

> *C 1.5 Actively seek all possible financial assistance, including grant funds available from regional, state, and federal agencies, for street and highway improvements and other transportation projects when compatible with General Plan policies and* ***long term local funding capabilities.***

**Please explain "long term local funding capabilities."** It could be helpful if the reference meant an increased TOT tax & a gas tax & a sales tax. Maybe then we could start paring down that $672 million circulation backlog the RTP mentions. Of course, another option is to limit future development to the capacity of the roadways that are actually on the ground or funded, and to direct development to those locations.

*C 1.7 Safety shall be the primary factor in prioritizing circulation system improvements and evaluating the ability of the County-maintained roadway system to accommodate traffic growth from new development.*

When a segment of road is experiencing a significant accident rate any new project should be denied until mitigation can remedy the problem. If a developer chooses to pay for that mitigation, an agreement would allow that developer to recover any amount above his "fair share" as future development occurs. In addition, if a project lowers the safety level of a road segment, the project should be denied.

**B) Evaluate Butte Fire Road Damage and its repair.**

The Butte Fire and tree mortality issues have dramatically increased stress on a large area of county roads and state highways in the area. The recovery process may address these extraordinary maintenance issues, but if not, that will be very challenging for Calaveras County to absorb. Please address this cumulative impact in the General Plan Draft EIR. How will this impact the overall road maintenance program in the County in the future?

**C) Evaluate the new access road for Pardee Reservoir.**

Residents of Valley Springs have expressed concern about large tanker trucks traveling down Daphne Street and traveling out to Paloma Road, delivering water treatment related chemicals to Pardee Reservoir. The fumes/emissions and noise are their concern. There has been some discussion at the County about a new access road, west of Castle Rock Mobile Home Park from Hwy 12/26, left for about 1 mile to Paloma Road, thus avoiding the residential area. This road, as any new road planned, should be evaluated in the General Plan EIR. The noise analysis section of the EIR should address the mitigation of these noise concerns as well.

**D) Relieve heavy truck traffic in residential neighborhoods.**

Another point of concern is the Hogan Quarry traffic on Silver Rapids Road, traveling to Hwy 26. The issues are time-of-day of traffic, noise (truck, jake brakes), and emissions from trucks. To mitigate these impacts in those neighborhoods where they will occur, consider policies that would allow specific

neighborhoods to reduce the impact of future truck traffic. The noise section of the EIR should address these concerns**.**

**E) Valley Springs Bypass**

The community of Valley Springs has known of a prospective bypass for over 42 years. We are glad to see that noted in the General Plan Draft.

**F) Effective Evacuation Routes**

During an emergency, such as to Pattison Fire (2004 ?), it becomes very apparent that we have a problem: a lack of connector roads. That fire came from West of Valley Springs, crossed Hwy 12 into Quail Oaks subdivision and burned all the way to Olive Orchard Road. At the same time a transformer exploded about a half mile East of Valley Springs adjacent to Hwy 12/26. People were stuck in town, some for the night. Some longtime residents were able to move around in a limited fashion because of their knowledge of back roads. Any visitors had no choice but to stay where they were until Hwy 12/26 opened again. These incidents show us the importance of evacuation routes and having the public informed. These routes need to be marked so visitors can effectively utilize them.

The Pattison happened on a very hot windy September day. It moved a mile in under 10 minutes. The Butte fire was totally different in scope.

To mitigate the impacts of the increased population on emergency evacuations, the General Plan EIR should identify means to improve our road system to help the residents and emergency responders of this county to survive, and to save as much value as possible.

**G) Directing growth in the amounts and to the locations where the roads are.**

Calaveras County has used State Highways as county roads for over 40 years. Caltrans has continually told county representatives how unproductive this is. The population went from 15,000 to 45,000 in that time frame. Two lane county roads with no shoulders or drainage and with limited safety features are no longer adequate. To successfully attract more businesses and jobs, we need to direct new growth to areas where road infrastructure is in place or is funded.

## H) Each of the unique small towns has their own unique issues.

### 1) San Andreas

San Andreas has significant traffic congestion issues, pedestrian safety issues, vehicle emission issues, parking and connectivity issues. As the County Seat, San Andreas has the traffic and pedestrian traffic of county government, CHP, Cal Fire, several schools, a significant amount of commercial traffic traveling to the east and timber trucks moving west. They have an un-adopted mobility plan that could begin to improve conditions. Please consider adopting the mobility plan as a means to mitigate the impacts of future traffic from buildout of the general plan.

### 2) The Highway 4 corridor

The Highway 4 corridor is made up of several small towns that experience the winter recreation traffic and tourist recreation for the other three seasons. They also live with logging truck traffic and all the traffic associated with their communities. Many residences are vacation homes and/or used as rentals. This area is also in a high fire danger area. The General Plan EIR should include mitigation measures to ensure that with future growth there will be well-maintained roads, adequate pull-outs to accommodate traffic flow, and well identified evacuation routes from the subdivisions and other development in this mountainous region.

### 3) The D2 area

The D2 is made up of scattered towns and subdivisions in another mountainous area and was the primary site of the Butte Fire. Highway 26 traverses some of this district but the remaining roads are county or privately maintained. Fire hazard is very high here. Evacuation routes are critical. People who live here are used to coping but we have many tourists frequenting the county for fishing, hunting, camping, and hiking. In General Plan EIR, please identify mitigation measures so that, despite future growth, this area will have effective evacuation routes, safe roads, and more pull-out and turn lanes where needed to manage traffic flow and safety.

## 4) Copperopolis

Copperopolis is projected to experience a significant amount of growth from the subdivision permitted but unbuilt, and from several that are planned for the future and designated on the General Plan Update land use map. There are already serious congestion and safety issues with the existing circulation and these conditions have existed for many years. Cumulative impacts on regional roads were not properly mitigated as projects were being approved. Additional road funding only started happening after several lawsuits emanating from citizens were successful. In the General Plan EIR, identify the major collectors in Copperopolis that must be expanded to accommodate the additional development. New development must not be allowed to degrade the quality of the roads.

## I) Transit

The residents of Calaveras County are very fortunate to have their transit system. This service has struggled against many odds and some Supervisors. There is a continuous effort to evolve the transit system and adapt to challenges and new needs. Depending on its density and location, new growth under the general plan may help to better fund the transit system, or it may degrade the systems effectiveness. In the General Plan EIR please explain what mitigation efforts decision-makers can do to continue to evolve the system. Please be open to unique possibilities and solutions.

Students from the Earth Club at Calaveras High School suggested that there is a need for early and late busses to the high school to help students participate more fully in after school activities, organizations and opportunities which help them achieve their long term goals. This need will increase as the student population increases from new development under the General Plan Update. Their request is that the transit service consider this possibility. Please consider this as a transit impact mitigation measure in the General Plan EIR.

# Section 2.7 – Growth Inducement





*"In guiding growth and development, the General Plan recognizes that Calaveras County is made up of small communities, each with its own unique character, surrounded by agricultural lands, working forests, wildlands, and large expanses of publicly managed forest and recreation lands."*

(Introduction, Calaveras County Draft Genera Plan, Page INT-1)

*"Growth-inducing impacts must also be analyzed. These may include any policies, proposals, and programs of the general plan likely to stimulate community growth and development. Examples include plans for street and highway improvements in undeveloped areas, a proposal for wastewater treatment plant expansion, and proposals for the expansion of employment in basic industries, any of which is likely to increase pressure for or facilitate residential and other development."*

(State of California, Office of Planning and Research, Draft Genera Plan Guidelines, p. 320)

## I. Background and Setting

In evaluating the growth inducing impacts of the proposed General Plan, there are competing and contradictory trajectories to consider.

1. The lack of specificity in the plan. "When practical, the General plan will be as general as possible, rather than specific, favoring flexibility and adaptability." Genera Plan Introduction, page INT-1. This makes is difficult to assess what, exactly, will unfold as new development arises. Furthermore, for the project description of the general plan to be adequate, it must provide enough specificity to allow for the evaluation of

environmental impacts. (CEQA Guidelines, sec. 15124.) Similarly, for provisions in the general plan promising future action to qualify as mitigation measures, the County must commit to implementing measures to achieve specified performance standards. (CEQA Guidelines, sec. 15126.4, subd. (a)(1)(B).) Thus, it is not "practical" for a general plan to be as vague as the current draft.

2. The estimated buildout or carrying capacity implied by the land use maps in the General Plan project the possibility of population and building well beyond the population estimates for the county. If we need only half of that new capacity, then how will decisions be made about which parcels are most suitable for future subdivision and development?

   From Calaveras County Notice of Preparation for the General Plan EIR, page 3:

   *An estimate of how many units and population could be accommodated by the most recent version of the General Plan Land Use Map was developed by the County using the County's GIS database system. This estimate is known as "carrying capacity" and represents how much development could occur within the County over the life of the General Plan (2035) using a set of described parameters. The "carrying capacity" does not represent actual buildout nor does the estimate express with any certainty what will in fact occur. Rather, "carrying capacity" is simply a way to understand the development potential of the land use map.*

   *A buildout formula was assigned for each General Plan land use designation that accommodates residential units. Next, buildout was calculated for the maximum density of each land use category. The assumed percent buildout for each land use was based on a report provided to the Board of Supervisors. Table 1 indicates the carrying capacity for all residential land use areas in the County, excluding lands within the City of Angels city limits.*

   *Table 2 shows a comparison between existing and potential population under three different scenarios – the current 1996 General Plan, the proposed General Plan Update, and the Department of Finance (DOF) projections for 2035. Based on 2010 census data, currently 45,578 persons reside in Calaveras County, including Angels Camp. For Year 2035, the General Plan horizon year, DOF projects a modest population increase – 9,963 persons – for a total of 55,541 persons. This equates to an annual increment of 399 persons per year. The table illustrates that adequate carrying capacity exists under the proposed General Plan Update to accommodate the projected DOF population for Year 2035. The proposed Plan could accommodate approximately 111,527 persons, approximately double what DOF projects for Year 2035. By comparison, the existing General Plan would accommodate approximately 322,900 persons, almost five times the DOF projections."*

There is an effort to modify this buildout estimate in the Land Use element, page LU-3:

> *There is approximately 519,000 acres of vacant, privately held land in the unincorporated part of Calaveras County. The 2014 Draft Land Use Map divided this into numerous land use designations, ranging from Industrial, Commercial, Residential High Density, Rural Residential to Resource Production. Table LU-1 has a complete list and description of the different Land Use Designations. One purpose of the plan is to provide for adequate land to accommodate anticipated growth, and to direct that growth to the areas most suited for development. Totaling all development potential of the vacant parcels yields a maximum potential 51,688 new dwelling units. In addition there are 3810 units previously approved, but undeveloped, in the specific plan areas near Copperopolis. It is unlikely, that most lots will develop at their maximum capacity. For a variety of reasons, most parcels cannot be fully developed. These include topographical or other physical constraints, environmental constraints such as wetlands or endangered species habitat, desirability of the site for development, or simply the land owners' desire to develop the land or not.*
>
> *The likelihood of full development of a vacant parcel to the maximum extent possible is then reduced based on these factors. Residential development in the mixed use, Community Center designations is probably only 20% of maximum potential, Most residential designations are likely to build out at 50% based upon historic trends and a review of development constraints of those areas, and working lands at 30%. Resource Production includes all lands designated as Timber Production Zones and under Williamson Act Contract, so those are likely to develop at a much lower rate so no density was attributed to that land use category, although land can still be developed and homes built. As a result of these reductions, a more likely buildout scenario is approximately 23,000 new units. At the current census rate of 2.41 persons per household, this could accommodate over 56,000 new residents."*

So, in the land use designations there is potential for 111,000 people. There is a projection for a population of over 55,000 by 2035. And an assessment that because of many factors most parcels won't build out, there will more likely be buildout at 23,000 residences for over 56,000 people. Should some effort be made to quantify just what level of buildout could, in reality, occur? Wouldn't that be a factor in assessing growth inducement? With land use decisions that at least on paper indicate the potential for twice as much population growth as we would likely have, is that not a growth inducing factor?

3. And yet, the General Plan states: "New development will pay the costs of providing adequate additional infrastructure and services necessitated by development, including roads, water, sewage disposal, and services such as schools, police, and fire protection, without reducing the level of service enjoyed by existing communities." General Plan Introduction, page INT-2. The implication is that additional infrastructure will not be provided unless new development demands it and is willing to pay for it. Would this be

an enticement for developers to want to do business in our county or a deterrent? Granted that this implies the residents of the new development will also pay for this with taxes and fees, but many new developments are created with no guarantee that the people will come. Does this requirement, along with the current state of county infrastructure, actually inhibit growth?

**II. Impact Analysis**

So. We are going to be as vague as possible, create a land use map that allows for twice the growth we can reasonably be expected to have, but state that most of that can't realistically happen, and that whatever does happen will be paid for by new development.

And, we already have current limitations to growth: communities with limited water hookups, communities with sewer at capacity, failing wells, roads and bridges far behind in repairs.

The question may be: Does the proposed General Plan and its individual policies induce growth or discourage growth?

In looking at some specific policies we can see how lack of specificity makes it difficult to assess the degree of impact:

> ***LU 1.1*** *Maintain an adequate supply of appropriately designated land of varying parcel sizes and locations to accommodate growth within each land use designation. (IM LU-5G)*

How is an "adequate supply" of designated land uses determined? By whom? What is the standard that must be met for a supply to be "adequate"?

> ***LU 3.4*** *Infrastructure such as water and sewer and high capacity roads shall be encouraged within existing developed areas, areas contiguous to existing communities, areas where future development is anticipated by the General Plan as reflected in the General Plan land use map, existing, non-contiguous communities, and/or where essential to public health and safety. (IM LU-3C)*

How does this limit infrastructure from being extended to undeveloped areas, thus encouraging development to extend beyond community centers? This policy is clearly growth inducing.

> ***LU 5.4*** *Encourage attraction of new compatible business and industry to the county. (IM LU-5B and LU-5G)*

To what extent? Large businesses that will require an influx of workers with housing needs? Who defines compatible?

Note that is not permissible to simply assume lower buildout levels, to understate potential plan impacts, and to under-mitigate potential plan impacts. This is especially true in this instance, in which the general plan refuses to make specific commitments to abide by objective development

limitations, and insists on providing great flexibility to approve projects despite the constraints of the land, the infrastructure, and conflicting neighboring land uses. If the DEIR is evaluating impacts of a presumed lower buildout level, then there must be mitigation measures in the plan to keep development from exceeding those lower buildout levels.

**III. Mitigation and Alternatives**

To compensate for what seems to be a very vague indication of the actual possibilities of growth, it will be necessary to place some useful guidelines. Please consider the following policies to be added to the General Plan:

LUA: Create specific criteria that would need to be met in order to permit any proposed new residential development outside of community center areas. (What would be factors that would make it desirable to build in any area beyond the reach of town centered infrastructure and services? Some possibilities: available water, no added impact to roads and traffic, sewer service, no impact to ag. uses.)

LUB: Create specific criteria that would need to be satisfied in order to expand the community center boundaries beyond their current lines. (When has growth become so limited within the community boundary that it must be enlarged? What percentage of community buildout must be achieved before the boundaries are expanded? Or what percentage of infill parcels remain available?)

Also, as noted above, include mitigation measures that limit growth to the lower buildout levels presumed in the DEIR impact analyses. Commit to updating the general plan and its impact mitigation before committing to levels of development that exceed the presumed buildout levels.

## Chapter 3 -Guide to Attachments

We have provided on a DVD and a flash drive a number of documents to assist the County in evaluating and mitigating the impacts of the General Plan Update, as it has been done in other counties; and in a manner consistent with guidance from state, and regional agencies. We encourage the County to embrace mitigation measures and programs to improve the health, safety, and wellbeing of the good people of Calaveras County; and to maintain the vitality of our natural environment. We encourage the County to craft a general plan that reasonably accommodates competing regional interests. We encourage the County to craft a general plan that demonstrates full cooperation with state and federal agencies seeking to keep our roads safe, our schools teaching, our utilities on, our water clean, our air pure, our forest growing, and our wildlife thriving. Below we describe these attached documents. Some of the documents may have been updated recently. You may want to check with the entities and agencies that publish them.

1) Ag. Land Protection

Included are:

1) Ag. land preservation principles proposed for Amador County by 0ur member group the Foothill Conservancy.
2) A Draft Agriculture Element proposed for Amador County.
3) City of Davis Ag. Land conversion mitigation.
4) The 2008 Draft Calaveras Ag. Element
5) El Dorado County Ag. Element
6) Farmland Protection Toolbox
7) Marin Countywide Plan
8) Mariposa County Ag. Chapter of the General Plan
9) Monterey County Ag. Element
10) Napa Ag Land Use Element
11) Placer County General Plan Ag. Policies
12) Sacramento County Ag. Element
13) Sonoma County Ag Element
14) The Sokolow study regarding the need to adopt multiple conservation tools to be successful at conservation.
15) Stanislaus County Ag. Element.
16) Yolo County Ag. Element
17) Marin County Land Conservation Program.
18) Calaveras County Crop Reports from 2004, 2012, and 2015.

Generally speaking, these references provide evidence that specific Ag. land mitigation is feasible to adopt in a general plan.

- The Davis section includes a 2:1 mitigation ratio,

- The draft Ag. Element from Calaveras County developed by local Ag. folks included larger minimum parcel sizes, specific setbacks, and a 2:1 mitigation ratio.

-the Mariposa County agriculture element and the Stanislaus County agriculture element list conditions that limit the conversion of Ag. land to other uses, and use larger minimum parcel sizes.

-the agriculture section of the Sacramento general plan uses larger parcel sizes to protect the viability of agricultural lands.

-the Sonoma general plan regulates Ag. tourism including tasting rooms.

-the study by Sokolow demonstrates the need for multiple Ag. land conservation mechanisms,

-The Yolo County general plan agriculture section, include many Ag. land goals, objectives, policies, and implementation programs.

-The Marin County program shows how to fund a conservation easement program.

2) Air Quality

Included are CEQA evaluation guidance documents for air quality from the S.F. Bay Area and Sacramento, the direction from OPR addressing CEQA evaluation of naturally occurring asbestos, and the *Air Quality and Land Use Handbook.* For local background on the NOA issue in the Copperopolis area see the CPC's *Input for the General Plan Background Report*, 6/1/07. The CEQA evaluation guidance documents may have been updated recently, so there may be more current versions available.

2) Biological Resources

Included are the *California Wildlife Action Plan*, suggested policies from our member group the Foothill Conservancy, and the *Tuolumne Wildlife Handbook*. While the Tuolumne Wildlife Handbook is no longer in use in Tuolumne County, it is worthy to note that it was used there for many years to meet wildlife needs, and 90% of the projects proposed there were successful in implementing the handbook provisions.

3) Child Care

Included are excerpts from *Planning for Childcare*, and *Including Childcare in Local Planning*.

4) Conservation and Open Space

Included are useful ideas from other counties for including in an open space action plan: the Mono County Conservation and Open Space Element, and *Tools for Preserving Open Space in Amador County.*

5) Data Analysis Letter 2010

6) Included are *Fire Hazard Planning,* and a rural development standard proposed for Amador County by our member group the Foothill Conservancy.

7) General Plan Guidelines

Included are the 2003 guidelines and the draft 2015 guidelines.

8) Global Climate Change

Included are CAPCO guidance on evaluating climate change, the ARB climate change plan, and a list of mitigation measure options from the California Department of Justice. Some of these mitigation measures are suitable for implementation in Calaveras County.

9) Economic Development

Included are *Investing for Prosperity* and *California's Workfoce Development System*.

10) Historic Preservation

Included is *Drafting Effective Historic Preservation Ordinances*.

11) Land Use

Included are an economic analysis of the local cannabis industry and a staff report on the Valley Springs Community Plan.

12) Public Services

Included are the Municipal Service Reviews for fire, water, health care, and CSDs.

13) Traffic

Included are the draft and final 2012 Regional Transportation Plan.

14) Trails

Includes:

- A paper on the implications for Calaveras County of the Amador Bicycle Survey.

***-Park and Recreation Master Plan progress draft_v7.pdf***. The best summary of Calaveras Trails is in our draft Master Plan.

-Browse the ***power point*** first as it is a quick outline of Calaveras Trails. It is a bit out of date as a few new trail segments have been added to the Arnold Rim Trail and the Mokelumne Coast to Crest Trail at Mosquito Lakes while EBMUD added the Independence Loop at Middle Bar. On the other hand, the Butte fire destroyed the Valentine Trail in Glencoe and the Butterfield Trail near the CC Bridge on the Main Stem Mokelumne. So the 2017 mileages are close, but not accurate.

-‘***Calaveras County Baseline Report* Omissions’** was a response to Planning’s Baseline Report in 2008. Section 8 is relevant and provides some narrative on the power point.

-‘***Response to Draft General Plan Baseline’*** talks about Parks and Trails.

***-Mokelumne Coast to Crest Trail – Independence Flat Tail Loop***

-A paper listing suggestions to make roads safer for cyclists.

15) Water Policies

Included are the water policy recommendations form the Local Government Commission report on Amador and Calaveras Counties, the Draft Calaveras County Water Element with policy suggestions from our member group the Foothill Conservancy, and *Planning for Water-wise development in the Sierra.*

# CalEEMod Emissions Estimation:
# General Plan Buildout, Year 2035

# Calaveras County Draft General Plan

**Calaveras County AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Industrial Park | 114,957.93 | 1000sqft | 3,518.80 | 114,957,930.00 | 0 |
| Health Club | 17,926.95 | 1000sqft | 823.10 | 17,926,950.00 | 0 |
| Apartments Low Rise | 5,391.00 | Dwelling Unit | 409.30 | 5,391,000.00 | 15418 |
| Apartments Mid Rise | 3,637.00 | Dwelling Unit | 203.40 | 3,637,000.00 | 10402 |
| Single Family Housing | 39,540.00 | Dwelling Unit | 86,752.00 | 71,172,000.00 | 113084 |
| Regional Shopping Center | 25,738.99 | 1000sqft | 590.90 | 25,738,990.00 | 0 |
| Strip Mall | 17,789.96 | 1000sqft | 1.61 | 17,789,960.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 61 |
| **Climate Zone** | 1 | | | **Operational Year** | 2035 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 287.23 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Annual

Project Characteristics - CO2 Intensity Factor updated per PG&E progress towards RPS

Land Use - Draft General Plan buildout projections

Construction Phase - Construction not modeled

Off-road Equipment - Construction not modeled

Off-road Equipment - Construction not modeled

Trips and VMT - Construction not modeled

Grading -

Vehicle Trips - Updated per Fehr and Peers

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 155,000.00 | 1.00 |
| tblConstructionPhase | PhaseEndDate | 2/15/2613 | 1/1/2019 |
| tblLandUse | LandUseSquareFeet | 114,958,000.00 | 114,957,930.00 |
| tblLandUse | LandUseSquareFeet | 17,927,000.00 | 17,926,950.00 |
| tblLandUse | LandUseSquareFeet | 25,739,000.00 | 25,738,990.00 |
| tblLandUse | LandUseSquareFeet | 17,790,000.00 | 17,789,960.00 |
| tblLandUse | LotAcreage | 2,639.07 | 3,518.80 |
| tblLandUse | LotAcreage | 411.55 | 823.10 |
| tblLandUse | LotAcreage | 336.94 | 409.30 |
| tblLandUse | LotAcreage | 95.71 | 203.40 |
| tblLandUse | LotAcreage | 12,837.66 | 86,752.00 |
| tblLandUse | LotAcreage | 590.89 | 590.90 |
| tblLandUse | LotAcreage | 408.40 | 1.61 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 287.23 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Annual

| | | | |
|---|---|---|---|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 6.60 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 34,106.00 | 0.00 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 90,476.00 | 0.00 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |

# 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | **Highest** | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4320 | 63.6737 | 4,122.7220 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8663 | 3.9462 | 74,148.5380 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 543.0740 | 1,972.2280 | 2,679.1495 | 5.4029 | 380.1916 | 4.0114 | 384.2030 | 101.9731 | 3.7212 | 105.6942 | 0.0000 | 497,068.5647 | 497,068.5647 | 25.4650 | 0.0000 | 497,705.1886 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **4,950.6234** | **2,189.8924** | **6,920.6920** | **13.1709** | **380.1916** | **545.2774** | **925.4690** | **101.9731** | **544.9872** | **646.9602** | **126,503.6863** | **1,016,758.9722** | **1,143,262.6585** | **5,090.9050** | **40.1023** | **1,282,485.7667** |

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4320 | 63.6737 | 4,122.7220 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8663 | 3.9462 | 74,148.5380 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 543.0740 | 1,972.2280 | 2,679.1495 | 5.4029 | 380.1916 | 4.0114 | 384.2030 | 101.9731 | 3.7212 | 105.6942 | 0.0000 | 497,068.5647 | 497,068.5647 | 25.4650 | 0.0000 | 497,705.1886 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **4,950.6234** | **2,189.8924** | **6,920.6920** | **13.1709** | **380.1916** | **545.2774** | **925.4690** | **101.9731** | **544.9872** | **646.9602** | **126,503.6863** | **1,016,758.9722** | **1,143,262.6585** | **5,090.9050** | **40.1023** | **1,282,485.7667** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 1/1/2019 | 1/1/2019 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Building Construction - 2019

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 3.2 Building Construction - 2019

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 543.0740 | 1,972.2280 | 2,679.1495 | 5.4029 | 380.1916 | 4.0114 | 384.2030 | 101.9731 | 3.7212 | 105.6942 | 0.0000 | 497,068.5647 | 497,068.5647 | 25.4650 | 0.0000 | 497,705.1886 |
| Unmitigated | 543.0740 | 1,972.2280 | 2,679.1495 | 5.4029 | 380.1916 | 4.0114 | 384.2030 | 101.9731 | 3.7212 | 105.6942 | 0.0000 | 497,068.5647 | 497,068.5647 | 25.4650 | 0.0000 | 497,705.1886 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Low Rise | 35,526.69 | 38,599.56 | 32723.37 | 16,697,342 | 16,697,342 |
| Apartments Mid Rise | 24,186.05 | 23,240.43 | 21312.82 | 11,098,870 | 11,098,870 |
| Health Club | 590,334.46 | 374,135.45 | 479187.37 | 129,034,422 | 129,034,422 |
| Industrial Park | 785,162.66 | 286,245.25 | 83919.29 | 279,248,054 | 279,248,054 |
| Regional Shopping Center | 1,099,054.87 | 1,286,177.33 | 649652.11 | 255,257,846 | 255,257,846 |
| Single Family Housing | 376,420.80 | 391,841.40 | 340834.80 | 175,371,599 | 175,371,599 |
| Strip Mall | 788,451.03 | 747,889.92 | 363448.88 | 154,018,868 | 154,018,868 |
| Total | 3,699,136.57 | 3,148,129.33 | 1,971,078.64 | 1,020,727,001 | 1,020,727,001 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Health Club | 1.93 | 0.87 | 0.83 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| Industrial Park | 1.93 | 0.87 | 0.83 | 59.00 | 28.00 | 13.00 | 79 | 19 | 2 |
| Regional Shopping Center | 1.93 | 0.87 | 0.83 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Strip Mall | 1.93 | 0.87 | 0.83 | 16.60 | 64.40 | 19.00 | 45 | 40 | 15 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Low Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Apartments Mid Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Health Club | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Industrial Park | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Regional Shopping Center | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Single Family Housing | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Strip Mall | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Annual

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| NaturalGas Mitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |
| NaturalGas Unmitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4,390.4320 | 63.6737 | 4,122.7220 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8663 | 3.9462 | 74,148.5380 |
| Unmitigated | 4,390.4320 | 63.6737 | 4,122.7220 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8663 | 3.9462 | 74,148.5380 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.8920 | 4.1604 | 360.9672 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5689 | 0.0000 | 606.4456 |
| **Total** | **4,390.4320** | **63.6737** | **4,122.7220** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8663** | **3.9462** | **74,148.5380** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.8920 | 4.1604 | 360.9672 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5689 | 0.0000 | 606.4456 |
| **Total** | **4,390.4320** | **63.6737** | **4,122.7220** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8663** | **3.9462** | **74,148.5380** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Annual

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| Unmitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Unmitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Calaveras County Draft General Plan

**Calaveras County AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Industrial Park | 114,957.93 | 1000sqft | 3,518.80 | 114,957,930.00 | 0 |
| Health Club | 17,926.95 | 1000sqft | 823.10 | 17,926,950.00 | 0 |
| Apartments Low Rise | 5,391.00 | Dwelling Unit | 409.30 | 5,391,000.00 | 15418 |
| Apartments Mid Rise | 3,637.00 | Dwelling Unit | 203.40 | 3,637,000.00 | 10402 |
| Single Family Housing | 39,540.00 | Dwelling Unit | 86,752.00 | 71,172,000.00 | 113084 |
| Regional Shopping Center | 25,738.99 | 1000sqft | 590.90 | 25,738,990.00 | 0 |
| Strip Mall | 17,789.96 | 1000sqft | 1.61 | 17,789,960.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 61 |
| **Climate Zone** | 1 | | | **Operational Year** | 2035 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 287.23 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Summer

Project Characteristics - CO2 Intensity Factor updated per PG&E progress towards RPS

Land Use - Draft General Plan buildout projections

Construction Phase - Construction not modeled

Off-road Equipment - Construction not modeled

Off-road Equipment - Construction not modeled

Trips and VMT - Construction not modeled

Grading -

Vehicle Trips - Updated per Fehr and Peers

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 155,000.00 | 1.00 |
| tblConstructionPhase | PhaseEndDate | 2/15/2613 | 1/1/2019 |
| tblLandUse | LandUseSquareFeet | 114,958,000.00 | 114,957,930.00 |
| tblLandUse | LandUseSquareFeet | 17,927,000.00 | 17,926,950.00 |
| tblLandUse | LandUseSquareFeet | 25,739,000.00 | 25,738,990.00 |
| tblLandUse | LandUseSquareFeet | 17,790,000.00 | 17,789,960.00 |
| tblLandUse | LotAcreage | 2,639.07 | 3,518.80 |
| tblLandUse | LotAcreage | 411.55 | 823.10 |
| tblLandUse | LotAcreage | 336.94 | 409.30 |
| tblLandUse | LotAcreage | 95.71 | 203.40 |
| tblLandUse | LotAcreage | 12,837.66 | 86,752.00 |
| tblLandUse | LotAcreage | 590.89 | 590.90 |
| tblLandUse | LotAcreage | 408.40 | 1.61 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 287.23 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Summer

| | | | |
|---|---|---|---|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 6.60 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 34,106.00 | 0.00 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 90,476.00 | 0.00 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |

# 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Energy | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| Mobile | 4,727.3162 | 12,497.6058 | 15,407.3704 | 36.4437 | 2,522.0884 | 25.4517 | 2,547.5401 | 674.4094 | 23.6063 | 698.0157 | | 3,699,335.3876 | 3,699,335.3876 | 167.8734 | | 3,703,532.2236 |
| **Total** | **86,569.4394** | **14,839.1613** | **111,819.3058** | **207.9980** | **2,522.0884** | **12,976.7799** | **15,498.8683** | **674.4094** | **12,974.9345** | **13,649.3439** | **1,348,817.4182** | **5,295,469.2402** | **6,644,286.6583** | **1,439.1872** | **124.8535** | **6,717,472.6645** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Energy | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| Mobile | 4,727.3162 | 12,497.6058 | 15,407.3704 | 36.4437 | 2,522.0884 | 25.4517 | 2,547.5401 | 674.4094 | 23.6063 | 698.0157 | | 3,699,335.3876 | 3,699,335.3876 | 167.8734 | | 3,703,532.2236 |
| **Total** | **86,569.4394** | **14,839.1613** | **111,819.3058** | **207.9980** | **2,522.0884** | **12,976.7799** | **15,498.8683** | **674.4094** | **12,974.9345** | **13,649.3439** | **1,348,817.4182** | **5,295,469.2402** | **6,644,286.6583** | **1,439.1872** | **124.8535** | **6,717,472.6645** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 1/1/2019 | 1/1/2019 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Building Construction - 2019

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

## 3.2 Building Construction - 2019

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 4,727.3162 | 12,497.6058 | 15,407.3704 | 36.4437 | 2,522.0884 | 25.4517 | 2,547.5401 | 674.4094 | 23.6063 | 698.0157 | | 3,699,335.3876 | 3,699,335.3876 | 167.8734 | | 3,703,532.2236 |
| Unmitigated | 4,727.3162 | 12,497.6058 | 15,407.3704 | 36.4437 | 2,522.0884 | 25.4517 | 2,547.5401 | 674.4094 | 23.6063 | 698.0157 | | 3,699,335.3876 | 3,699,335.3876 | 167.8734 | | 3,703,532.2236 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Low Rise | 35,526.69 | 38,599.56 | 32723.37 | 16,697,342 | 16,697,342 |
| Apartments Mid Rise | 24,186.05 | 23,240.43 | 21312.82 | 11,098,870 | 11,098,870 |
| Health Club | 590,334.46 | 374,135.45 | 479187.37 | 129,034,422 | 129,034,422 |
| Industrial Park | 785,162.66 | 286,245.25 | 83919.29 | 279,248,054 | 279,248,054 |
| Regional Shopping Center | 1,099,054.87 | 1,286,177.33 | 649652.11 | 255,257,846 | 255,257,846 |
| Single Family Housing | 376,420.80 | 391,841.40 | 340834.80 | 175,371,599 | 175,371,599 |
| Strip Mall | 788,451.03 | 747,889.92 | 363448.88 | 154,018,868 | 154,018,868 |
| Total | 3,699,136.57 | 3,148,129.33 | 1,971,078.64 | 1,020,727,001 | 1,020,727,001 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Health Club | 1.93 | 0.87 | 0.83 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| Industrial Park | 1.93 | 0.87 | 0.83 | 59.00 | 28.00 | 13.00 | 79 | 19 | 2 |
| Regional Shopping Center | 1.93 | 0.87 | 0.83 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Strip Mall | 1.93 | 0.87 | 0.83 | 16.60 | 64.40 | 19.00 | 45 | 40 | 15 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Low Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Apartments Mid Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Health Club | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Industrial Park | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Regional Shopping Center | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Single Family Housing | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Strip Mall | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Summer

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| NaturalGas Unmitigated | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Low Rise | 159508 | 1.7202 | 14.6998 | 6.2552 | 0.0938 | | 1.1885 | 1.1885 | | 1.1885 | 1.1885 | | 18,765.6844 | 18,765.6844 | 0.3597 | 0.3440 | 18,877.1995 |
| Apartments Mid Rise | 38751.8 | 0.4179 | 3.5712 | 1.5197 | 0.0228 | | 0.2887 | 0.2887 | | 0.2887 | 0.2887 | | 4,559.0337 | 4,559.0337 | 0.0874 | 0.0836 | 4,586.1258 |
| Health Club | 172393 | 1.8591 | 16.9013 | 14.1971 | 0.1014 | | 1.2845 | 1.2845 | | 1.2845 | 1.2845 | | 20,281.5776 | 20,281.5776 | 0.3887 | 0.3718 | 20,402.1009 |
| Industrial Park | 6.15419e+006 | 66.3687 | 603.3516 | 506.8153 | 3.6201 | | 45.8547 | 45.8547 | | 45.8547 | 45.8547 | | 724,021.9024 | 724,021.9024 | 13.8771 | 13.2737 | 728,324.4026 |
| Regional Shopping Center | 508433 | 5.4831 | 49.8464 | 41.8710 | 0.2991 | | 3.7883 | 3.7883 | | 3.7883 | 3.7883 | | 59,815.6706 | 59,815.6706 | 1.1465 | 1.0966 | 60,171.1252 |
| Single Family Housing | 1.31257e+006 | 14.1551 | 120.9619 | 51.4732 | 0.7721 | | 9.7799 | 9.7799 | | 9.7799 | 9.7799 | | 154,419.4714 | 154,419.4714 | 2.9597 | 2.8310 | 155,337.1091 |
| Strip Mall | 351413 | 3.7897 | 34.4522 | 28.9399 | 0.2067 | | 2.6184 | 2.6184 | | 2.6184 | 2.6184 | | 41,342.6629 | 41,342.6629 | 0.7924 | 0.7580 | 41,588.3417 |
| **Total** | | **93.7939** | **843.7845** | **651.0713** | **5.1160** | | **64.8031** | **64.8031** | | **64.8031** | **64.8031** | | **1,023,206.0029** | **1,023,206.0029** | **19.6115** | **18.7588** | **1,029,286.4046** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Low Rise | 159.508 | 1.7202 | 14.6998 | 6.2552 | 0.0938 | | 1.1885 | 1.1885 | | 1.1885 | 1.1885 | | 18,765.6844 | 18,765.6844 | 0.3597 | 0.3440 | 18,877.1995 |
| Apartments Mid Rise | 38.7518 | 0.4179 | 3.5712 | 1.5197 | 0.0228 | | 0.2887 | 0.2887 | | 0.2887 | 0.2887 | | 4,559.0337 | 4,559.0337 | 0.0874 | 0.0836 | 4,586.1258 |
| Health Club | 172.393 | 1.8591 | 16.9013 | 14.1971 | 0.1014 | | 1.2845 | 1.2845 | | 1.2845 | 1.2845 | | 20,281.5776 | 20,281.5776 | 0.3887 | 0.3718 | 20,402.1009 |
| Industrial Park | 6154.19 | 66.3687 | 603.3516 | 506.8153 | 3.6201 | | 45.8547 | 45.8547 | | 45.8547 | 45.8547 | | 724,021.9024 | 724,021.9024 | 13.8771 | 13.2737 | 728,324.4026 |
| Regional Shopping Center | 508.433 | 5.4831 | 49.8464 | 41.8710 | 0.2991 | | 3.7883 | 3.7883 | | 3.7883 | 3.7883 | | 59,815.6706 | 59,815.6706 | 1.1465 | 1.0966 | 60,171.1252 |
| Single Family Housing | 1312.57 | 14.1551 | 120.9619 | 51.4732 | 0.7721 | | 9.7799 | 9.7799 | | 9.7799 | 9.7799 | | 154,419.4714 | 154,419.4714 | 2.9597 | 2.8310 | 155,337.1091 |
| Strip Mall | 351.413 | 3.7897 | 34.4522 | 28.9399 | 0.2067 | | 2.6184 | 2.6184 | | 2.6184 | 2.6184 | | 41,342.6629 | 41,342.6629 | 0.7924 | 0.7580 | 41,588.3417 |
| **Total** | | **93.7939** | **843.7845** | **651.0713** | **5.1160** | | **64.8031** | **64.8031** | | **64.8031** | **64.8031** | | **1,023,206.0029** | **1,023,206.0029** | **19.6115** | **18.7588** | **1,029,286.4046** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Unmitigated | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1,807.5484 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 5,491.5360 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 74,328.2226 | 1,451.5444 | 91,750.1174 | 166.2253 | | 12,864.2411 | 12,864.2411 | | 12,864.2411 | 12,864.2411 | 1,348,817.4182 | 565,674.3529 | 1,914,491.7711 | 1,244.7346 | 106.0947 | 1,977,226.3490 |
| Landscaping | 121.0224 | 46.2267 | 4,010.7467 | 0.2129 | | 22.2840 | 22.2840 | | 22.2840 | 22.2840 | | 7,253.4967 | 7,253.4967 | 6.9676 | | 7,427.6873 |
| **Total** | **81,748.3293** | **1,497.7711** | **95,760.8640** | **166.4383** | | **12,886.5251** | **12,886.5251** | | **12,886.5251** | **12,886.5251** | **1,348,817.4182** | **572,927.8497** | **1,921,745.2678** | **1,251.7023** | **106.0947** | **1,984,654.0363** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1,807.5484 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 5,491.5360 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 74,328.2226 | 1,451.5444 | 91,750.1174 | 166.2253 | | 12,864.2411 | 12,864.2411 | | 12,864.2411 | 12,864.2411 | 1,348,817.4182 | 565,674.3529 | 1,914,491.7711 | 1,244.7346 | 106.0947 | 1,977,226.3490 |
| Landscaping | 121.0224 | 46.2267 | 4,010.7467 | 0.2129 | | 22.2840 | 22.2840 | | 22.2840 | 22.2840 | | 7,253.4967 | 7,253.4967 | 6.9676 | | 7,427.6873 |
| **Total** | **81,748.3293** | **1,497.7711** | **95,760.8640** | **166.4383** | | **12,886.5251** | **12,886.5251** | | **12,886.5251** | **12,886.5251** | **1,348,817.4182** | **572,927.8497** | **1,921,745.2678** | **1,251.7023** | **106.0947** | **1,984,654.0363** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Calaveras County Draft General Plan

**Calaveras County AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Industrial Park | 114,957.93 | 1000sqft | 3,518.80 | 114,957,930.00 | 0 |
| Health Club | 17,926.95 | 1000sqft | 823.10 | 17,926,950.00 | 0 |
| Apartments Low Rise | 5,391.00 | Dwelling Unit | 409.30 | 5,391,000.00 | 15418 |
| Apartments Mid Rise | 3,637.00 | Dwelling Unit | 203.40 | 3,637,000.00 | 10402 |
| Single Family Housing | 39,540.00 | Dwelling Unit | 86,752.00 | 71,172,000.00 | 113084 |
| Regional Shopping Center | 25,738.99 | 1000sqft | 590.90 | 25,738,990.00 | 0 |
| Strip Mall | 17,789.96 | 1000sqft | 1.61 | 17,789,960.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 61 |
| **Climate Zone** | 1 | | | **Operational Year** | 2035 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 287.23 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Winter

Project Characteristics - CO2 Intensity Factor updated per PG&E progress towards RPS

Land Use - Draft General Plan buildout projections

Construction Phase - Construction not modeled

Off-road Equipment - Construction not modeled

Off-road Equipment - Construction not modeled

Trips and VMT - Construction not modeled

Grading -

Vehicle Trips - Updated per Fehr and Peers

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 155,000.00 | 1.00 |
| tblConstructionPhase | PhaseEndDate | 2/15/2613 | 1/1/2019 |
| tblLandUse | LandUseSquareFeet | 114,958,000.00 | 114,957,930.00 |
| tblLandUse | LandUseSquareFeet | 17,927,000.00 | 17,926,950.00 |
| tblLandUse | LandUseSquareFeet | 25,739,000.00 | 25,738,990.00 |
| tblLandUse | LandUseSquareFeet | 17,790,000.00 | 17,789,960.00 |
| tblLandUse | LotAcreage | 2,639.07 | 3,518.80 |
| tblLandUse | LotAcreage | 411.55 | 823.10 |
| tblLandUse | LotAcreage | 336.94 | 409.30 |
| tblLandUse | LotAcreage | 95.71 | 203.40 |
| tblLandUse | LotAcreage | 12,837.66 | 86,752.00 |
| tblLandUse | LotAcreage | 590.89 | 590.90 |
| tblLandUse | LotAcreage | 408.40 | 1.61 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 287.23 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Winter

| | | | |
|---|---|---|---|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 6.60 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 34,106.00 | 0.00 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 90,476.00 | 0.00 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |

# 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Winter

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Energy | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| Mobile | 3,231.9248 | 12,529.5548 | 18,908.9756 | 33.3171 | 2,522.0884 | 25.8201 | 2,547.9085 | 674.4094 | 23.9587 | 698.3681 | | 3,373,562.2698 | 3,373,562.2698 | 190.0292 | | 3,378,312.9992 |
| **Total** | **85,074.0480** | **14,871.1104** | **115,320.9110** | **204.8714** | **2,522.0884** | **12,977.1483** | **15,499.2366** | **674.4094** | **12,975.2869** | **13,649.6963** | **1,348,817.4182** | **4,969,696.1224** | **6,318,513.5406** | **1,461.3429** | **124.8535** | **6,392,253.4401** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Energy | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| Mobile | 3,231.9248 | 12,529.5548 | 18,908.9756 | 33.3171 | 2,522.0884 | 25.8201 | 2,547.9085 | 674.4094 | 23.9587 | 698.3681 | | 3,373,562.2698 | 3,373,562.2698 | 190.0292 | | 3,378,312.9992 |
| **Total** | **85,074.0480** | **14,871.1104** | **115,320.9110** | **204.8714** | **2,522.0884** | **12,977.1483** | **15,499.2366** | **674.4094** | **12,975.2869** | **13,649.6963** | **1,348,817.4182** | **4,969,696.1224** | **6,318,513.5406** | **1,461.3429** | **124.8535** | **6,392,253.4401** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 1/1/2019 | 1/1/2019 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Building Construction - 2019

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

## 3.2 Building Construction - 2019

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3,231.9248 | 12,529.5548 | 18,908.9756 | 33.3171 | 2,522.0884 | 25.8201 | 2,547.9085 | 674.4094 | 23.9587 | 698.3681 | | 3,373,562.2698 | 3,373,562.2698 | 190.0292 | | 3,378,312.9992 |
| Unmitigated | 3,231.9248 | 12,529.5548 | 18,908.9756 | 33.3171 | 2,522.0884 | 25.8201 | 2,547.9085 | 674.4094 | 23.9587 | 698.3681 | | 3,373,562.2698 | 3,373,562.2698 | 190.0292 | | 3,378,312.9992 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Low Rise | 35,526.69 | 38,599.56 | 32723.37 | 16,697,342 | 16,697,342 |
| Apartments Mid Rise | 24,186.05 | 23,240.43 | 21312.82 | 11,098,870 | 11,098,870 |
| Health Club | 590,334.46 | 374,135.45 | 479187.37 | 129,034,422 | 129,034,422 |
| Industrial Park | 785,162.66 | 286,245.25 | 83919.29 | 279,248,054 | 279,248,054 |
| Regional Shopping Center | 1,099,054.87 | 1,286,177.33 | 649652.11 | 255,257,846 | 255,257,846 |
| Single Family Housing | 376,420.80 | 391,841.40 | 340834.80 | 175,371,599 | 175,371,599 |
| Strip Mall | 788,451.03 | 747,889.92 | 363448.88 | 154,018,868 | 154,018,868 |
| Total | 3,699,136.57 | 3,148,129.33 | 1,971,078.64 | 1,020,727,001 | 1,020,727,001 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Health Club | 1.93 | 0.87 | 0.83 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| Industrial Park | 1.93 | 0.87 | 0.83 | 59.00 | 28.00 | 13.00 | 79 | 19 | 2 |
| Regional Shopping Center | 1.93 | 0.87 | 0.83 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Strip Mall | 1.93 | 0.87 | 0.83 | 16.60 | 64.40 | 19.00 | 45 | 40 | 15 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Low Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Apartments Mid Rise | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Health Club | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Industrial Park | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Regional Shopping Center | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Single Family Housing | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |
| Strip Mall | 0.606480 | 0.027737 | 0.187697 | 0.102466 | 0.014745 | 0.003518 | 0.023159 | 0.024165 | 0.002756 | 0.000792 | 0.004515 | 0.001378 | 0.000591 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Calaveras County Draft General Plan - Calaveras County AQMD Air District, Winter

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |
| NaturalGas Unmitigated | 93.7939 | 843.7845 | 651.0713 | 5.1160 | | 64.8031 | 64.8031 | | 64.8031 | 64.8031 | | 1,023,206.0029 | 1,023,206.0029 | 19.6115 | 18.7588 | 1,029,286.4046 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Low Rise | 159508 | 1.7202 | 14.6998 | 6.2552 | 0.0938 | | 1.1885 | 1.1885 | | 1.1885 | 1.1885 | | 18,765.6844 | 18,765.6844 | 0.3597 | 0.3440 | 18,877.1995 |
| Apartments Mid Rise | 38751.8 | 0.4179 | 3.5712 | 1.5197 | 0.0228 | | 0.2887 | 0.2887 | | 0.2887 | 0.2887 | | 4,559.0337 | 4,559.0337 | 0.0874 | 0.0836 | 4,586.1258 |
| Health Club | 172393 | 1.8591 | 16.9013 | 14.1971 | 0.1014 | | 1.2845 | 1.2845 | | 1.2845 | 1.2845 | | 20,281.5776 | 20,281.5776 | 0.3887 | 0.3718 | 20,402.1009 |
| Industrial Park | 6.15419e+006 | 66.3687 | 603.3516 | 506.8153 | 3.6201 | | 45.8547 | 45.8547 | | 45.8547 | 45.8547 | | 724,021.9024 | 724,021.9024 | 13.8771 | 13.2737 | 728,324.4026 |
| Regional Shopping Center | 508433 | 5.4831 | 49.8464 | 41.8710 | 0.2991 | | 3.7883 | 3.7883 | | 3.7883 | 3.7883 | | 59,815.6706 | 59,815.6706 | 1.1465 | 1.0966 | 60,171.1252 |
| Single Family Housing | 1.31257e+006 | 14.1551 | 120.9619 | 51.4732 | 0.7721 | | 9.7799 | 9.7799 | | 9.7799 | 9.7799 | | 154,419.4714 | 154,419.4714 | 2.9597 | 2.8310 | 155,337.1091 |
| Strip Mall | 351413 | 3.7897 | 34.4522 | 28.9399 | 0.2067 | | 2.6184 | 2.6184 | | 2.6184 | 2.6184 | | 41,342.6629 | 41,342.6629 | 0.7924 | 0.7580 | 41,588.3417 |
| **Total** | | **93.7939** | **843.7845** | **651.0713** | **5.1160** | | **64.8031** | **64.8031** | | **64.8031** | **64.8031** | | **1,023,206.0029** | **1,023,206.0029** | **19.6115** | **18.7588** | **1,029,286.4046** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Low Rise | 159.508 | 1.7202 | 14.6998 | 6.2552 | 0.0938 | | 1.1885 | 1.1885 | | 1.1885 | 1.1885 | | 18,765.6844 | 18,765.6844 | 0.3597 | 0.3440 | 18,877.1995 |
| Apartments Mid Rise | 38.7518 | 0.4179 | 3.5712 | 1.5197 | 0.0228 | | 0.2887 | 0.2887 | | 0.2887 | 0.2887 | | 4,559.0337 | 4,559.0337 | 0.0874 | 0.0836 | 4,586.1258 |
| Health Club | 172.393 | 1.8591 | 16.9013 | 14.1971 | 0.1014 | | 1.2845 | 1.2845 | | 1.2845 | 1.2845 | | 20,281.5776 | 20,281.5776 | 0.3887 | 0.3718 | 20,402.1009 |
| Industrial Park | 6154.19 | 66.3687 | 603.3516 | 506.8153 | 3.6201 | | 45.8547 | 45.8547 | | 45.8547 | 45.8547 | | 724,021.9024 | 724,021.9024 | 13.8771 | 13.2737 | 728,324.4026 |
| Regional Shopping Center | 508.433 | 5.4831 | 49.8464 | 41.8710 | 0.2991 | | 3.7883 | 3.7883 | | 3.7883 | 3.7883 | | 59,815.6706 | 59,815.6706 | 1.1465 | 1.0966 | 60,171.1252 |
| Single Family Housing | 1312.57 | 14.1551 | 120.9619 | 51.4732 | 0.7721 | | 9.7799 | 9.7799 | | 9.7799 | 9.7799 | | 154,419.4714 | 154,419.4714 | 2.9597 | 2.8310 | 155,337.1091 |
| Strip Mall | 351.413 | 3.7897 | 34.4522 | 28.9399 | 0.2067 | | 2.6184 | 2.6184 | | 2.6184 | 2.6184 | | 41,342.6629 | 41,342.6629 | 0.7924 | 0.7580 | 41,588.3417 |
| **Total** | | **93.7939** | **843.7845** | **651.0713** | **5.1160** | | **64.8031** | **64.8031** | | **64.8031** | **64.8031** | | **1,023,206.0029** | **1,023,206.0029** | **19.6115** | **18.7588** | **1,029,286.4046** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |
| Unmitigated | 81,748.3293 | 1,497.7711 | 95,760.8640 | 166.4383 | | 12,886.5251 | 12,886.5251 | | 12,886.5251 | 12,886.5251 | 1,348,817.4182 | 572,927.8497 | 1,921,745.2678 | 1,251.7023 | 106.0947 | 1,984,654.0363 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1,807.5484 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 5,491.5360 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 74,328.2226 | 1,451.5444 | 91,750.1174 | 166.2253 | | 12,864.2411 | 12,864.2411 | | 12,864.2411 | 12,864.2411 | 1,348,817.4182 | 565,674.3529 | 1,914,491.7711 | 1,244.7346 | 106.0947 | 1,977,226.3490 |
| Landscaping | 121.0224 | 46.2267 | 4,010.7467 | 0.2129 | | 22.2840 | 22.2840 | | 22.2840 | 22.2840 | | 7,253.4967 | 7,253.4967 | 6.9676 | | 7,427.6873 |
| **Total** | **81,748.3293** | **1,497.7711** | **95,760.8640** | **166.4383** | | **12,886.5251** | **12,886.5251** | | **12,886.5251** | **12,886.5251** | **1,348,817.4182** | **572,927.8497** | **1,921,745.2678** | **1,251.7023** | **106.0947** | **1,984,654.0363** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1,807.5484 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 5,491.5360 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 74,328.2226 | 1,451.5444 | 91,750.1174 | 166.2253 | | 12,864.2411 | 12,864.2411 | | 12,864.2411 | 12,864.2411 | 1,348,817.4182 | 565,674.3529 | 1,914,491.7711 | 1,244.7346 | 106.0947 | 1,977,226.3490 |
| Landscaping | 121.0224 | 46.2267 | 4,010.7467 | 0.2129 | | 22.2840 | 22.2840 | | 22.2840 | 22.2840 | | 7,253.4967 | 7,253.4967 | 6.9676 | | 7,427.6873 |
| **Total** | **81,748.3293** | **1,497.7711** | **95,760.8640** | **166.4383** | | **12,886.5251** | **12,886.5251** | | **12,886.5251** | **12,886.5251** | **1,348,817.4182** | **572,927.8497** | **1,921,745.2678** | **1,251.7023** | **106.0947** | **1,984,654.0363** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Calaveras County Draft General Plan

## Calaveras County AQMD Air District, Mitigation Report

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 0 | No Change | 0.00 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Tractors/Loaders/ Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Building Construction | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Percent Reduction Summary

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electricity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.30 | 0.76 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

**Area Mitigation**

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 250.00 |
| No | Use Low VOC Paint (Residential Exterior) | 250.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 250.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 250.00 |
| No | Use Low VOC Paint (Parking) | 250.00 |
| No | % Electric Lawnmower | |
| No | % Electric Leafblower | |
| No | % Electric Chainsaw | |

**Energy Mitigation Measures**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

**Water Mitigation Measures**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | | |
| No | Use Reclaimed Water | | |
| No | Use Grey Water | | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |
| No | Water Efficient Landscape | | |

**Solid Waste Mitigation**

| Mitigation Measures | Input Value |
|---|---|

| | |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

# CalEEMod Emissions Estimation:
# General Plan Buildout, Year 2030

# Calaveras County Draft General Plan (Year 2030)

## Calaveras County AQMD Air District, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Industrial Park | 114,957.93 | 1000sqft | 3,518.80 | 114,957,930.00 | 0 |
| Health Club | 17,926.95 | 1000sqft | 823.10 | 17,926,950.00 | 0 |
| Apartments Low Rise | 5,391.00 | Dwelling Unit | 409.30 | 5,391,000.00 | 15418 |
| Apartments Mid Rise | 3,637.00 | Dwelling Unit | 203.40 | 3,637,000.00 | 10402 |
| Single Family Housing | 39,540.00 | Dwelling Unit | 86,752.00 | 71,172,000.00 | 113084 |
| Regional Shopping Center | 25,738.99 | 1000sqft | 590.90 | 25,738,990.00 | 0 |
| Strip Mall | 17,789.96 | 1000sqft | 1.61 | 17,789,960.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 61 |
| **Climate Zone** | 1 | | | **Operational Year** | 2030 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 287.23 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Calaveras County Draft General Plan (Year 2030) - Calaveras County AQMD Air District, Annual

Project Characteristics - CO2 Intensity Factor updated per PG&E progress towards RPS

Land Use - Draft General Plan buildout projections

Construction Phase - Construction not modeled

Off-road Equipment - Construction not modeled

Off-road Equipment - Construction not modeled

Trips and VMT - Construction not modeled

Grading -

Vehicle Trips - Updated per Fehr and Peers

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 155,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 114,958,000.00 | 114,957,930.00 |
| tblLandUse | LandUseSquareFeet | 17,927,000.00 | 17,926,950.00 |
| tblLandUse | LandUseSquareFeet | 25,739,000.00 | 25,738,990.00 |
| tblLandUse | LandUseSquareFeet | 17,790,000.00 | 17,789,960.00 |
| tblLandUse | LotAcreage | 2,639.07 | 3,518.80 |
| tblLandUse | LotAcreage | 411.55 | 823.10 |
| tblLandUse | LotAcreage | 336.94 | 409.30 |
| tblLandUse | LotAcreage | 95.71 | 203.40 |
| tblLandUse | LotAcreage | 12,837.66 | 86,752.00 |
| tblLandUse | LotAcreage | 590.89 | 590.90 |
| tblLandUse | LotAcreage | 408.40 | 1.61 |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 287.23 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 6.60 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 34,106.00 | 0.00 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 90,476.00 | 0.00 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4456 | 63.6742 | 4,123.0377 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8667 | 3.9462 | 74,148.5501 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 764.8369 | 2,190.8421 | 3,740.1958 | 5.7635 | 380.5751 | 5.8766 | 386.4517 | 102.1319 | 5.4627 | 107.5946 | 0.0000 | 528,275.3542 | 528,275.3542 | 33.4788 | 0.0000 | 529,112.3230 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **5,172.3999** | **2,408.5069** | **7,982.0540** | **13.5316** | **380.5751** | **547.1426** | **927.7177** | **102.1319** | **546.7287** | **648.8607** | **126,503.6863** | **1,047,965.7617** | **1,174,469.4480** | **5,098.9193** | **40.1023** | **1,313,892.9132** |

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4456 | 63.6742 | 4,123.0377 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8667 | 3.9462 | 74,148.5501 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 764.8369 | 2,190.8421 | 3,740.1958 | 5.7635 | 380.5751 | 5.8766 | 386.4517 | 102.1319 | 5.4627 | 107.5946 | 0.0000 | 528,275.3542 | 528,275.3542 | 33.4788 | 0.0000 | 529,112.3230 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **5,172.3999** | **2,408.5069** | **7,982.0540** | **13.5316** | **380.5751** | **547.1426** | **927.7177** | **102.1319** | **546.7287** | **648.8607** | **126,503.6863** | **1,047,965.7617** | **1,174,469.4480** | **5,098.9193** | **40.1023** | **1,313,892.9132** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 1/1/2019 | 1/1/2019 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Building Construction - 2019

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 3.2 Building Construction - 2019

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 764.8369 | 2,190.8421 | 3,740.1958 | 5.7635 | 380.5751 | 5.8766 | 386.4517 | 102.1319 | 5.4627 | 107.5946 | 0.0000 | 528,275.3542 | 528,275.3542 | 33.4788 | 0.0000 | 529,112.3230 |
| Unmitigated | 764.8369 | 2,190.8421 | 3,740.1958 | 5.7635 | 380.5751 | 5.8766 | 386.4517 | 102.1319 | 5.4627 | 107.5946 | 0.0000 | 528,275.3542 | 528,275.3542 | 33.4788 | 0.0000 | 529,112.3230 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Low Rise | 35,526.69 | 38,599.56 | 32723.37 | 16,697,342 | 16,697,342 |
| Apartments Mid Rise | 24,186.05 | 23,240.43 | 21312.82 | 11,098,870 | 11,098,870 |
| Health Club | 590,334.46 | 374,135.45 | 479187.37 | 129,034,422 | 129,034,422 |
| Industrial Park | 785,162.66 | 286,245.25 | 83919.29 | 279,248,054 | 279,248,054 |
| Regional Shopping Center | 1,099,054.87 | 1,286,177.33 | 649652.11 | 255,257,846 | 255,257,846 |
| Single Family Housing | 376,420.80 | 391,841.40 | 340834.80 | 175,371,599 | 175,371,599 |
| Strip Mall | 788,451.03 | 747,889.92 | 363448.88 | 154,018,868 | 154,018,868 |
| Total | 3,699,136.57 | 3,148,129.33 | 1,971,078.64 | 1,020,727,001 | 1,020,727,001 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Health Club | 1.93 | 0.87 | 0.83 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| Industrial Park | 1.93 | 0.87 | 0.83 | 59.00 | 28.00 | 13.00 | 79 | 19 | 2 |
| Regional Shopping Center | 1.93 | 0.87 | 0.83 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Strip Mall | 1.93 | 0.87 | 0.83 | 16.60 | 64.40 | 19.00 | 45 | 40 | 15 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Low Rise | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Apartments Mid Rise | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Health Club | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Industrial Park | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Regional Shopping Center | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Single Family Housing | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |
| Strip Mall | 0.593177 | 0.029847 | 0.186342 | 0.107007 | 0.021487 | 0.004197 | 0.022616 | 0.024703 | 0.002701 | 0.000764 | 0.004833 | 0.001467 | 0.000860 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Calaveras County Draft General Plan (Year 2030) - Calaveras County AQMD Air District, Annual

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| NaturalGas Mitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |
| NaturalGas Unmitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4,390.4456 | 63.6742 | 4,123.0377 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8667 | 3.9462 | 74,148.5501 |
| Unmitigated | 4,390.4456 | 63.6742 | 4,123.0377 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8667 | 3.9462 | 74,148.5501 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.9056 | 4.1609 | 361.2829 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5694 | 0.0000 | 606.4577 |
| **Total** | **4,390.4456** | **63.6742** | **4,123.0377** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8668** | **3.9462** | **74,148.5501** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.9056 | 4.1609 | 361.2829 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5694 | 0.0000 | 606.4577 |
| **Total** | **4,390.4456** | **63.6742** | **4,123.0377** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8668** | **3.9462** | **74,148.5501** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Calaveras County Draft General Plan (Year 2030) - Calaveras County AQMD Air District, Annual

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| Unmitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Unmitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# CalEEMod Emissions Estimation:
# General Plan Buildout, Year 2050

# Calaveras County Draft General Plan (Year 2050)

## Calaveras County AQMD Air District, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Industrial Park | 114,957.93 | 1000sqft | 3,518.80 | 114,957,930.00 | 0 |
| Health Club | 17,926.95 | 1000sqft | 823.10 | 17,926,950.00 | 0 |
| Apartments Low Rise | 5,391.00 | Dwelling Unit | 409.30 | 5,391,000.00 | 15418 |
| Apartments Mid Rise | 3,637.00 | Dwelling Unit | 203.40 | 3,637,000.00 | 10402 |
| Single Family Housing | 39,540.00 | Dwelling Unit | 86,752.00 | 71,172,000.00 | 113084 |
| Regional Shopping Center | 25,738.99 | 1000sqft | 590.90 | 25,738,990.00 | 0 |
| Strip Mall | 17,789.96 | 1000sqft | 1.61 | 17,789,960.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 61 |
| **Climate Zone** | 1 | | | **Operational Year** | 2050 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 287.23 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Calaveras County Draft General Plan (Year 2050) - Calaveras County AQMD Air District, Annual

Project Characteristics - CO2 Intensity Factor updated per PG&E progress towards RPS

Land Use - Draft General Plan buildout projections

Construction Phase - Construction not modeled

Off-road Equipment - Construction not modeled

Off-road Equipment - Construction not modeled

Trips and VMT - Construction not modeled

Grading -

Vehicle Trips - Updated per Fehr and Peers

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 155,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 114,958,000.00 | 114,957,930.00 |
| tblLandUse | LandUseSquareFeet | 17,927,000.00 | 17,926,950.00 |
| tblLandUse | LandUseSquareFeet | 25,739,000.00 | 25,738,990.00 |
| tblLandUse | LandUseSquareFeet | 17,790,000.00 | 17,789,960.00 |
| tblLandUse | LotAcreage | 2,639.07 | 3,518.80 |
| tblLandUse | LotAcreage | 411.55 | 823.10 |
| tblLandUse | LotAcreage | 336.94 | 409.30 |
| tblLandUse | LotAcreage | 95.71 | 203.40 |
| tblLandUse | LotAcreage | 12,837.66 | 86,752.00 |
| tblLandUse | LotAcreage | 590.89 | 590.90 |
| tblLandUse | LotAcreage | 408.40 | 1.61 |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 287.23 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 6.60 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 34,106.00 | 0.00 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 90,476.00 | 0.00 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CC_TL | 6.60 | 0.87 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CNW_TL | 6.60 | 0.83 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | CW_TL | 14.70 | 1.93 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HO_TL | 7.90 | 1.04 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HS_TL | 7.10 | 0.93 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |
| tblVehicleTrips | HW_TL | 16.80 | 2.20 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

Calaveras County Draft General Plan (Year 2050) - Calaveras County AQMD Air District, Annual

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4260 | 63.6720 | 4,122.4043 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8662 | 3.9462 | 74,148.5365 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 267.0256 | 1,756.6665 | 1,551.3716 | 5.1995 | 379.7963 | 2.2379 | 382.0341 | 101.8070 | 2.0723 | 103.8793 | 0.0000 | 480,895.3108 | 480,895.3108 | 17.8048 | 0.0000 | 481,340.4304 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **4,674.5690** | **1,974.3292** | **5,792.5964** | **12.9676** | **379.7963** | **543.5039** | **923.3001** | **101.8070** | **543.3383** | **645.1453** | **126,503.6863** | **1,000,585.7183** | **1,127,089.4046** | **5,083.2448** | **40.1023** | **1,266,121.0069** |

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4,390.4260 | 63.6720 | 4,122.4043 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8662 | 3.9462 | 74,148.5365 |
| Energy | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 471,958.6322 | 471,958.6322 | 33.7942 | 9.4259 | 475,612.3942 |
| Mobile | 267.0256 | 1,756.6665 | 1,551.3716 | 5.1995 | 379.7963 | 2.2379 | 382.0341 | 101.8070 | 2.0723 | 103.8793 | 0.0000 | 480,895.3108 | 480,895.3108 | 17.8048 | 0.0000 | 481,340.4304 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 65,537.8957 | 0.0000 | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10,797.1008 | 26,099.5350 | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| **Total** | **4,674.5690** | **1,974.3292** | **5,792.5964** | **12.9676** | **379.7963** | **543.5039** | **923.3001** | **101.8070** | **543.3383** | **645.1453** | **126,503.6863** | **1,000,585.7183** | **1,127,089.4046** | **5,083.2448** | **40.1023** | **1,266,121.0069** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 1/1/2019 | 1/1/2019 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Building Construction - 2019

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 3.2 Building Construction - 2019

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 267.0256 | 1,756.6665 | 1,551.3716 | 5.1995 | 379.7963 | 2.2379 | 382.0341 | 101.8070 | 2.0723 | 103.8793 | 0.0000 | 480,895.3108 | 480,895.3108 | 17.8048 | 0.0000 | 481,340.4304 |
| Unmitigated | 267.0256 | 1,756.6665 | 1,551.3716 | 5.1995 | 379.7963 | 2.2379 | 382.0341 | 101.8070 | 2.0723 | 103.8793 | 0.0000 | 480,895.3108 | 480,895.3108 | 17.8048 | 0.0000 | 481,340.4304 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Low Rise | 35,526.69 | 38,599.56 | 32723.37 | 16,697,342 | 16,697,342 |
| Apartments Mid Rise | 24,186.05 | 23,240.43 | 21312.82 | 11,098,870 | 11,098,870 |
| Health Club | 590,334.46 | 374,135.45 | 479187.37 | 129,034,422 | 129,034,422 |
| Industrial Park | 785,162.66 | 286,245.25 | 83919.29 | 279,248,054 | 279,248,054 |
| Regional Shopping Center | 1,099,054.87 | 1,286,177.33 | 649652.11 | 255,257,846 | 255,257,846 |
| Single Family Housing | 376,420.80 | 391,841.40 | 340834.80 | 175,371,599 | 175,371,599 |
| Strip Mall | 788,451.03 | 747,889.92 | 363448.88 | 154,018,868 | 154,018,868 |
| Total | 3,699,136.57 | 3,148,129.33 | 1,971,078.64 | 1,020,727,001 | 1,020,727,001 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Health Club | 1.93 | 0.87 | 0.83 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| Industrial Park | 1.93 | 0.87 | 0.83 | 59.00 | 28.00 | 13.00 | 79 | 19 | 2 |
| Regional Shopping Center | 1.93 | 0.87 | 0.83 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 2.20 | 0.93 | 1.04 | 37.30 | 20.70 | 42.00 | 86 | 11 | 3 |
| Strip Mall | 1.93 | 0.87 | 0.83 | 16.60 | 64.40 | 19.00 | 45 | 40 | 15 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Low Rise | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Apartments Mid Rise | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Health Club | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Industrial Park | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Regional Shopping Center | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Single Family Housing | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |
| Strip Mall | 0.617052 | 0.026590 | 0.189761 | 0.098134 | 0.008226 | 0.003233 | 0.023532 | 0.024003 | 0.002829 | 0.000817 | 0.004200 | 0.001214 | 0.000409 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Calaveras County Draft General Plan (Year 2050) - Calaveras County AQMD Air District, Annual

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 302,555.4031 | 302,555.4031 | 30.5473 | 6.3201 | 305,202.4864 |
| NaturalGas Mitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |
| NaturalGas Unmitigated | 17.1174 | 153.9907 | 118.8205 | 0.9337 | | 11.8266 | 11.8266 | | 11.8266 | 11.8266 | 0.0000 | 169,403.2291 | 169,403.2291 | 3.2469 | 3.1057 | 170,409.9078 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Low Rise | 5.82205e+007 | 0.3139 | 2.6827 | 1.1416 | 0.0171 | | 0.2169 | 0.2169 | | 0.2169 | 0.2169 | 0.0000 | 3,106.8695 | 3,106.8695 | 0.0596 | 0.0570 | 3,125.3321 |
| Apartments Mid Rise | 1.41444e+007 | 0.0763 | 0.6518 | 0.2773 | 4.1600e-003 | | 0.0527 | 0.0527 | | 0.0527 | 0.0527 | 0.0000 | 754.7992 | 754.7992 | 0.0145 | 0.0138 | 759.2846 |
| Health Club | 6.29236e+007 | 0.3393 | 3.0845 | 2.5910 | 0.0185 | | 0.2344 | 0.2344 | | 0.2344 | 0.2344 | 0.0000 | 3,357.8426 | 3,357.8426 | 0.0644 | 0.0616 | 3,377.7966 |
| Industrial Park | 2.24628e+009 | 12.1123 | 110.1117 | 92.4938 | 0.6607 | | 8.3685 | 8.3685 | | 8.3685 | 8.3685 | 0.0000 | 119,869.9459 | 119,869.9459 | 2.2975 | 2.1976 | 120,582.2730 |
| Regional Shopping Center | 1.85578e+008 | 1.0007 | 9.0970 | 7.6415 | 0.0546 | | 0.6914 | 0.6914 | | 0.6914 | 0.6914 | 0.0000 | 9,903.1551 | 9,903.1551 | 0.1898 | 0.1816 | 9,962.0046 |
| Single Family Housing | 4.79086e+008 | 2.5833 | 22.0756 | 9.3939 | 0.1409 | | 1.7848 | 1.7848 | | 1.7848 | 1.7848 | 0.0000 | 25,565.8753 | 25,565.8753 | 0.4900 | 0.4687 | 25,717.8005 |
| Strip Mall | 1.28266e+008 | 0.6916 | 6.2875 | 5.2815 | 0.0377 | | 0.4779 | 0.4779 | | 0.4779 | 0.4779 | 0.0000 | 6,844.7415 | 6,844.7415 | 0.1312 | 0.1255 | 6,885.4164 |
| **Total** | | **17.1174** | **153.9907** | **118.8205** | **0.9337** | | **11.8266** | **11.8266** | | **11.8266** | **11.8266** | **0.0000** | **169,403.2291** | **169,403.2291** | **3.2469** | **3.1057** | **170,409.9078** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Low Rise | 2.5656e+007 | 3,342.6056 | 0.3375 | 0.0698 | 3,371.8504 |
| Apartments Mid Rise | 1.68254e+007 | 2,192.1003 | 0.2213 | 0.0458 | 2,211.2792 |
| Health Club | 7.67273e+007 | 9,996.4481 | 1.0093 | 0.2088 | 10,083.9079 |
| Industrial Park | 1.27143e+009 | 165,649.2984 | 16.7247 | 3.4603 | 167,098.5784 |
| Regional Shopping Center | 3.47991e+008 | 45,338.1434 | 4.5775 | 0.9471 | 45,734.8107 |
| Single Family Housing | 3.43097e+008 | 44,700.5444 | 4.5132 | 0.9338 | 45,091.6333 |
| Strip Mall | 2.4052e+008 | 31,336.2629 | 3.1639 | 0.6546 | 31,610.4266 |
| **Total** | | **302,555.4031** | **30.5473** | **6.3201** | **305,202.4864** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4,390.4260 | 63.6720 | 4,122.4043 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8662 | 3.9462 | 74,148.5365 |
| Unmitigated | 4,390.4260 | 63.6720 | 4,122.4043 | 6.8344 | | 529.4395 | 529.4395 | | 529.4395 | 529.4395 | 50,168.6897 | 21,632.2403 | 71,800.9300 | 46.8662 | 3.9462 | 74,148.5365 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.8859 | 4.1587 | 360.6494 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5688 | 0.0000 | 606.4441 |
| **Total** | **4,390.4260** | **63.6720** | **4,122.4043** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8662** | **3.9462** | **74,148.5365** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 329.8776 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1,002.2053 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 3,047.4571 | 59.5133 | 3,761.7548 | 6.8152 | | 527.4339 | 527.4339 | | 527.4339 | 527.4339 | 50,168.6897 | 21,040.0168 | 71,208.7065 | 46.2974 | 3.9462 | 73,542.0924 |
| Landscaping | 10.8859 | 4.1587 | 360.6494 | 0.0192 | | 2.0056 | 2.0056 | | 2.0056 | 2.0056 | 0.0000 | 592.2235 | 592.2235 | 0.5688 | 0.0000 | 606.4441 |
| **Total** | **4,390.4260** | **63.6720** | **4,122.4043** | **6.8344** | | **529.4395** | **529.4395** | | **529.4395** | **529.4395** | **50,168.6897** | **21,632.2403** | **71,800.9300** | **46.8662** | **3.9462** | **74,148.5365** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Calaveras County Draft General Plan (Year 2050) - Calaveras County AQMD Air District, Annual

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |
| Unmitigated | 36,896.6358 | 1,111.6009 | 26.7303 | 72,652.2833 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Low Rise | 351.245 / 221.437 | 460.0279 | 11.4805 | 0.2775 | 829.7454 |
| Apartments Mid Rise | 236.965 / 149.391 | 310.3546 | 7.7453 | 0.1872 | 559.7819 |
| Health Club | 1060.26 / 649.836 | 1,380.1509 | 34.6539 | 0.8376 | 2,496.0953 |
| Industrial Park | 26584 / 0 | 27,174.9427 | 868.1334 | 20.8453 | 55,090.1830 |
| Regional Shopping Center | 1906.55 / 1168.53 | 2,481.7803 | 62.3146 | 1.5061 | 4,488.4660 |
| Single Family Housing | 2576.19 / 1624.12 | 3,374.0498 | 84.2033 | 2.0355 | 6,085.7229 |
| Strip Mall | 1317.75 / 807.653 | 1,715.3297 | 43.0699 | 1.0410 | 3,102.2888 |
| **Total** | | **36,896.6358** | **1,111.6009** | **26.7303** | **72,652.2833** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |
| Unmitigated | 65,537.8957 | 3,873.1787 | 0.0000 | 162,367.3626 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Low Rise | 2479.86 | 503.3892 | 29.7495 | 0.0000 | 1,247.1254 |
| Apartments Mid Rise | 1673.02 | 339.6079 | 20.0703 | 0.0000 | 841.3643 |
| Health Club | 102184 | 20,742.4083 | 1,225.8412 | 0.0000 | 51,388.4385 |
| Industrial Park | 142548 | 28,935.9395 | 1,710.0650 | 0.0000 | 71,687.5654 |
| Regional Shopping Center | 27026 | 5,486.0236 | 324.2147 | 0.0000 | 13,591.3913 |
| Single Family Housing | 28271 | 5,738.7575 | 339.1509 | 0.0000 | 14,217.5288 |
| Strip Mall | 18679.5 | 3,791.7697 | 224.0872 | 0.0000 | 9,393.9489 |
| **Total** | | **65,537.8957** | **3,873.1787** | **0.0000** | **162,367.3626** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# National Emissions Inventory:
# Calaveras County

| SECTOR | STATE | COUNTY | POLLUTANT | POLLUTANT TYPE | EMISSIONS | UNIT OF MEASURE |
|---|---|---|---|---|---|---|
| Biogenics - Vegetation and Soil | CA | Calaveras | Nitrogen Oxides | CAP | 312.833 | TON |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | Nitrogen Oxides | CAP | 213.80126 | TON |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | Nitrogen Oxides | CAP | 151.241569 | TON |
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | Nitrogen Oxides | CAP | 149.6395961 | TON |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | Nitrogen Oxides | CAP | 135.8417539 | TON |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | Nitrogen Oxides | CAP | 123.4285066 | TON |
| Fires - Prescribed Fires | CA | Calaveras | Nitrogen Oxides | CAP | 106.963188 | TON |
| Waste Disposal | CA | Calaveras | Nitrogen Oxides | CAP | 48.76544 | TON |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | Nitrogen Oxides | CAP | 27.1 | TON |
| Fuel Comb - Residential - Other | CA | Calaveras | Nitrogen Oxides | CAP | 19.9111 | TON |
| Fires - Wildfires | CA | Calaveras | Nitrogen Oxides | CAP | 12.024282 | TON |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | Nitrogen Oxides | CAP | 10.296584 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Oil | CA | Calaveras | Nitrogen Oxides | CAP | 5.89617 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | Nitrogen Oxides | CAP | 5.04448 | TON |
| Fuel Comb - Residential - Wood | CA | Calaveras | Nitrogen Oxides | CAP | 3.8433 | TON |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | Nitrogen Oxides | CAP | 3.04962 | TON |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | Nitrogen Oxides | CAP | 1.26592 | TON |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | Nitrogen Oxides | CAP | 1.216547 | TON |
| Mobile - Aircraft | CA | Calaveras | Nitrogen Oxides | CAP | 1.11165062 | TON |
| Fuel Comb - Residential - Oil | CA | Calaveras | Nitrogen Oxides | CAP | 0.744891 | TON |
| Mobile - Non-Road Equipment - Other | CA | Calaveras | Nitrogen Oxides | CAP | 0.6463641 | TON |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | Nitrogen Oxides | CAP | 0.563938 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | Nitrogen Oxides | CAP | 0.445141 | TON |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | Nitrogen Oxides | CAP | 0 | TON |
| Commercial Cooking | CA | Calaveras | Nitrogen Oxides | CAP | 0 | TON |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | Nitrogen Oxides | CAP | 0 | TON |
| | | | | | 1335.674301 | |
| SECTOR | STATE | COUNTY | POLLUTANT | POLLUTANT TYPE | EMISSIONS | UNIT OF MEASURE |
| Fires - Prescribed Fires | CA | Calaveras | PM10 Primary (Filt | CAP | 1072.49123 | TON |
| Dust - Unpaved Road Dust | CA | Calaveras | PM10 Primary (Filt | CAP | 683.117 | TON |
| Waste Disposal | CA | Calaveras | PM10 Primary (Filt | CAP | 214.2981 | TON |
| Agriculture - Crops & Livestock Dust | CA | Calaveras | PM10 Primary (Filt | CAP | 192.97356 | TON |
| Dust - Construction Dust | CA | Calaveras | PM10 Primary (Filt | CAP | 88.9222 | TON |
| Dust - Paved Road Dust | CA | Calaveras | PM10 Primary (Filt | CAP | 80.37 | TON |
| Fires - Wildfires | CA | Calaveras | PM10 Primary (Filt | CAP | 62.633123 | TON |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | PM10 Primary (Filt | CAP | 35.22033945 | TON |
| Fuel Comb - Residential - Wood | CA | Calaveras | PM10 Primary (Filt | CAP | 34.4142 | TON |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | PM10 Primary (Filt | CAP | 17.4519383 | TON |
| Commercial Cooking | CA | Calaveras | PM10 Primary (Filt | CAP | 12.346276 | TON |
| Industrial Processes - NEC | CA | Calaveras | PM10 Primary (Filt | CAP | 9.0579 | TON |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | PM10 Primary (Filt | CAP | 7.31070125 | TON |
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | PM10 Primary (Filt | CAP | 6.923324 | TON |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | PM10 Primary (Filt | CAP | 3.9961302 | TON |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | PM10 Primary (Filt | CAP | 3.72219443 | TON |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | PM10 Primary (Filt | CAP | 1.952 | TON |
| Mobile - Aircraft | CA | Calaveras | PM10 Primary (Filt | CAP | 1.9139712 | TON |
| Industrial Processes - Storage and Transfer | CA | Calaveras | PM10 Primary (Filt | CAP | 0.5 | TON |
| Fuel Comb - Residential - Other | CA | Calaveras | PM10 Primary (Filt | CAP | 0.485637 | TON |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | PM10 Primary (Filt | CAP | 0.4289967 | TON |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | PM10 Primary (Filt | CAP | 0.117151 | TON |
| Fuel Comb - Residential - Oil | CA | Calaveras | PM10 Primary (Filt | CAP | 0.1148647 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | PM10 Primary (Filt | CAP | 0.1121 | TON |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | PM10 Primary (Filt | CAP | 0.108915 | TON |
| Agriculture - Livestock Waste | CA | Calaveras | PM10 Primary (Filt | CAP | 0.0599148 | TON |
| Mobile - Non-Road Equipment - Other | CA | Calaveras | PM10 Primary (Filt | CAP | 0.0193633 | TON |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | PM10 Primary (Filt | CAP | 0.00123708 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | PM10 Primary (Filt | CAP | 0.000803135 | TON |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | PM10 Primary (Filt | CAP | 0 | TON |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | PM10 Primary (Filt | CAP | 0 | TON |
| | | | | | | |
| Fires - Prescribed Fires | CA | Calaveras | PM2.5 Primary (Filt | CAP | 908.89112 | TON |
| Waste Disposal | CA | Calaveras | PM2.5 Primary (Filt | CAP | 191.5041 | TON |
| Dust - Unpaved Road Dust | CA | Calaveras | PM2.5 Primary (Filt | CAP | 68.2772 | TON |
| Fires - Wildfires | CA | Calaveras | PM2.5 Primary (Filt | CAP | 53.078803 | TON |
| Agriculture - Crops & Livestock Dust | CA | Calaveras | PM2.5 Primary (Filt | CAP | 34.411182 | TON |
| Fuel Comb - Residential - Wood | CA | Calaveras | PM2.5 Primary (Filt | CAP | 33.1297 | TON |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | PM2.5 Primary (Filt | CAP | 26.75595125 | TON |
| Dust - Paved Road Dust | CA | Calaveras | PM2.5 Primary (Filt | CAP | 12.059 | TON |
| Commercial Cooking | CA | Calaveras | PM2.5 Primary (Filt | CAP | 11.284251 | TON |
| Dust - Construction Dust | CA | Calaveras | PM2.5 Primary (Filt | CAP | 8.88676 | TON |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | PM2.5 Primary (Filt | CAP | 7.7060999 | TON |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | PM2.5 Primary (Filt | CAP | 6.73706355 | TON |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | PM2.5 Primary (Filt | CAP | 5.4440353 | TON | |
| Industrial Processes - NEC | CA | Calaveras | PM2.5 Primary (Filt | CAP | 3.30972 | TON | |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | PM2.5 Primary (Filt | CAP | 3.05693343 | TON | |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | PM2.5 Primary (Filt | CAP | 2.4617071 | TON | |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | PM2.5 Primary (Filt | CAP | 1.934 | TON | |
| Mobile - Aircraft | CA | Calaveras | PM2.5 Primary (Filt | CAP | 1.47396935 | TON | |
| Fuel Comb - Residential - Other | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.485637 | TON | |
| Industrial Processes - Storage and Transfer | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.375 | TON | |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.18628471 | TON | |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.117151 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.1121 | TON | |
| Fuel Comb - Residential - Oil | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.1111819 | TON | |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.108915 | TON | |
| Mobile - Non-Road Equipment - Other | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.01932675 | TON | |
| Agriculture - Livestock Waste | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.00683958 | TON | |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.00084361 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0.000477524 | TON | |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0 | TON | |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | PM2.5 Primary (Filt | CAP | 0 | TON | |
| | | | | | | | |
| Fires - Prescribed Fires | CA | Calaveras | Sulfur Dioxide | CAP | 69.177365 | TON | |
| Waste Disposal | CA | Calaveras | Sulfur Dioxide | CAP | 6.63256 | TON | |
| Fires - Wildfires | CA | Calaveras | Sulfur Dioxide | CAP | 5.613911 | TON | |
| Fuel Comb - Residential - Oil | CA | Calaveras | Sulfur Dioxide | CAP | 1.834615 | TON | |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | Sulfur Dioxide | CAP | 1.8 | TON | |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | Sulfur Dioxide | CAP | 1.54863756 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Oil | CA | Calaveras | Sulfur Dioxide | CAP | 1.41508 | TON | |
| Fuel Comb - Residential - Wood | CA | Calaveras | Sulfur Dioxide | CAP | 0.735239 | TON | |
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | Sulfur Dioxide | CAP | 0.23586806 | TON | |
| Mobile - Aircraft | CA | Calaveras | Sulfur Dioxide | CAP | 0.224862505 | TON | |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | Sulfur Dioxide | CAP | 0.1833578 | TON | |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | Sulfur Dioxide | CAP | 0.1587826 | TON | |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | Sulfur Dioxide | CAP | 0.13541145 | TON | |
| Fuel Comb - Residential - Other | CA | Calaveras | Sulfur Dioxide | CAP | 0.0976246 | TON | |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | Sulfur Dioxide | CAP | 0.0489073 | TON | |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | Sulfur Dioxide | CAP | 0.036617409 | TON | |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | Sulfur Dioxide | CAP | 0.0205553 | TON | |
| Commercial Cooking | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | Sulfur Dioxide | CAP | 0 | TON | |
| | | | | | | | |
| Biogenics - Vegetation and Soil | CA | Calaveras | Volatile Organic Co | CAP | 33231.7 | TON | 182,091.51 |
| Fires - Prescribed Fires | CA | Calaveras | Volatile Organic Co | CAP | 2562.43276 | TON | 14,040.73 |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | Volatile Organic Co | CAP | 641.9403022 | TON | |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | Volatile Organic Co | CAP | 250.0511 | TON | |
| Solvent - Consumer & Commercial Solvent Use | CA | Calaveras | Volatile Organic Co | CAP | 212.9259336 | TON | |
| Agriculture - Livestock Waste | CA | Calaveras | Volatile Organic Co | CAP | 171.356232 | TON | |
| Fires - Wildfires | CA | Calaveras | Volatile Organic Co | CAP | 137.882386 | TON | 755.5199233 |
| Waste Disposal | CA | Calaveras | Volatile Organic Co | CAP | 123.5577 | TON | |
| Solvent - Non-Industrial Surface Coating | CA | Calaveras | Volatile Organic Co | CAP | 41.93715 | TON | |
| Solvent - Industrial Surface Coating & Solvent Use | CA | Calaveras | Volatile Organic Co | CAP | 40.8834 | TON | |
| Fuel Comb - Residential - Wood | CA | Calaveras | Volatile Organic Co | CAP | 28.3226 | TON | |
| Industrial Processes - Petroleum Refineries | CA | Calaveras | Volatile Organic Co | CAP | 26.191 | TON | |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | Volatile Organic Co | CAP | 25.12926675 | TON | |
| Industrial Processes - Storage and Transfer | CA | Calaveras | Volatile Organic Co | CAP | 10.48567 | TON | |
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | Volatile Organic Co | CAP | 9.89914418 | TON | |
| Bulk Gasoline Terminals | CA | Calaveras | Volatile Organic Co | CAP | 9.7367 | TON | |
| Solvent - Graphic Arts | CA | Calaveras | Volatile Organic Co | CAP | 7.01725 | TON | |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | Volatile Organic Co | CAP | 6.6204161 | TON | |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | Volatile Organic Co | CAP | 5.510015956 | TON | |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | Volatile Organic Co | CAP | 5.083002 | TON | |
| Gas Stations | CA | Calaveras | Volatile Organic Co | CAP | 4.8158 | TON | |
| Mobile - Aircraft | CA | Calaveras | Volatile Organic Co | CAP | 2.43760912 | TON | |
| Industrial Processes - NEC | CA | Calaveras | Volatile Organic Co | CAP | 2.42134 | TON | |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | Volatile Organic Co | CAP | 2.2 | TON | |
| Commercial Cooking | CA | Calaveras | Volatile Organic Co | CAP | 2.06506064 | TON | |
| Solvent - Degreasing | CA | Calaveras | Volatile Organic Co | CAP | 1.87748 | TON | |
| Fuel Comb - Residential - Other | CA | Calaveras | Volatile Organic Co | CAP | 1.04169 | TON | |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | Volatile Organic Co | CAP | 0.416503 | TON | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Fuel Comb - Residential - Oil | CA | Calaveras | Volatile Organic Co | CAP | 0.09284868 | TON |
| Fires - Agricultural Field Burning | CA | Calaveras | Volatile Organic Co | CAP | 0.0627483 | TON |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | Volatile Organic Co | CAP | 0.0515464 | TON |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | Volatile Organic Co | CAP | 0.0479227 | TON |
| Mobile - Non-Road Equipment - Other | CA | Calaveras | Volatile Organic Co | CAP | 0.01697822 | TON |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | Volatile Organic Co | CAP | 0.0168516 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | Volatile Organic Co | CAP | 0.0147779 | TON |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | Volatile Organic Co | CAP | 0 | TON |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | Volatile Organic Co | CAP | 0 | TON |
| Fires - Prescribed Fires | CA | Calaveras | Carbon Monoxide | CAP | 10910.5526 | TON |
| Biogenics - Vegetation and Soil | CA | Calaveras | Carbon Monoxide | CAP | 3268.44 | TON |
| Mobile - Non-Road Equipment - Gasoline | CA | Calaveras | Carbon Monoxide | CAP | 2424.675863 | TON |
| Mobile - On-Road non-Diesel Light Duty Vehicles | CA | Calaveras | Carbon Monoxide | CAP | 1826.4393 | TON |
| Waste Disposal | CA | Calaveras | Carbon Monoxide | CAP | 1410.151 | TON |
| Fires - Wildfires | CA | Calaveras | Carbon Monoxide | CAP | 579.546843 | TON |
| Fuel Comb - Residential - Wood | CA | Calaveras | Carbon Monoxide | CAP | 209.585 | TON |
| Mobile - Aircraft | CA | Calaveras | Carbon Monoxide | CAP | 91.626042 | TON |
| Mobile - Non-Road Equipment - Diesel | CA | Calaveras | Carbon Monoxide | CAP | 80.83846695 | TON |
| Mobile - On-Road non-Diesel Heavy Duty Vehicles | CA | Calaveras | Carbon Monoxide | CAP | 77.15205 | TON |
| Miscellaneous Non-Industrial NEC | CA | Calaveras | Carbon Monoxide | CAP | 49.4118893 | TON |
| Mobile - On-Road Diesel Heavy Duty Vehicles | CA | Calaveras | Carbon Monoxide | CAP | 32.5047316 | TON |
| Mobile - On-Road Diesel Light Duty Vehicles | CA | Calaveras | Carbon Monoxide | CAP | 31.748424 | TON |
| Mobile - Non-Road Equipment - Other | CA | Calaveras | Carbon Monoxide | CAP | 6.1606652 | TON |
| Fuel Comb - Electric Generation - Oil | CA | Calaveras | Carbon Monoxide | CAP | 5.8 | TON |
| Fuel Comb - Residential - Other | CA | Calaveras | Carbon Monoxide | CAP | 3.98222 | TON |
| Fuel Comb - Residential - Natural Gas | CA | Calaveras | Carbon Monoxide | CAP | 0.461023 | TON |
| Commercial Cooking | CA | Calaveras | Carbon Monoxide | CAP | 0.375606 | TON |
| Fuel Comb - Comm/Institutional - Natural Gas | CA | Calaveras | Carbon Monoxide | CAP | 0.326745 | TON |
| Fuel Comb - Comm/Institutional - Other | CA | Calaveras | Carbon Monoxide | CAP | 0.312955 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Natural Gas | CA | Calaveras | Carbon Monoxide | CAP | 0.224199 | TON |
| Fuel Comb - Industrial Boilers, ICEs - Other | CA | Calaveras | Carbon Monoxide | CAP | 0.209905 | TON |
| Fuel Comb - Residential - Oil | CA | Calaveras | Carbon Monoxide | CAP | 0.1919746 | TON |
| Fires - Agricultural Field Burning | CA | Calaveras | Carbon Monoxide | CAP | 0.110123 | TON |
| Fuel Comb - Comm/Institutional - Coal | CA | Calaveras | Carbon Monoxide | CAP | 0 | TON |
| Fuel Comb - Comm/Institutional - Oil | CA | Calaveras | Carbon Monoxide | CAP | 0 | TON |

| Pollutant | Emissions | Unit of Measurement |
|---|---|---|
| Nitrogen Oxides | 1335.674301 | Tons |
| PM10 Primary (Filt + Cond) | 2531.063171 | Tons |
| PM2.5 Primary (Filt + Cond) | 1381.925353 | Tons |
| Sulfur Dioxide | 89.89939458 | Tons |
| Volatile Organic Compounds | 37566.24119 | Tons |
| Carbon Monoxide | 21010.82763 | Tons |

United States Environmental Protection Agency. *Air Emissions Inventory: 2014 National Emissions Inventory (NEI) Data* . Available at https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data. Accessed March 2018.

| Pollutant | Emissions | Unit of Measurement |
|---|---|---|
| Nitrogen Oxides | 7318.763295 | lbs/day |
| PM10 Primary (Filt + Cond) | 13868.83929 | lbs/day |
| PM2.5 Primary (Filt + Cond) | 7572.193715 | lbs/day |
| Sulfur Dioxide | 492.5994224 | lbs/day |
| Volatile Organic Compounds | 205842.4175 | lbs/day |
| Carbon Monoxide | 115127.8226 | lbs/day |

Emissions Due to Fires & other biogenic sources

| Pollutant | Emissions | Unit of Measurement |
|---|---|---|
| Nitrogen Oxides | 431.82047 | Tons |
| PM10 Primary (Filt + Cond) | 1135.124353 | Tons |
| PM2.5 Primary (Filt + Cond) | 961.969923 | Tons |
| Sulfur Dioxide | 74.791276 | Tons |
| Volatile Organic Compounds | 35932.01515 | Tons |
| Carbon Monoxide | 14758.53944 | Tons |
| Nitrogen Oxides | 2366.139562 | lbs/day |
| PM10 Primary (Filt + Cond) | 6219.859468 | lbs/day |
| PM2.5 Primary (Filt + Cond) | 5271.068071 | lbs/day |
| Sulfur Dioxide | 409.815211 | lbs/day |
| Volatile Organic Compounds | 196887.7542 | lbs/day |
| Carbon Monoxide | 80868.70928 | lbs/day |

MONK & ASSOCIATES
**Environmental Consultants**

# CALAVERAS COUNTY
# DRAFT GENERAL PLAN EIR
# BIOLOGICAL RESOURCES

**May 15, 2017**

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Figure 1. Regional Project Location Map of the Calaveras County General Plan Area.

Figure 2. Local Project Location Map of the Calaveras County General Plan Area.

Figure 3. Aerial Photograph of the Calaveras County General Plan Area.

Figure 4. Vegetation Communities of the Calaveras County General Plan Area.

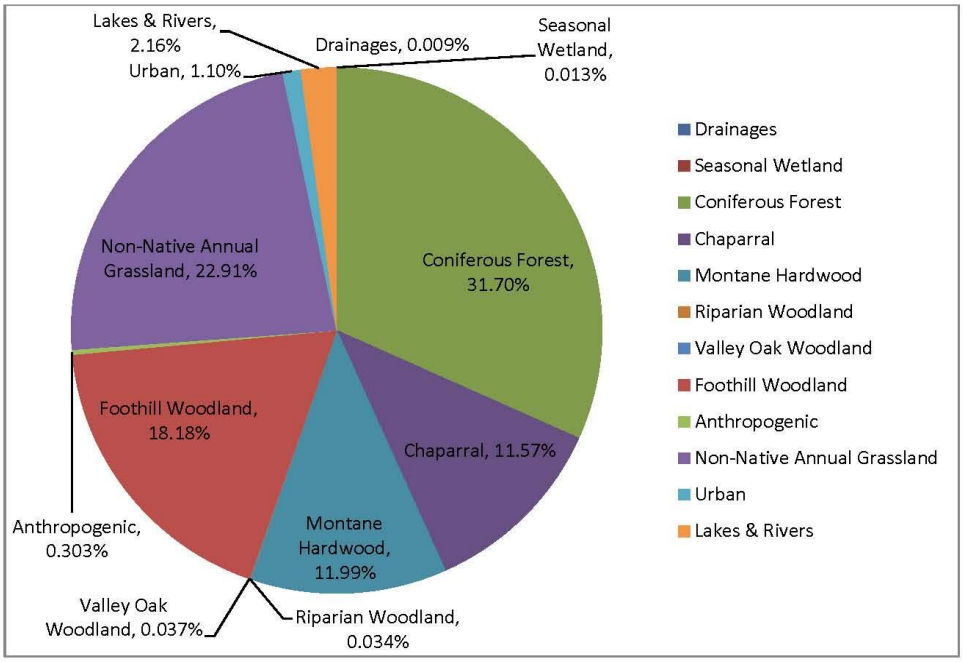
## 1. VEGETATION AND WILDLIFE

Monk & Associates, Inc. (M&A) biologists relied on several comprehensive vegetation manuals and our experience in and knowledge of Calaveras County to characterize the general vegetation types present. Some of the vegetation manuals consulted included: A Manual of California Vegetation, Second Edition (Sawyer et al 2009), Terrestrial Vegetation of California, Third Edition (Barbour et al. 2007) and Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). M&A also consulted the U.S. Department of Agriculture's Forest Service vegetation communities map provided by the Calaveras County Planning Department's Geographic Information Systems (GIS) staff. This vegetation communities map is included as Figure 4.

Nomenclature used for plant names follows *The Jepson Manual* Second Edition (Baldwin 2012) and changes made to this manual as published on the Jepson Interchange Project website (http://ucjeps.berkeley.edu/interchange/index.html). Nomenclature for wildlife follows the California Department of Fish and Wildlife's (the CDFW) *Complete list of amphibian, reptile, bird, and mammal species in California* (2014) and any changes made to species nomenclature as published in scientific journals since the publication of the CDFW's list. Below we present Table 1 which shows the estimated acreage of each vegetation type within the County.

**Table 1. Plant Communities/Land Use Types Within the County**

| | ~ Area (Acres) | ~% of County |
|---|---|---|
| **Calaveras County** | **663,452.7** | |
| Drainages | 57.0 | 0.009% |
| Seasonal Wetland | 87.1 | 0.013% |
| Coniferous Forest | 210,307.7 | 31.70% |
| Chaparral | 76,782.5 | 11.57% |
| Montane Hardwood | 79,539.0 | 11.99% |
| Riparian Woodland | 226.0 | 0.034% |
| Valley Oak Woodland | 246.0 | 0.037% |
| Foothill Woodland | 120,607.6 | 18.18% |
| Anthropogenic | 2,784 | 0.303% |
| Ruderal Non-Native Annual Grassland | 151,975.3 | 22.91% |
| Urban | 7,313.2 | 1.10% |
| Lakes & Rivers | 14,303.2 | 2.16% |




Vegetation Communities of Calaveras County

## 1.1 Anthropogenic Communities

Communities dominated by plants that are introduced by humans and established or maintained by human disturbance are "anthropogenic communities." Primarily, there are three such communities in the County: agrestal (crops), plantation (vineyard and orchard), and ruderal. While small gardens and both residential and commercially landscaped areas are also anthropogenic communities, they are highly variable in composition, are typically intensively managed and maintained, and as such are not discussed further herein. The three primary anthropogenic communities listed above make up approximately 2,784 acres or 0.30% of the County (U.S. Forest Service GIS data/shape files). These three communities are discussed further in the sections below.

### 1.1.1 AGRESTAL COMMUNITIES (CROPLANDS)

An "agrestal" community is a weed dominated community of rural, agricultural areas (Holland & Keil 1995). Agrestal communities form in areas that have been disturbed by cultivation. Plants introduced by man, generally for agricultural commodity crops (op. cit.), dominate these communities. Many species of weeds thrive in the same environments as crop plants. These weed species are able to grow to maturity and to reproduce side by side with crop plants. Most agrestal areas in the County are in the western half of the County (Figure 4).

In general, agrestal areas do not provide habitat for many wildlife species. Most farms are "clean farmed" meaning that few or little naturalized habitats remain within the farmed areas. The intense cultivation and manipulation of the soil, including the application of pesticides, herbicides, and fertilizers tend to limit the number of species that occupy or use cropland habitats. Nevertheless, hay fields can provide habitat for a number of resident species, particularly small mammal populations, including California meadow vole (*Microtus californicus*), western harvest mice (*Reithrodontomys megalotis*), deer mice (*Peromyscus maniculatus*), and California ground squirrels (*Spermophilus beechyi*). These rodents in turn serve as prey for various raptors, including red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), and red-shouldered hawk (*Buteo lineatus*), among others. Migratory species such as the greater white-fronted goose (*Anser albifrons*) and Canada goose (*Branta canadensis*) also frequently stop over and feed/rest in hay fields and other agricultural row crop fields during migrations.

Migratory bird species also use agrestal communities, particularly in the winter months after crops are harvested. Waterfowl and shorebirds often alight in agricultural fields in the winter months enroute to and from nesting grounds. Flooded conditions provide foraging opportunities for shore birds such as western sandpiper (*Calidris mauri*) that probe for invertebrates in the substrate. Common waterfowl species such as mallards (*Anas platyrhynchos*), snow geese (*Chen caerulescens*), and Canada geese often feed on leftover crops that are incidentally discarded during and after harvesting. Other birds also take advantage of cut over hay fields to forage for invertebrates in these fields while migrating through the area.

### 1.1.2 PLANTATION

The acreages of plantation habitats in Calaveras County including urban windrows, orchards, and timber management areas that include replanted conifer forest habitats that follow timber harvests, are most difficult to enumerate as many are quite small to very large areas. In many areas of the County plantations of trees have been established for various purposes. Some trees were planted in rows as windbreaks; some were planted over large areas for agricultural purposes. Christmas tree farms, such as those found within the County, are a type of plantation community. Another type of plantation is an orchard. Nut and fruit crops such as walnuts (*Juglans* spp.), almonds (*Prunus dulcis*), pistachios, and peaches (*Prunus* spp.) are planted primarily in the western portion of the County. Management of land on which these trees are growing ranges from regular cultivation of the soil or mowing of the herbaceous understory to little or no secondary disturbance. Depending upon the nature and intensity of the disturbance associated with management of the plantation, variable assemblages of exotic or native species may grow under and between the trees. The overall vegetation may have the appearance and species composition of a cultivated field, a pasture, or a foothill woodland community.

Wildlife found in orchards is dependent upon the amount of control used. Rodenticides are often applied to control ground squirrels and other agricultural "pests." Herbicides and pesticides are often applied to the trees to control the insect damage which in turn limits the number of birds that will be found foraging for insects among and on the trees. Orchards, with few chemical controls, will attract birds such as western scrub jay, American robin, northern mockingbird, and rodents and rabbits such as the California ground squirrel, Botta's pocket gopher, and the Black-tailed jackrabbit (*Lepus californicus*).

Vineyards are another type of plantation community because a vineyard is comprised of grape vines typically planted in rows. Vineyards are also present within the County. Vineyards, unless organically grown, apply a high amount of pesticides, herbicides and rodenticides. The use of these chemicals limits the diversity of plants and animals found in vineyards. Typically, vineyards do not constitute good native plant or wildlife habitats.

### 1.1.3 RUDERAL

Roadsides, small vacant or abandoned lots (that is, previously paved or graveled), and other disturbed, open areas within the County are dominated by ruderal plant species. Ruderal communities are assemblages of plants that thrive in waste areas and similar disturbed sites in towns and cities (Holland and Keil 1995). Ruderal habitats are dominated by introduced grasses and forbs (broad-leaved plants) that eventually out-compete and replace the original native grassland species. Examples of ruderal plant species found within the County are yellow star thistle (*Centaurea solstitialis*), filarees (*Erodium botrys, E. brachycarpum, E. cicutarium, E. moschatum*), bind weed (*Convolvulus arvensis*), sow's ear (*Sonchus oleraceus, S. asper*), four-leaved allseed (*Polycarpon tetraphyllum tetraphyllum*), prickly lettuce (*Lactuca serriola*), sweet fennel (*Foeniculum vulgare*), and poison hemlock (*Conium maculatum*).

Animals found in ruderal habitats are typically those species adapted to man and man-induced disturbance such as house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicana*), European starling (*Sturnus vulgaris*), northern mockingbird, rock pigeon (*Columba livia*),

mourning dove (*Zenaida macroura*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and feral cat (*Felis cattus*).

## 1.2 Upland Plant Communities and Associated Wildlife Habitats

### 1.2.1 Non-native Annual Grassland

Calaveras County contains approximately 151,975 acres of non-native grassland vegetation (county GIS files). Prior to the settlement of Europeans in California, California grasslands and savannahs were dominated by native, perennial bunchgrasses. When the Europeans settled California, woodland vegetation was cleared for settlement, to allow grazing opportunities and for commercial purposes. At the same time a variety of Mediterranean grasses and forbs (broad-leaved plants) were brought to California and introduced as crops or ornamental species, or inadvertently were transported to California grassland communities in the fur and digestive systems of livestock. Land use changes including land clearing, planting to livestock friendly grasses, and heavy domestic animal grazing changed the landscape and the oak savannah/ grassland communities. The highly palatable native grassland plants and forbs were out-competed by the introduced exotic species. Today, introduced species tolerant of grazing pressure, particularly annual grasses of Eurasian ancestry, such as bromes (*Bromus* spp.), oats (*Avena* spp.), and barley (*Hordeum* spp.) have mostly displaced the native grasses, creating a non-native annual grassland community. Grasslands within the General Plan area are an example of how livestock grazing and other man-induced activities can greatly change the vegetative composition of the landscape.

Grasslands in the County have been grazed by livestock over the past two centuries. Such grasslands provide habitat for common, graniverous (seed-eating) birds such as mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), savannah sparrow (*Passerculus sandwichensis*), and lesser goldfinch (*Carduelis psaltria*). These grasslands also provide habitat for common insectivorous birds such as western meadowlark (*Sturnella neglecta*), western bluebird (*Sialia mexicana*), Say's phoebe (*Sayornis saya*), American pipit (*Anthus rubescens*), and northern mockingbird (*Mimus polyglottos*), among others. Other common animals that occur in grassland habitats include California ground squirrel (*Spermophilus beecheyi*), black-tailed hare (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), California meadow vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), and raptors such as American kestrel (*Falco sparverius*) and red-tailed hawk, which prey on the smaller birds and mammals. Reptiles include the racer (*Coluber constrictor*), gopher snake (*Pituophis melanoleucus*), and western skink (*Eumeces skiltonianus*). Oak trees scattered in the grassland community provide perching opportunities and vantage points for raptors in search of their prey. Larger mammals such as coyote (*Canis latrans*), European red fox (*Vulpes vulpes*), striped skunk, and Virginia opossum, are common or can be expected to be in grasslands within the General Plan Area.

### 1.2.2 Chaparral

There are many different chaparral communities within Calaveras County (Sawyer et al 2009) totaling approximately 76,783 acres. For purposes of streamlining this document, chaparral is discussed in a general nature; specific variations of this community are not discussed. Chaparral

is a one to two-layer community characterized by a dominance of drought-adapted sclerophyllous (having thick, leathery leaves), evergreen shrubs approximately six to thirteen feet tall (Holland 1986). Common dominant shrub species for this community type include chamise (*Adenostoma fasciculatum*), toyon (*Heteromeles arbutifolia*), black sage (*Salvia mellifera*), different species of manzanita (e.g., *Arctostaphylos patula* and *Arctostaphylos viscida*), and ceanothus (e.g., *Ceanothus cuneatus* and *Ceanothus integerrimus*). Scrub oaks (e.g., *Quercus dumosa* and *Quercus garryana*) and California huckleberry (*Vaccinium ovatum*) are also likely in this community within the County. These shrubs often form a dense, impenetrable thicket with their overlapping canopies that can shade out herbaceous species. The herbaceous understory, if present, varies both seasonally and annually. This community is adapted to fire and many of its plant species are capable of stump sprouting. Many others are adapted to seed germination after fires burn this habitat type. After fires, the mix of annual grasses and forbs change from year to year. This plant community is well distributed from northwestern Baja to southern Oregon occurring on shallow, rocky soils.

Common types of chaparral that occur within the County include chamise chaparral which is dominated by chamise (*Adenostoma fasciculatum*); buckbrush chaparral which is dominated by buckbrush (*Ceanothus cuneatus*); and, northern mixed chaparral which is dominated by a mix of manzanita (*Arctostaphylos* spp.) and ceanothus species. Ione chaparral, while narrowly restricted in the County, provides habitat for several federal and state listed plant species.

Ione chaparral is a plant community restricted to coarse, very acidic, nutrient-poor soils of the Ione Formation. This geologic formation occurs in central portions of Butte and Yuba Counties, the western portions of Nevada, Placer, El Dorado, Amador and Calaveras Counties. It extends as far south as Madera County (Sawyer et al 2009). Most vegetation is incompatible with acidic, nutrient-poor soils not only because of their low macronutrients such as calcium, nitrogen, and magnesium, but also because of the high amounts of other elements that most plants find toxic, such as aluminum (Holzman & Meyer 2004). A number of plant species uniquely adapted to Ione Formation soils occur in this plant community and are classified as special-status plants. Ione manzanita (*Arctostaphylos myrtifolia*), a federally listed threatened species, is the dominant species of Ione chaparral where it typically occurs in dense stands. Four other special-status plant species (with a special-status of CNPS Rank 2 or higher) are associated with Ione chaparral: Parry's horkelia (*Horkelia parryi*) (CNPS Rank 1B), Ione buckwheat (*Eriogonum apricum* var. *apricum*) (federal and state listed endangered; CNPS Rank 1B), and Irish Hill buckwheat (*Eriogonum apricum* var. *prostratum*) (federal and state listed endangered; CNPS Rank 1B). Other species associated with this plant community include white-leaf manzanita (*Arctostaphylos viscida*), interior live oak (*Quercus wislizenii*), scrub oak (*Quercus berberidifolia*), chamise, coyote brush (*Baccharis pilularis*), California yerba santa (*Eriodictyon californicum*), toyon and hoary coffeeberry (*Frangula californica tomentella*).

Many wildlife species travel over and through the chaparral on their way to other habitats. Only a few have home ranges limited to chaparral. Those birds, mammals, and reptiles that are resident in chaparral (that is, den, nest, reside, and forage in the chaparral) include California thrasher (*Toxostoma redivivum*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculatus*), California quail (*Callipepla californica*), Bewick's wren (*Thryomanes bewickii*), brush rabbit (*Sylvilagus bachmani*), Botta's pocket gopher, California mouse (*Peromyscus californicus*),

striped racer (*Masticophis lateralis*), western fence lizard (*Sceloporus occidentalis*), and Northern Pacific rattlesnake (*Crotalus oreganus oreganus*).

### 1.2.3 CONIFER FOREST COMMUNITIES

Several different coniferous trees (that is, needle-leaved or scale-leaved trees that bear cones) are present within the County. For purposes of this document they are being discussed together and are only separated into two separate communities based on elevation. These two communities are: (1) upper montane mixed coniferous forest, and (2) lower montane mixed coniferous forest. These coniferous forests cover approximately 210,307 acres of Calaveras County's 663,452 acres or 32% of the County (County GIS files). These two classifications include the Holland (1986) community types: Westside ponderosa pine forest, Sierran mixed conifer forest, Sierran white fir forest, and big tree forest in the lower montane zone. The upper montane zone includes Jeffery pine forest, Jeffery pine-fir forest, and red fir forest. Mixed conifer forest, upper and lower montane, forms the dominant vegetation type for the County and occurs at elevations above 2,500 feet; this covers the eastern half of the county (Figure 4).

#### 1.2.3.1 Lower Montane Mixed Conifer Forest

Lower montane vegetation is dominated by forests. These forests are often classified in varied ways but most broadly referred to as Sierra mixed-conifer forests (Barbour et al 2007). The dominant tree species, including ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), and white fir (*Abies concolor*), have broadly overlapping distributions. In the County all three of these dominant tree species are present. Ponderosa pine and other mixed conifer trees dominate much of the lower montane zone. At the lowest margins, ponderosa pine forest intermingles with chaparral. At lower elevations stands of black oak or individuals of ponderosa pine and incense cedar may be intermixed with chaparral or foothill woodlands on sites with deeper soils or drainages. Ponderosa pine or Douglas fir often occur interspersed with canyon live oak as individual trees or small stands where soils are deeper.

The giant sequoia (*Sequoia giganteum*) groves of the central and southern Sierra Nevada (also commonly referred to as "big tree forests") present a special case of mixed-conifer forests. These groves are typically dominated by white fir, or at higher elevations by red fir, with sugar pine (*Pinus lambertiana*) as an important component (Barbour et al 2007). Giant sequoias are commonly third in abundance in these groves, although their basal area often exceeds that of other species (op. cit.). There is one occurrence of giant sequoia grove/big tree forest in Calaveras County, the North Calaveras Grove in the Calaveras Big Trees State Park.

#### 1.2.3.2 Upper Montane Mixed Conifer Forest

Upper montane vegetation types grow at elevations above white fir and mixed-conifer series of the Sierra Nevada. The elevation of this transition from lower montane forests occurs at about 1,800 meters (5,905 feet) above sea level in the central and northern Sierra Nevada. In addition to coniferous forests, montane meadows, aspen, montane chaparral, and non-forested rock outcrops are prevalent in this zone. There are three major community types of distinctive conifer composition that form the upper montane forests. These are red fir forests, lodgepole pine forests, and Jeffrey pine forests.

Red fir forests are composed of stands of red fir (*Abies magnifica*) trees that occur in elevational belts immediately above montane white fir and mixed-conifer forests. Stands of red fir forest are often virtual monocultures of this species. The dense canopy in red fir forests reduces light penetration and wind. Red fir is a large and long-lived conifer. At its lower margin, red fir often mixes with white fir and sugar pine, and less commonly with giant sequoia. At higher elevations red fir can be found with lodgepole pine (*Pinus contorta murrayana*), Jeffrey pine (*Pinus jeffreyi*), and mountain hemlock (*Tsuga mertensiana*).

Lodgepole pine forests are in open stands that make up a widespread upper montane forest over much of the Sierra Nevada. These forests generally occur at elevations of about 1,830 to 2,400 meters (6,004 to 7,874 feet) in the northern Sierra Nevada. The generally low stature and open stand structure of lodgepole pine forests is a function of severe climate conditions where it grows at upper elevations typically in thin, nutrient-poor soils that characterize this zone. Commonly there are few understory shrubs and little soil litter accumulations in these stands (Barbour et al 2007).

Jeffery pine replaces the ponderosa pine in the upper montane zone of the Sierra Nevada. Its belt of primary occurrence lies at 1,600 to 2,600 meters (5,249 to 8,530 feet) above sea level in the southern Sierra Nevada and 1,520 to 1,830 meters (4,986 to 6003 feet) above sea level in the northern Sierra Nevada (Barbour et al 2007). On the western slopes of the range, Jeffrey pine most commonly occurs in mixed stands with white fir and incense cedar at lower elevations and with red fir and lodgepole pine at higher elevations. The understory is composed of shrub species typically found in montane chaparral such as *Ceanothus* spp. and manzanitas (*Arctostaphylos* spp.).

Coniferous forests are densely wooded habitats that provide wildlife with nesting opportunities, denning opportunities, cones and seeds for foraging, and bark, leaf duff, and fallen logs to support and recruit insect populations which in turn provide food for reptiles, amphibians, birds, and mammals. Examples of wildlife expected in the County's coniferous forest habitats are Northern goshawk (*Accipiter gentilis*), common raven (*Corvus corax*), Steller's jay (*Cyanocitta stelleri*), northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), white-headed woodpecker (*Picoides albolarvatus*), downy woodpecker (*Picoides pubescens*), Clark's nutcracker (*Nucifraga columbiana*), varied thrush (*Ixoreus naevius*), American robin (*Turdus migratorius*), purple finch (*Carpodacus purpureus*), mountain chickadee (*Poecile gambeli*), brown creeper (*Certhia americana*), black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), and mountain lion (*Felis concolor*). Examples of Neotropical migrant birds likely to be found in coniferous forests in the spring and summer include olive-sided flycatcher (*Contopus cooperi*), Pacific-slope flycatcher (*Empidonax difficilis*), and western wood-pewee (*Contopus sordidulus*).

### 1.2.4 HARDWOOD FOREST AND WOODLAND COMMUNITIES

Hardwood forests and woodlands are dominated by evergreen tree species (such as evergreen oaks (*Quercus* spp.) and madrone (*Arbutus menziesii*)) and broad-leaved deciduous trees (such as some species of oaks, maples (*Acer macrophyllum*) and alders (*Alnus* spp.). Coniferous trees (such as firs and pines) may also be present.

Hardwood forests in the County include montane hardwood and montane hardwood-conifer forests along the drainages of major rivers and aspen (*Populus tremuloides*) forests at high elevations. Examples of montane hardwood and hardwood-conifer forests found within the County are madrone forest and McNab cypress woodland. Montane hardwood communities cover approximately 79,539 acres of the County. Examples of wildlife found in the hardwood forests include mule deer, coyote, gray fox (*Urocyon cinereoargenteus*), raccoons, and Virginia opossums. Also at higher elevations raptors such as the goshawk, and at lower elevations by smaller hawks including sharp-shinned hawks (*Accipiter striatus*) and Cooper's hawks (*Accipiter cooperi*). Also owls including the great horned owl (*Bubo virginianus*), western screech-owl (*Otus kennicottii*), and northern saw-whet owl (*Aegolius acadicus*). Also, smaller birds including acorn woodpecker (*Melanerpes formicivorus*), western scrub jay, hairy woodpecker (*Picoides villosus*), downy woodpecker, chestnut-backed chickadee (*Poecile rufescens*), Anna's hummingbird (*Calypte anna*), and many others. Reptiles found at higher elevations include the California mountain kingsnake (*Lampropeltis zonata*), and at mid to lower elevations Northern Pacific rattlesnake, California whipsnake (*Masticophis lateralis*), California king snake (*Lampropeltis getula*), ring neck snake (*Diadophis punctatus*), common garter snake (*Thamnophis sirtalis*), and lizards including western fence lizard and northern alligator lizard (*Gerrhonotus coeruleus*). Rodents found in hardwood forests include the deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher, and broad-footed mole (*Scapanus latimanus*), among others. Examples of woodland communities present in the County are foothill woodland (covering approximately 120,608 acres of the County), valley oak woodland (covering approximately 246 acres of the County), and riparian woodland (covering approximately 226 acres of the County). These plant communities are further described in the paragraphs below.

#### 1.2.4.1 Madrone Forest

Madrone forest is a forest alliance listed in A Manual of California Vegetation (Sawyer et al 2009). Madrone is an evergreen hardwood tree that is dominant or co-dominant in the tree canopy. It occurs with big leaf maple, tan oak (*Lithocarpus densiflorus*), Douglas fir and various species of oak. The shrub layer is sparse to intermittent. Madrone forest is found in the western portion of the County along stream terraces and upland slopes with productive soils or steep slopes with shallow, rocky, infertile soils at elevations from 100-1,400 meters (op. cit). Madrone forest fits the Holland (1986) classification of "mixed evergreen forest." It also falls under the U.S. Forest Service classification of "montane hardwood" and is included under this category on Figure 4 and Table 1 of this report.

#### 1.2.4.2 McNab Cypress Woodland

This is the classification given to a woodland community dominated by McNab cypress trees (*Hesperocyparis macnabiana*, formerly *Callitropsis macnabiana*) (Sawyer et al 2009). This woodland occurs at elevations of 300-1,100 meters (984 to 3,608 feet) above sea level in parts of Calaveras County that also support knob cone pine, foothill pine, and manzanita (*Arctostaphylos viscida*), though the shrub layer is sparse to intermittent. McNab cypress woodland can be found on open slopes and ridges with soils derived from basalt, conglomerate, gabbro, greenstone, or serpentine. This woodland community falls under the U.S. Forest Service classification of "montane hardwood" and is included under this category on Figure 4 and Table 1 of this report.

#### 1.2.4.3 Foothill Woodland

Foothill woodland in Calaveras County falls into the Holland (1986) classification of blue oak woodland. Foothill woodland within the County is dominated by blue oaks (*Quercus douglasii*) and interior live oaks (*Quercus wislizenii*). Blue oaks are common in drier areas and on very shallow soils. Interior live oak is more common on moist north and east-facing slopes. California buckeye (*Aesculus californica*) is scattered throughout, but is mostly associated with the live oak phase of the woodland. Foothill pine (*Pinus sabiniana*) is also a common native associate. Grasses and other herbaceous species from the surrounding grassland typically form the understory in blue oak woodlands, whereas buck brush (*Ceanothus cuneatus* var. *cuneatus*), toyon, and poison oak (*Toxicodendron diversilobum*) are common understory shrubs in the interior live oak phase. Typical wildlife found in Foothill Woodland is discussed in Valley Oak Woodland below.

#### 1.2.4.4 Valley Oak Woodland

Valley oak woodland is dominated by valley oak (*Quercus lobata*) trees. The valley oak tree is the "monarch of California oaks by virtue of its size, age, and beauty" (Pavlik et al 1991). Valley oak may be the largest North American oak (op. cit.). The valley oak is a winter-deciduous tree with a round, spreading canopy of massive limbs when mature. Smaller branches on mature trees will sometimes droop or weep, extending all the way to the ground. Valley oak woodlands commonly occur on deep alluvial soils of valley flood plains. The community varies from open savannas to dense forest-like stands along rivers and other drainages. The understory is typically herbaceous, supporting annual and perennial grasses and forbs typical of the surrounding grassland community.

Oak trees are known to provide habitat for a variety of wildlife species. Hundreds of vertebrate species and thousands of invertebrate species are associated with California's oak habitats (Pavlik et al. 1991). Oak acorns, leaves, wood, and sap are sustenance for a myriad of insects, birds, and mammals. Examples of wildlife species expected to occur within the County's foothill and valley oak woodland communities includes amphibian species such as the arboreal salamander (*Aneides lugubris*) and California slender salamander (*Batrachoseps attenuatus*). These two salamander species are commonly found underneath rotting logs and oak leaf litter on the woodland floor. Insectivorous bird species such as American robin, varied thrush, northern flicker, Steller's jay, western scrub jay, Nuttall's woodpecker (*Picoides nuttalli*), brown creeper, ruby crowned kinglet (*Regulus* calendula), oak titmouse (*Parus inornatus*), chestnut-backed chickadee, and white-breasted nuthatch (*Sitta carolinensis*) thrive in oak woodlands on the various insects and other invertebrates that live on oak leaves, burrow in oak bark, and that collect in the leaf litter and rotting logs. Raptors (i.e., birds of prey) such as the red shouldered hawk, great horned owl, western screech-owl, and Cooper's hawk nest in oak woodland canopy. Mammal species expected to occur in the oak woodland habitat include mule deer, gray fox, coyote, raccoon, Virginia opossum, striped skunk, gray squirrel (*Sciurus griseus*), broad-footed mole, and deer mouse.

Along the oak woodland edges, where the habitat transitions into grassland or chaparral, reptile species such as common king snake, gopher snake, western fence lizard, western skink, and northern alligator lizard can be found. In large areas of undeveloped land where oak or foothill woodland transitions into grassland, one could also expect to find bobcat (*Felis rufus*) and coyote.

## 1.3 Aquatic Plant Communities and Associated Wildlife Habitats

### 1.3.1 Seasonal Wetlands

Seasonal wetlands are habitats that may appear dry in the summer and fall months but with fall and winter rains become saturated or inundated, often remaining inundated for a period of several weeks to months each year. These wetlands are characterized by hydric soils and confining topography such as topographic low areas or any low area (i.e., depressional topography) that was inadvertently created through man's activities. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (absence of free oxygen) conditions within the upper part of the soil profile. After saturation/inundation and desaturation, redoximorphic features form in many soil profiles from the reduction and oxidation of iron and manganese compounds in the soil. Hydric soils frequently have a high clay content with low permeability, or may exhibit hardpans and/or cemented durapans in subsoil layers. Such soils when contained within depressional topography may perch water near or at the surface creating wetland hydrology. Such areas eventually colonize and become dominated by seasonal wetland plants, and thus persist as seasonal wetlands. According to the USDA Forest Service vegetation map, there are approximately 87.1 acres of seasonal wetlands in the County (Figure 4 and Table 1). However, the USDA Forest Service map is very broad brush; ground surveys of individual properties within the County would likely reveal that this acreage figure is much higher.

Seasonal wetlands provide important functions including ground water recharge and discharge, pollutant filtration, and serve as an aquatic habitat for a variety of wildlife species ranging from invertebrates and insects to amphibians, reptiles, birds, and mammals. Seasonal wetlands in the County support cosmopolitan wetland species such as umbrella sedge (*Cyperus eragrostis*), hyssop loose strife (*Lythrum hyssopifolium*), curly dock (*Rumex crispus*), and rabbit's foot grass (*Polypogon monspilensis*) among many others.

Seasonal wetlands provide a seasonal water source for wildlife. Typically, seasonal wetlands remain saturated or inundated through March, or in an above normal rainfall year, may stay inundated as late as mid-May or even to June. This inundation period allows many amphibian and invertebrate species the opportunity to lay their eggs, hatch, and develop to metamorphosis. western toads (*Bufo boreas*) and Sierran tree frogs (*Pseudacris sierra*), and at lower elevations in the County, the federally and state listed California tiger salamander (*Ambystoma californiense*) can occur in these habitats. Also invertebrates such as may flies (Ephemeroptera), damselflies (Odonata), backswimmers (Notonectidae and Corixidae), water striders (Gerridae), and predaceous diving beetles (Dytiscidae) are common in seasonal wetlands. Wading birds such as great egrets (*Ardea alba*), great blue herons (*Ardea herodias*), and greater yellow legs (*Tringa melanoleuca*), among others can frequently be observed foraging at seasonal wetland habitats. Mammals such as coyotes, raccoons, striped skunks can be observed at wetlands (or their tracks, scat or other sign) drinking the water and/or foraging for food.

### 1.3.2 Stream Channels and Drainages – Riparian Woodland

Calaveras County is bounded by the Mokelumne River to the north and the Stanislaus River to the south. In addition to these two major rivers that flow along the edges of the county, a number

of perennial to intermittent streams flow through the County. Some examples are Calaveras Creek, Littlejohns Creek and Cosgrove Creek among many others. Many of these rivers and streams support riparian vegetation. It is estimated that approximately 226 acres of riparian woodland habitat is present within the County (Figure 4 and Table 1).

The word "riparian" derives from the Latin "Ripa" which means "bank or shore," as of a stream or river. The original meaning has largely been retained through subsequent history, pertaining to the terrestrial, moist soil zone immediately landward of aquatic wetlands, other freshwater bodies, both perennial and intermittent watercourses, and many estuaries (Warner and Hendrix 1984).

Riparian woodlands are rich habitats, supporting numerous plant species that can include trees, shrubs, vines, and annual and perennial herbs. This variety of plants provides a complex vegetative structure, which in turn supports a diversity of wildlife species. Riparian woodland is associated with many of the creeks and drainages within the County. Tree species found in the riparian woodland plant community within the County vary depending upon the elevation and location within the county. Riparian tree species include big leaf maple (*Acer macrophyllum*), California buckeye, arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), and black cottonwood (*Populus nigra*). Riparian woodlands typically have a shrubby and herbaceous understory with shrubs such as poison oak, snowberry (*Symphoricarpos albus* var. *laevigatus*), non-native Himalayan blackberry (*Rubus discolor*), and native California blackberry (*Rubus ursinus*), and herbs such as California bee plant (*Scrophularia californica*) and seep monkey flower (*Mimulus guttatus*), vines such as clematis (*Clematis ligusticifolia*), and pipevine (*Aristolochia californica*).

Drainages within the County provide a water source for birds, mammals, amphibians, and reptiles, as well as providing breeding habitat for common amphibian species such as Sierran tree frog, western toad, and California newt (*Taricha torosa*). Within the General Plan area, a myriad of invertebrates and insects complete their life cycle in drainages as well. Mallards, raccoons, mule deer, and opossums all can be expected to be found using such drainages. The vegetation and sap of willow trees typically attracts numerous insects to their branches. These insects, in turn, attract common insectivorous bird species such as ruby-crowned kinglet (*Regulus calendula*), bushtit (*Psaltriparus minimus*), yellow-rumped warbler (*Dendroica coronata*), and less common species such as Neotropical migrants like the yellow warbler (*Dendroica petechia*) and yellow-breasted chat (*Icteria virens*), among others.

### 1.3.3 POND AND LAKES

Ponds and lakes are inland bodies of water that vary in size from small stock ponds and natural seeps/ponds to large constructed reservoirs such as New Melones Lake and New Hogan Reservoir. Emergent vegetation such as cattails (*Typha angustifolia* and *T. latifolia*) and rushes (*Bolboschoenus* spp., *Schoenoplectus* spp., and *Juncus* spp.) can be found along the margins of these aquatic habitats. Floating vegetation such as water starwort (*Callitriche* spp.), duck weed (*Lemna* spp.) and buttercup (*Ranunculus aquatilis*) can be found on the water's surface of smaller ponds. These floating plants provide food for herbivorous waterfowl such as the mallard which is a common duck species in urban and rural settings. Larger ponds and lakes can be expected to support bufflehead (*Bucephala albeola*), ruddy duck (*Oxyura jamaicensis*),

American wigeon (*Anas americana*), ring-necked duck (*Aythya collaris*), common merganser (*Mergus merganser*) and along lake and pond margins shore birds such as the killdeer (*Charadrius vociferus*). More remote, less disturbed lakes and ponds can be expected to support mallards, common goldeneye (*Bucephala clangula*), wood ducks (*Aix sponsa*), and shorebirds such as the spotted sandpiper (*Actitis macularia*). Ponds, lakes, and reservoirs provide wildlife with a permanent to near permanent source of water (depending on whether the smaller waterbody dries down in the summer months). They also provide resting habitat for waterfowl migrating along the Pacific Flyway. Quite often, Canada geese stop over near shorelines of larger lakes and ponds to forage. Many amphibians depend on water, at least seasonally, to complete their life cycle. The Sierran tree frog, western toad, and the federal and state listed California tiger salamander are all amphibian species known to occur in ponds within the County.

## 1.4 Sensitive Plant Communities

The California Department of Fish and Wildlife (CDFW) maintains a list of plant communities within the state that are of special concern. These are communities that have historically had a limited distribution as well as communities that have become limited because of human activities. Within the County there are three plant communities that the CDFW considers rare enough to warrant monitoring and have included them in the California Natural Diversity Database (RareFind 3) (CNDDB) records (CDFW 2013). These three plant communities are riparian woodland, Ione chaparral, and big tree forest and are discussed below.

### 1.4.1 Riparian Woodland

Riparian woodland grows along streams, rivers, and other waterways. It is best developed along those waterways that have perennial water. Most riparian communities in California have been described by Holland (1986) as sensitive communities meriting inclusion in the CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001). The CDFW also considers most riparian plant communities rare enough to warrant monitoring. Riparian vegetation is also protected under §1602 of California Fish and Game Code and authorization from the CDFW is required prior to altering or otherwise disturbing riparian communities.

### 1.4.2 Ione Chaparral

Ione chaparral is a unique plant community of the Sierra foothills found in a few isolated patches north and south of the town of Ione in Amador County. This geologic formation also occurs in the central portions of Butte and Yuba Counties, the western portions of Nevada, Placer, El Dorado, and Calaveras Counties. It extends as far south as Madera County (Sawyer et al 2009). A number of plant species uniquely adapted to Ione Formation soils occur in this plant community, and are classified as special-status plants. Ione manzanita (*Arctostaphylos myrtifolia*), a federally listed threatened species, is the dominant species of Ione chaparral, where it occurs in dense stands. Four other special-status plant species are associated with Ione chaparral: Parry horkelia (*Horkelia parryi*) (CNPS Rank 1B), Ione buckwheat (*Eriogonum apricum* var. *apricum*) (federal and state listed endangered; CNPS Rank 1B), Irish Hill buckwheat (*Eriogonum apricum* var. *prostratum*) (federal and state listed endangered; CNPS Rank 1B), and Bisbee Peak rush-rose (*Helianthemum suffrutescens*; known as *H. scoparium* in The Jepson Manual 1993 and 2012) (CNPS Rank 3).

#### 1.4.3 BIG TREE FOREST

The big tree forest consists of large stands of giant sequoias that are present in isolated groves along the west slope of the Sierra Nevada. As mentioned in the section above, there is one occurrence of giant sequoia grove/big tree forest in Calaveras County: North Calaveras Grove in Calaveras Big Trees State Park. The giant sequoia is among the fastest growing of all trees and is the largest tree in volume in North America. It attains heights averaging 76 to 84 meters and ages of over 2,000 years. Giant sequoias are fire-adapted species with fire-resistant bark, and serotinous cones (i.e., cones that release seeds with the heat of a fire). They are managed by prescribed burns that ensure wildfires do not burn hot enough to reach canopy layers (i.e., crown fires) of these very large trees.

### 1.5 Wildlife Movement Corridors

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: 1) they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can recolonize habitats from which populations have been locally extirpated (Beier and Loe 1992). All three of these functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating, and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

Establishing connections among natural lands has long been recognized as essential for sustaining natural ecological processes and biodiversity. Nature needs room to move. For many species to persist and for communities to withstand environmental disturbances such as fire or climate change, isolated nature preserves simply are not adequate to ensure species persistence. Habitat fragmentation reduces, often irreversibly, the permeability of the landscape to its native flora and fauna. In California, urban sprawl, roads, and other anthropogenic forces are carving up habitat into ever-smaller fragments. Maintaining connectivity between the remaining natural areas and minimizing further fragmentation is crucial to the long-term viability of California's natural heritage. If selected carefully and managed properly, habitat linkages and wildlife corridors, which can range from a large intact ranch bridging two protected areas to narrow riparian corridors or highway underpasses, can significantly contribute to both the viability of individual species and the integrity of the natural community. (Penrod et al. 2001)

Wildlife requires connected corridors and habitat linkages to find food, mates, and to maintain species diversity. Based on hundreds of studies, the evidence is clear: isolated remnants of land suffer predictable, cumulative losses of species; this is one of the strongest generalizations in the field of ecology. Habitat isolation is harmful.

## 1.6 Special-Status Species

### 1.6.1 DEFINITIONS

For purposes of this analysis, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the California Native Plant Society). Special-status species are defined as:

- plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq*.; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

- plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

- plants and animals that meet the definition of endangered, rare, or threatened under CEQA (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;

- Plants occurring on Ranks 1A, 1B, and 2 of CNPS' *Electronic Inventory* (CNPS 2001).

- migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);

- animals that are designated as California "species of special concern" by the CDFW (2017);

- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

Calaveras County is known to support 18 special-status plants (Table 2) and 14 special-status wildlife species (Table 3), as defined above.

MONK & ASSOCIATES

## Table 2

## Special-Status Plants Known From Calaveras County, California

| Family<br>Taxon<br>Common Name | Status* | Flowering Period | Habitat | Area Locations | Probability in County |
|---|---|---|---|---|---|
| **Agavaceae** | | | | | |
| *Chlorogalum grandiflorum*<br>Red Hills soaproot | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | May-June | Chaparral; cismontane woodland; [serpentinite or gabbroic]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Alliaceae** | | | | | |
| *Allium tribracteatum*<br>Three-bracted onion | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | April-July | Chaparral; lower montane coniferous forest; upper montane coniferous forest [volcanic]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Apiaceae** | | | | | |
| *Eryngium pinnatisectum*<br>Tuolumne button-celery | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | June-August | Cismontane woodland; lower montane coniferous forest; vernal pools; [mesic]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| *Eryngium racemosum*<br>Delta button-celery | Fed: -<br>State: CE<br>CNPS: Rank 1B.1 | June-August | Riparian scrub (vernally mesic clay depressions). | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| *Eryngium spinosepalum*<br>Spiny-sepaled button-celery | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | April-May | Valley and foothill grassland; vernal pools. 100-200 m. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| *Lomatium stebbinsii*<br>Stebbins' lomatium | Fed: -<br>State: -<br>CNPS: Rank 1B.1 | March-April | Chaparral; lower montane coniferous forest; [gravelly, volcanic clay]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

## Table 2

## Special-Status Plants Known From Calaveras County, California

| Family<br>Taxon<br>Common Name | Status* | Flowering Period | Habitat | Area Locations | Probability in County |
|---|---|---|---|---|---|
| **Asteraceae** | | | | | |
| *Calycadenia hooveri*<br>Hoover's calycadenia | Fed: -<br>State: -<br>CNPS: Rank 1B.3 | July-September | Cismontane woodland; valley and foothill grassland [rocky]. Below 300 m. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Boraginaceae** | | | | | |
| *Cryptantha mariposae*<br>Mariposa cryptantha | Fed: -<br>State: -<br>CNPS: Rank 1B.3 | April-June | Rocky serpentinite soils in chaparral | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Cyperaceae** | | | | | |
| *Carex davyi*<br>Davy's sedge | Fed: -<br>State: -<br>CNPS: Rank 1B.3 | June-September | Subalpine coniferous forest; upper montane coniferous forest. Dry, often sparse, meadows, slopes. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Ericaceae** | | | | | |
| *Arctostaphylos myrtifolia*<br>Ione manzanita | Fed: FT<br>State: -<br>CNPS: Rank 1B.2 | January-February | Chaparral; cismontane woodland; [acidic Ione clay or sandy]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Juncaceae** | | | | | |
| *Juncus leiospermus ahartii*<br>Ahart's dwarf rush | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | March-May | Vernal pools. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

## Table 2

## Special-Status Plants Known From Calaveras County, California

| Family<br>Taxon<br>Common Name | Status* | Flowering Period | Habitat | Area Locations | Probability in County |
|---|---|---|---|---|---|
| **Liliaceae** | | | | | |
| *Calochortus clavatus avius*<br>Pleasant Valley mariposa lily | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | May-July | Open oak/pine forest, (Josephine silt loam and volcanic). | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Onagraceae** | | | | | |
| *Clarkia australis*<br>Small's southern clarkia | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | June-July | Cismontane woodland; lower montane coniferous forest. 800-1500 m. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| *Clarkia rostrata*<br>Beaked clarkia | Fed: -<br>State: -<br>CNPS: Rank 1B.3 | April-May | Cismontane woodland; valley and foothill grassland. About 500 m. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Phrymaceae** | | | | | |
| *Mimulus pulchellus*<br>Yellow-lip pansy monkeyflower | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | April-July | Lower montane coniferous forest; meadows and seeps; [vernally mesic]. 600-2,000 m. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed at the time of development or land alterations are proposed. |
| **Polemoniaceae** | | | | | |
| *Navarretia myersii myersii*<br>Pincushion navarretia | Fed: -<br>State: -<br>CNPS: Rank 1B.1 | April-May | Vernal pools. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

## Table 2

## Special-Status Plants Known From Calaveras County, California

| Family<br>Taxon<br>Common Name | Status* | Flowering Period | Habitat | Area Locations | Probability in County |
|---|---|---|---|---|---|
| **Rosaceae** | | | | | |
| *Horkelia parryi*<br>Parry's horkelia | Fed: -<br>State: -<br>CNPS: Rank 1B.2 | April-September | Chaparral; cismontane woodland; [especially Ione formation]. | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Themidaceae** | | | | | |
| *Brodiaea pallida*<br>Chinese Camp brodiaea | Fed: FT<br>State: CE<br>CNPS: Rank 1B.1 | May-June | Valley and foothill grassland (vernal streambeds, serpentinite). | CNDDB Records found in Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CSC - California Species of Special Concern

CNPS:
Rank 1A - Presumed extinct in California
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 1B.1 - Seriously endangered in California (over 80% occurrences threatened/ high degree and immediacy of threat)
Rank 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
Rank 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

CNPS Continued:
Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 2A - Extirpated in California, common elsewhere
Rank 2B.1 - Seriously endangered in California, but more common elsewhere
Rank 2B.2 - Fairly endangered in California, but more common elsewhere
Rank 2B.3 - Not very endangered in California, but more common elsewhere
Rank 3 - Plants about which we need more information (Review List)
Rank 3.1 - Plants about which we need more information (Review List) Seriously endangered in California
Rank 3.2 - Plants about which we need more information (Review List) Fairly endangered in California
Rank 4 - Plants of limited distribution - a watch list

MONK & ASSOCIATES

**Table 3**

**Special-Status Wildlife Known to Occur in Calaveras County**

| Species | *Status | Habitat | Closest Locations | Probability in County |
|---|---|---|---|---|
| **Invertebrates** | | | | |
| Vernal pool fairy shrimp<br>*Branchinecta lynchi* | Fed: FT<br>State: -<br>Other: | Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains. Inhabit static rain-filled/vernal pools, small, clear water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Insects** | | | | |
| Valley elderberry longhorn beetle<br>*Desmocerus californicus dimorphus* | Fed: FT<br>State: -<br>Other: | Riparian and other habitats with elderberries (Sambucus sp.). Prefers shrubs with stems 1 to 5 inches in diameter. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Amphibians** | | | | |
| California tiger salamander<br>*Ambystoma californiense* | Fed: FT<br>State: CT<br>Other: | Sonoma Co. and Santa Barbara Co. DPS are Fed. Endangered. Central DPS is Fed. Threatened. Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| Western spadefoot toad<br>*Spea hammondii* | Fed: --<br>State: CSC<br>Other: | Found primarily in grassland habitats, but may occur in valley and foothill woodlands. Requires vernal pools, seasonal wetlands, or stock ponds for breeding and egg laying. Eggs are typically laid in March. Eggs hatch and larval metamorphose quickly. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| California red-legged frog<br>*Rana draytonii* | Fed: FT<br>State: CSC<br>Other: | Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

**Table 3**

**Special-Status Wildlife Known to Occur in Calaveras County**

| Species | *Status | Habitat | Closest Locations | Probability in County |
|---|---|---|---|---|
| Foothill yellow-legged frog<br>*Rana boylii* | Fed: --<br>State: CSC<br>Other: | Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Reptiles** | | | | |
| Western pond turtle<br>*Actinemys marmorata marmorata* | Fed: -<br>State: CSC<br>Other: | Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| **Birds** | | | | |
| Bald eagle<br>*Haliaeetus leucocephalus* | Fed: -<br>State: CE<br>Other: | Ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests within one mile of water. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed.. |
| Northern goshawk<br>*Accipiter gentilis* | Fed: --<br>State: CSC<br>Other: | In summer, within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water, red fir, lodgepole pine, Jeffery pine, and aspens are typical nest trees. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| Tricolored blackbird<br>*Agelaius tricolor* | Fed: --<br>State: CSC<br>Other: | Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

**Table 3**

**Special-Status Wildlife Known to Occur in Calaveras County**

| Species | *Status | Habitat | Closest Locations | Probability in County |
|---|---|---|---|---|
| **Mammals** | | | | |
| Western red bat<br>*Lasiurus blossevillii* | Fed:<br>State: CSC<br>Other: | Prefers riparian areas where they roost in tree foliage. This bat is occasionally captured in riparian habitats dominated by cottonwoods, oaks, sycamores, and walnuts and is rarely found in desert habitats. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| Townsend's big-eared bat<br>*Corynorhinus townsendii townsendii* | Fed: --<br>State: CSC<br>Other: CC | Occurs in humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, and buildings. Extremely sensitive to disturbance. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| Greater western mastiff bat<br>*Eumops perotis californicus* | Fed: --<br>State: CSC<br>Other: | Inhabits open habitats including conifer and broad-leaved woodlands, coastal scrub, chaparral, and grassland. Roosts in crevices, high buildings, trees, and tunnels. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |
| Fisher - West Coast DPS<br>*Martes pennanti* | Fed: FPT<br>State: CC<br>Other: CSC | Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and denning. Need large areas of mature, dense forest. | CNDDB records found within Calaveras County | Properties with suitable habitat need surveys completed prior to the time development or land alterations are proposed. |

MONK & ASSOCIATES

**Table 3**

**Special-Status Wildlife Known to Occur in Calaveras County**

| Species | *Status | Habitat | Closest Locations | Probability in County |
|---|---|---|---|---|

***Status**

| Federal: | State: |
|---|---|
| FE - Federal Endangered | CE - California Endangered |
| FT - Federal Threatened | CT - California Threatened |
| FPE - Federal Proposed Endangered | CR - California Rare |
| FPT - Federal Proposed Threatened | CC - California Candidate |
| FC - Federal Candidate | CSC - California Species of Special Concern |
| FPD - Federally Proposed for delisting | FP - Fully Protected |
| | WL - Watch List. Not protected pursuant to CEQA |

On properties that support suitable habitat for these species, focused surveys may be necessary prior to a discretionary permit being issued. Presented below are the federal and state laws that are in place to protect special-status species.

## 2. REGULATORY SETTING

### 2.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases. Below, Sections 9, 7, and 10 of FESA are discussed since they are the sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). A December 2001 decision by the 9th Circuit Court of Appeals (Arizona Cattle Growers' Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require mitigation based on the probability that the species could use the site. Rather they must show that it is actually present.

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an incidental take permit either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency), or requires preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal "nexus").

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. Critical habitat designations mean: (1) specific areas within a geographic region currently occupied by a listed species, on which are found those physical or biological features that are essential to the conservation of a listed species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a listed species that are determined essential for the conservation of the species.

The Section 7 consultation process only applies to actions taken by federal agencies that are considering authorizing discretionary projects. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the "federal nexus agency," for example, the Corps or the Federal Highway Administration). Private parties, cities, counties, etc. (i.e., applicants) may participate in the Section 7 consultation *at the discretion of the federal agencies conducting the Section 7 consultation*. The Section 7 consultation process is triggered by a determination of the "action agency" – that is, the federal agency that is carrying out, funding, or approving a project - that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation between the nexus agency and the USFWS/NMFS is required. As part of the formal consultation, the USFWS/NMFS may resolve any issues informally with the nexus agency or may prepare a formal Biological Opinion assessing whether the proposed action would be likely to result in "jeopardy" to a listed species or if it could adversely modify designated critical habitat. If the USFWS/NMFS prepares a Biological Opinion it will contain either a "jeopardy" or "non-jeopardy" decision. If the USFWS/NMFS concludes that a proposed project would result in adverse modification of critical habitat or would jeopardize the continued existence of a federal listed species (that is, it will issue a jeopardy decision), the nexus federal agency would be most unlikely to authorize its discretionary permit. If the USFWS/NMFS prepares a "non-jeopardy" Biological Opinion, the nexus federal agency may authorize the discretionary permit making all conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an "incidental take" permit that allows applicants to "take" federally listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, counties that are considering a discretionary permit, Section 10 provides the mechanism for obtaining take authorization. Under Section 10 of FESA, for the applicant to obtain an "incidental take permit," the applicant is required to submit a "conservation plan" to the USFWS or NMFS that specifies the impacts that are likely to result to federally listed species, and the measures the applicant will undertake to

minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by the USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

## 2.2 Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement (for example, Federal Highway Administration or the Corps) address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with the USFWS to develop a memorandum of understanding (MOU) that governs what steps are necessary for federal agencies to ensure that their activities do not result in the take of listed migratory species. Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

## 2.3 California Endangered Species Act

### 2.3.1 Section 2081 of the California Endangered Species Act

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take (*the death*) of a listed species.

If CDFW determines that a proposed project could impact a State listed threatened or endangered species, CDFW will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are

adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFW and/or USFWS (if it is a Federal listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit issued pursuant to §2081 of the Fish and Game Code would be necessary (versus a Federal incidental take permit for Federal listed species). CDFW will issue an incidental take permit only if:

1) The authorized take is incidental to an otherwise lawful activity;
2) the impacts of the authorized take are minimized and fully mitigated;
3) measures required to minimize and fully mitigate the impacts of the authorized take:
    a) are roughly proportional in extent to the impact of the taking on the species;
    b) maintain the project applicant's objectives to the greatest extent possible; and,
    c) capable of successful implementation; and,
4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a habitat conservation plan (HCP) as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFW staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the federal Endangered Species Act, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take." These species are listed in several statutes that identify "fully protected" species and "specified birds." *See* Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a "fully protected" species or a "specified bird" occurs, an applicant must design the project to avoid all take.

Fish and Game Code §2080.1 allows an applicant who has obtained a "non-jeopardy" federal Biological Opinion pursuant to Section 7 of the FESA, or who has received a federal 10(a) permit (federal incidental take permit) pursuant to the FESA, to submit the federal opinion or permit to CDFW for a determination as to whether the federal document is "consistent" with CESA. If after 30 days CDFW determines that the federal incidental take permit is consistent with state law, and that all state listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFW determines that the federal Biological Opinion or permit is not consistent with CESA, or that there are state listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state CESA permit under Section 2081(b). Section 2081(b) is of no use if an affected species is state-listed, but not federally listed.

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, when lands are preserved to protect listed species via recordation of conservation easements or dedication to conservation organizations or regulatory agencies, management endowment fees for these protected lands are usually also required as agreement condition for issuance of an incidental take permit(s). Management endowments are "non-wasting" meaning only the interest derived from the principal endowment may be used to manage and maintained preserved lands in perpetuity.

### 2.4 California Fish and Game Code § 3503, 3503.5, 3511, and 3513

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take." Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

### 2.5 Public Resources Code 21083.4 / Senate Bill 1334 (Kuehl).

Through the passage of SB 1334, which enacted Public Resources Code (PRC) 21083.4, the potential conversion of oak woodland is subject to CEQA review and findings, and significant impacts are to be mitigated. All 58 counties in California are required to adopt oak woodlands management plans and ordinances that require a discretionary permit for oak woodland conversions and set a minimum mitigation standard. PRC 21083.4 offers a "menu" of mitigation options. Typically, significant impacts to oaks or oak woodland requires replacement tree mitigation at a five to one ratio (i.e., 5 oak trees are planted for every removed oak tree). For projects located within an existing urbanized area, Urban Reserve Line, Urban Services Line, or within a city's sphere of influence as approved by LAFCO, mitigation could be reduced to one to one. Mitigation options in PRC 21083.4 include:

- A monetary contribution to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements.

- Onsite mitigation which requires the dedication in perpetuity of a conservation easement on mitigation lands that are contiguous with the project and that will provide for a biologically functional oak woodland community.

- Offsite mitigation which requires the permanent preservation of oak woodland habitat of equivalent biological value. Those mitigation lands shall be purchased in fee or by a conservation easement and conserved in perpetuity.

- Monitoring and replacement of dead and diseased trees would be required. The planting mitigation alternative may be used in conjunction with the other mitigation alternatives. If the CDFW establishes a mitigation bank, the mitigation bank could be used to fulfill the offsite mitigation requirements of an oak woodlands conversion project, but no landowner may be compelled to use the mitigation bank. The oak woodlands management plan or county ordinance may exempt the following activities:

    - Affordable housing projects for low and very low income (as defined HCD) located within an existing urbanized area, Urban Reserve Line, Urban Services Line, or within a city's sphere of influence as approved by LAFCO.

    - The conversion of three acres or less of oak woodlands. A person or other legal entity may not use this exemption more than once in a five-year period.

    - The harvesting of fuelwood for (non-commercial) use on the parcel from which it is harvested.

    - An approved Natural Community Conservation Plan or approved subarea plan within an approved Natural Community Conservation Plan that includes oaks as a covered species.

    - The removal of dead and diseased trees that pose significant risks to life, property, or to healthy trees.

    - Projects within oak woodlands in which no oak trees greater than five inches in diameter at breast height are to be removed or projects that do not encroach upon the dripline of oak trees greater than five inches at breast height.

Implementation of Public Resources Code (PRC) 21083.4 shall be governed by the CEQA lead agency (the County, City, or School Districts) and its findings during a review conducted pursuant to the CEQA for a proposed discretionary project. The project-related significance of impacts to oaks and any required mitigation shall be based upon specific project analyses and CEQA lead agency requirements.

### 2.6 United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) has authority to regulate activities that result in *discharge of dredged or fill material* into "waters of the United States." The term waters of the United States includes wetlands and "other waters" (for example, drainages). Section 404 jurisdiction in "other waters" such as lakes, ponds, and

streams, extends to the upward limit of the ordinary high water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is:

I) the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." (33 CFR Section 328.3[e])

Wetlands are defined as: "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act. There also must be a significant nexus of tributaries in order for a water to be regulated. Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting waters of the United States. In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404 of the Clean Water Act, the Corps normally provides two alternatives for permitting impacts to "waters of the United States." The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments) and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal EPA and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g. a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

### 2.7 California Regional Water Quality Control Board

The California Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB) regulate activities in "waters of the State" (which include wetlands, other waters, tidal waters, and the immediate watersheds around such features) through Section 401 of the Clean Water Act and/or the Porter-Cologne Water Quality Control Act. While the Corps administers a permitting program that authorizes impacts to waters of the United States pursuant to Section 404 of the Clean Water Act, including wetlands and other waters, any Corps permit authorized for a proposed project would be inoperative unless it is a NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification of water quality pursuant to Section 401 of the Clean Water Act. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality.

## 3. IMPACTS AND MITIGATION MEASURES

### 3.1 Significance Thresholds

Below is a programmatic analysis of impacts to biological resources from General Plan build out. This analysis is not project specific as that type of analysis would take place at the time individual projects were brought before the County Planning and/or Public Works staff. At this time specific impacts to biological resources are unknown and a qualitative analysis is presented below. Data used for this analysis include GIS layers provided by Calaveras County, aerial photographs, topographic maps, the CNDDB, and the California Native Plant Society (CNPS) online *Inventory of Rare, Threatened, and Endangered Plants of California* (2017 electronic update). Other data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special status species and sensitive habitat information obtained from the CDFW and the USFWS' Critical Habitat maps. Finally, M&A's knowledge of biological resources in Calaveras County from our recent past project-level field work and analysis in this county was also applied here to assess expected impacts from future development.

The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the Draft General Plan would result in any of the following:

1. *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

2. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or*

*by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

3. *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

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;*

5. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or*

6. *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

## 3.2 Project Impacts

The following section presents a programmatic-level discussion of the potential for impacts to significant and special-status biological resources from development facilitated by implementation of the Calaveras County Draft General Plan. Implementation of the proposed Draft General Plan's Conservation and Open Space (COS) policies as discussed below, and implementation of these policies and new policies and implementation measures that are presented below, would ameliorate or eliminate the potentially significant impacts of General Plan buildout on biological resources. Each policy presented below (for example, COS-3.1) references the "Implementation Measure" (IM) that is discussed in the COS chapter in the General Plan. See specific impact, policies, and mitigation measures presented below. Note that policies taken from the Draft General Plan are presented as they pertain to *biological impacts only*, and thus, below, may not appear in numerical order.

### 3.2.1 IMPACT BIO-1. SPECIAL-STATUS PLANTS AND ANIMALS

Development implemented under the Draft General Plan may:

> *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

However, the Draft General Plan includes policies and associated Implementation Programs that are intended to protect the County's biological resources from potential future impacts of General Plan buildout. In order for development under the Draft General Plan to avoid impacting special-status plant and animal species, or other sensitive biological resources, the Draft General Plan includes the following policies, the implementation of which would ameliorate or eliminate impacts to special-status species or other sensitive biological resources; however, these impacts would still be ***potentially significant***.

**COS 3.1** New development shall use site planning techniques, including buffers and setbacks, and encourage clustering of development to protect sensitive biological resources. (IM COS-4B)

**COS 3.2** Avoid impacts to special-status and sensitive biological resources to the extent practicable and, where avoidance is impracticable, mitigate impacts consistent with state and federal policies. (IM COS-3B, COS-4B, COS-4C and COS-4F).

**COS 3.3** Require new development and/or modified developments and infrastructure projects to include a Biology report that identifies and mitigates impacts to special-status wildlife habitat, rare plant habitats, wetlands and other jurisdictional waters of the U.S. and/or State, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C).

Below are the Implementation Measures (IM) referenced in the policies above:

**COS-3B** **<u>Grading, Drainage and Erosion Control</u>**
Review planning and permitting processes to assess implementation of post-construction erosion control measures and best management practices. Where improvements are necessary amend the *Design Manual for Grading, Drainage and Erosion Control* and/or the County's Grading Ordinance to correct gaps impacting effective implementation.

Implements: Policies COS 2.2, COS 2.3 and COS 3.2
Responsible Entity: Public Works Department

**COS-4B Mitigation Options for Biological Resources**
Adopt written guidelines establishing mitigation measures acceptable to Calaveras County for mitigating impacts to sensitive biological resources. Applicants may apply these mitigation options or hire a qualified professional biologist to identify alternative mitigation.

Implements: Policies COS 3.1, COS 3.2 and COS 3.3
Responsible Entity: Planning Department

**COS-4C Habitat Conservation Plan for Amphibians**
Subject to available funding and in cooperation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, pursue a countywide habitat conservation plan to allow incidental take of California tiger salamander and California red-legged frog habitat. Consider expanding the plan to include special status species occupying similar habitats. Consider coordinating the effort with neighboring counties to assist in sharing the costs of preparing the plan and to expand mitigation opportunities.

Implements: Policies COS 3.2 and COS 3.3
Responsible Entity: Planning Department

**COS-4F Voluntary Biological Resource Conservation Activities**
Support efforts where appropriate to identify and acquire high value biological resource areas from willing sellers on private lands for mitigating impacts to biological resources.

Implements: Policies COS 3.2 and COS 3.6
Responsible Entity: Planning Department

Under the proposed Draft General Plan, the population is projected to increase. This population increase as projected in the Draft General Plan would call for higher density residential, commercial, and industrial uses that would follow the historical development pattern in and around the existing communities where infrastructure and services are available. However, because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on special-status species and other sensitive biological resources is not possible at this time.

A myriad of special-status plant species occur in Calaveras County in a variety of habitat and substrate types. From the federally and state listed Chinese Camp brodiaea to the CNPS Ranked species Parry's horkelia. Potential impacts to these plant species include permanent loss of habitat due to conversion for development and loss of individuals for example from digging, grading or disking of land. Special-status animals that occur in the County are also numerous and diverse, from the fisher (*Martes pennanti*) to the California red-legged frog. Potential impacts to special-status animals include loss of habitat due to land conversion and death of individuals during earth-work and construction. Habitats that potentially support special-status animals would need to be surveyed prior to implementing any action that could temporarily or permanently impact their habitats.

*In order for this impact to special-status plants and animals to be minimized to a less than significant level, in addition to implementing the above stated policies as presented in the Draft General Plan, a new Implementation Measure and a revised policy as discussed below shall also be implemented.*

3.2.2 MITIGATION MEASURE BIO-1(A): NEW IMPLEMENTATION MEASURE FOR SPECIAL-STATUS SPECIES

**[New] COS-4H** The County shall require development that is subject to a discretionary entitlement and subject to environmental review under the CEQA to evaluate potential impacts to biological resources and to minimize, avoid and/or mitigate significant impacts to the following special-status species or as otherwise required by State or Federal law:

1. Threatened and endangered plant and animal species listed by the Federal Endangered Species Act.

2. Rare, threatened and endangered plant and animal species listed by the California Endangered Species Act.

3. Other special-status species including, but not limited to:

   A) federal candidate species for listing under the FESA;

   B) State candidate species for listing under the CESA;

   C) California Fully Protected Species (protected pursuant to Fish and Game Code);

   D) California Species of Special Concern (protected pursuant to CEQA Guideline §15382);

   E) Plant species listed by the California Native Plant Society as Ranks 1A, 1B, 2A and 2B (protected pursuant to CEQA Guideline §15382);

   F) Nesting birds (protected pursuant to California Fish and Game Codes §§3503, 3503.5, 3511, and 3513 which prohibit the "take, possession, or destruction of birds, their nests or eggs.");

   G) Birds of prey. All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5);

   H) Birds protected pursuant to the federal Migratory Bird Treaty Act;

I) Bald eagles and golden eagles as protected pursuant to the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) and California Fish and Game Code (Section 3503.5).

At the County's discretion regarding conversion of, or impacts to, open space/natural landscapes to allow for development, require project applicants to enlist the services of a qualified biologist to evaluate a proposed project's impact on special-status species as defined above and determine what avoidance measures or mitigation measures are warranted to offset these impacts to a level regarded as less than significant pursuant to the CEQA. If state or federally listed species could be affected by a proposed project the following revised policy COS-3.2 shall also be implemented.

### 3.2.3 Mitigation Measure BIO-1(B): Revised Policy COS-3.2 for State and Federally Listed species

**[Revised] COS-3.2** To the extent practicable avoid impacts to habitats that are known to support state or federally listed species. Where impacts cannot be avoided, compensate for these impacts in accordance with resource agency (CDFW and/or USFWS) protocols/policies for the listed species.

For project sites that support suitable breeding or dispersal habitats for listed species in the absence of focused surveys proving absence, mitigation is warranted. For applicants that choose not to mitigate or compensate for impacts to such listed species, the County shall require project specific site surveys conducted per resource agency guidance for the FESA/CESA species in question by permitted biologists. If such surveys are conducted with applicable resource agency concurrence and prove absence, then mitigation compensation may not be required by the County.

Mitigation for impacts to CESA/FESA listed species and/or their habitats may be accomplished via CDFW and/or USFWS approval for the applicant to purchase species compensation credits from an agency approved conservation bank. For mitigation compensation that includes avoidance on project sites or that provides offsite mitigation land preservation, a qualified biologist shall be required to develop a long-term maintenance and management plan for any onsite species avoidance area, and/or for either on or offsite mitigation preserves established to compensate for a project's effects on CESA/FESA listed species.

For any state or federally listed plant(s) or animal(s) that could be impacted by a proposed project, the County shall require proof that Incidental Take Permits have been acquired by the CDFW and/or USFWS as appropriate prior to issuing discretionary permits that allow commencement with a proposed project.

*Implementation of the above measures would reduce the impact to special-status species, including State and federally listed plant and animal species, to a level regarded as less than significant.*

### 3.2.4 IMPACT BIO-2. RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES (EXCLUDING OAK WOODLAND WHICH IS ADDRESSED SEPARATELY)

Development implemented under the Draft General Plan may:

> *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

Recognized sensitive plant communities within the county include Ione chaparral, riparian woodland, and big tree forest. While the limits of big tree forest within the county are clearly delineated on land use maps, the extent of riparian woodlands and Ione chaparral within the county have not been delineated. It is currently estimated that 226 acres of riparian woodland is present in the County; this figure would need to be ground-truthed on a project by project basis for accuracy.

Because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on these significant communities and/or other sensitive plant communities is not possible at this time. Direct impacts to riparian habitat, Ione chaparral, and other sensitive habitats include removal of these habitats during development/ construction of projects, or indirect impacts from adjacent development that affects the health and vigor of these communities. Indirect impacts to these communities also include habitat degradation caused by the introduction of invasive plant species. Invasive plants can be introduced incidentally from construction equipment carrying the invasive weed seeds on their tires into new areas and also through selection of invasive landscape plants, or by creating unvegetated/disturbed areas that are optimal for colonization by invasive weeds. Finally, erosion caused by land grading and manipulation that results in deposition of sediments in significant plant communities would be an indirect impact.

Implementation of the Draft General Plan's policies would ameliorate the potential impacts of General Plan buildout. In order for development under the Draft General Plan to avoid impacting sensitive and significant natural communities, the Draft General Plan includes the following policies the implementation of which would reduce impacts to sensitive and significant natural communities; however, these impacts would still be ***potentially significant***.

**COS 3.3** Require new development and/or modified developments and infrastructure projects to include a Biology report that identifies and mitigates impacts to special-status wildlife habitat, rare plant habitats, wetlands and other jurisdictional waters of the U.S. and/or State, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C).

Also, COS 3.1 and COS 3.2, cited at Impact BIO-1, above, and COS 3.7, cited below, are also pertinent policies that would protect significant and sensitive natural communities.

*In order for this impact to be minimized to a less than significant level, an additional new implementation measure as discussed below would also need to be implemented.*

### 3.2.5 Mitigation Measures for Impact BIO-2: New implementation measure For Significant Natural Communities

In order to protect sensitive and significant natural communities, prior to any action that results in a discretionary permit for a proposed project, the following new implementation measure shall be implemented along with the above-mentioned policies:

**[New] COS-4I** *The County shall require development that is subject to a discretionary entitlement and subject to CEQA review to evaluate potential impacts to sensitive and significant communities using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*

- *Enlist the services of a qualified biologist or botanist to survey the property in question for sensitive and significant plant communities including riparian and Ione chaparral;*
- *If any sensitive or significant plant community is identified on the proposed property, the qualified biologist or botanist shall map the dripline (canopy) and/or extent of the rare plant community using global positioning system (GPS) technology;*
- *The dripline/canopy and/or sensitive plant communities that are to be preserved shall be shown on all site development plans, grading plans, and/or engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable. Riparian drip line impacts require additional scrutiny and additional permitting for impacts from the CDFW pursuant to Section 1602 of the Fish and Game Code.*
- *Mitigation for project impacts on the sensitive habitat can include onsite planting mitigation compensation, or offsite mitigation through preservation via recordation of a conservation easement that facilitates the perpetual protection of similar habitat types as those that are impacted as stated in COS-3.6.*

*Implementation of the above policies to protect sensitive and significant plant communities would reduce impacts to a less than significant level.*

### 3.2.6 IMPACT BIO-3. IMPACTS TO OAK WOODLAND

Development implemented under the Draft General Plan may:

*Have a substantial adverse effect on oak woodlands.*

Oak woodlands are scattered throughout the county; oak trees are part of the foothill woodland and valley oak woodland communities. Oak woodlands are considered by the State of California to be high quality wildlife habitats. Public Resources Code (PRC) 21083.4 requires the protection of oak woodland and requires all 58 California counties to adopt oak woodlands management plans and ordinances that require a discretionary permit for oak woodland conversions and to establish a minimum mitigation standard.

Additionally, PRC 21083.4 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 shall require one or more oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. These mitigation alternatives can include recordation of conservation easements, implementation of oak tree planting plans, and/or contribution of funds to an Oak Woodlands Conservation Fund.

Because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on oak woodlands is not possible at this time. Direct impacts to oak woodlands include removal of the habitat during development/ construction of projects, or indirect impacts from adjacent development that affects the health and vigor of the oak woodland community. Indirect impacts to oak woodland also include habitat degradation caused by the introduction of invasive plant species. Invasive plants can be introduced incidentally from construction equipment carrying the invasive weed seeds on their tires into new areas and also through selection of invasive landscape plants, or by creating unvegetated/disturbed areas that are optimal for colonization by invasive weeds. Finally, erosion caused by land grading and manipulation that results in deposition of sediments under the oak tree canopy would be an indirect impact.

Under the Draft General Plan, parcels that are designated for future development (for example, the parcel is zoned residential, commercial, industrial or rural residential) would impact oak woodlands. It is anticipated that cumulatively there would be significant impacts to oak woodland with full General Plan buildout. To address the conversion of oak woodland habitats, the significance of impacts to oak woodlands should be determined on a project by project basis, each project accounting for the number of oak trees (if the development footprint is less than 10 acres) or acreage of oak woodland converted to other uses (for development footprints larger than 10 acres). A project proposing to convert oak woodland should also evaluate the regional context of the oak woodland (i.e., is the area isolated or part of a larger contiguous area of oak woodland).

Implementation of the Draft General Plan's policies as presented below would minimize impacts to oak woodland. However, even with the implementation of these policies and the

implementation of a new policy presented below, impacts to oak woodland from General Plan Buildout would still be a ***significant and unavoidable impact***.

**COS 3.6** Conservation easements may be acceptable means to mitigate impacts to protect wildlife habitat, wetland areas, and oak woodlands from new development. (IM COS-4D and COS-4F)

Below we provide the Implementation Measure (IM) referenced in the policy above that has not yet been presented in this document:

**COS-4D** **<u>Oak Woodlands</u>**
Develop a mitigation program in addition to the mitigation measures provided in the Oak Woodlands Preservation Act of 20141, where the County determines a project will have a significant effect on oak woodlands, to facilitate the environmental review process relative to mitigating significant direct and cumulative impacts to oak woodlands in conjunction with discretionary project approval and address pre-development removal of oaks.

Implements: Policies COS 3.5 and COS 3.6
Responsible Entity: Planning Department

### 3.2.7 MITIGATION MEASURES FOR IMPACT BIO-3: NEW POLICY FOR OAK WOODLAND

In order to protect oak woodlands, prior to any action that results in a discretionary permit for a proposed project, the following new policy shall be implemented along with the above-mentioned policy and IM:

**[New] COS-3.8** *The County shall require development that is subject to a discretionary entitlement and subject to CEQA review to evaluate potential impacts to oak woodlands using the methodologies identified below and shall require mitigation for potentially significant and significant impacts.*

- *Enlist the services of a qualified biologist, botanist, Registered Professional Forester, or arborist to survey the property in question for oak woodlands;*

- *On properties with a development footprint smaller than 10 acres the oak trees shall be counted and their diameter at breast height (DBH) determined; the number that will be impacted shall be determined. On properties greater than 10 acres the acreage of oak woodland shall be calculated and the acreage of impact shall be quantified. Additionally, the qualified biologist or arborist shall map the dripline (canopy) of the oak woodland using global positioning system (GPS) technology.*

[1] Fish and Game Code Section 1625 et seq.

- *The dripline/canopy of the oak woodlands that are to be preserved shall be shown on all site development plans, grading plans, and/or engineering drawings so that all contractors are aware that this community is sensitive, protected, and must be avoided by project plans to the extent practicable.*

- *On properties less than 10 acres, oak trees to be removed shall be replaced at a mitigation ratio determined at the discretion of the County Planning Department. This ratio will be based on the species of oak removed. For example, for oak species that are common in the county, such as interior live oak (Quercus wislizenii), mitigation ratios shall be lower than for less common oak species such as blue oaks (Quercus douglasii), valley oak (Quercus lobata) or black oaks (Quercus kelloggii). Ratios shall vary from 1:1 to as high as 3:1 at the discretion of the County Planning Department staff, and mitigation tree sizes shall vary between 5 gallon pots to 15-gallon box trees, depending on the size of the trees removed/impacted.*

- *On properties greater than 10 acres, a minimum of 30 percent of existing oak woodland canopy shall be preserved. Tree replacement mitigation shall be as prescribed above for project site's smaller than 10 acres in size or as recommended below at the discretion of Calaveras County.*

- *Mitigation for project impacts to oak woodland can include: a monetary contribution to the State's Oak Woodlands Conservation Fund for the purpose of purchasing oak woodland conservation easements, onsite planting mitigation compensation, or a combination or onsite and offsite planting, or mitigation through oak woodland preservation via recordation of a conservation easement that facilitates the perpetual protection of oak woodland.*

*Implementation of the above policies to protect oak woodlands would reduce the impact but this impact would remain significant and unavoidable.*

### 3.2.8 IMPACT BIO-4. INVASIVE PLANT SPECIES

Development implemented under the Draft General Plan may introduce invasive plant species into the County or cause the spread of invasive plant species into new areas of the County. Since many of the plants established in California plant communities are "weeds," for purposes of this analysis, invasive plant species are defined as:

> Those plants listed by the California Invasive Plant Council (Cal-IPC) as having a "high" degree of invasiveness as listed on the California Invasive Plant Inventory (2006) and updates to this inventory as posted online (http://www.cal-ipc.org/ip/inventory).

Examples of plants with a "high" ranking on the Cal-IPC inventory are yellow star thistle (*Centaurea solstitialis*), perennial pepperweed (*Lepidium latifolium*), and pampas grass (*Cortaderia selloana*). Another invasive weed of concern on the Cal-IPC's inventory, but that only has a "moderate" ranking is stinkwort (*Dittrichia graveolens*). This plant was unknown in California prior to 1993 (Hickman 1993 and Baldwin et al 2012) but since its arrival has spread like wildfire throughout the state. It is believed to have been transported to California by large trucks carrying sand and gravel for road building (and carrying stinkwort seeds).

The Draft General Plan includes policies and associated Implementation Programs that are intended to protect the County's biological resources from potential future impacts of General Plan buildout. In order for development under the Draft General Plan to avoid introducing invasive plant species, the Draft General Plan includes the following policy, the implementation of which would reduce impacts from invasive plants; however, these impacts would still be ***potentially significant***.

**COS 3.7** Support efforts to eradicate invasive species and encourage practices that reduce their spread. (IM COS-4G).

**COS-4G** **Invasive Species**
Coordinate with state and Federal agencies and programs and other organizations to control the spread of invasive species. Work to secure funding where available to support these efforts.

Implements: Policy COS 3.7
Responsible Entity: Agriculture Department

*In order for this impact to be minimized to a less than significant level, this policy would need to be updated as discussed below.*

### 3.2.9 Mitigation Measure BIO-4: New Implementation Measure For Policy COS 3.7.

The following new Implementation Measure shall be implemented along with the above-mentioned policies:

**[New COS-4J]** Consistent with CEQA, support efforts to eradicate invasive species and encourage practices that reduce their spread (IM COS-4G). This can be completed by:

1. Require new developments to submit landscape plans that are comprised of mostly native California plant species and avoid landscaping with invasive plant species. Such plans would be subject to the review and approval of the County Planning Department.

2. On properties proposed for development or redevelopment that have been identified by a qualified botanist to support those invasive plant species that are identified on the California Invasive Plant Council inventory as having a ranking of "high" invasiveness (or in the case of the plant, stinkwort, which has a "moderate" ranking), removal efforts should be undertaken. The best means to remove the invasive species (for example, hand-

removal or the use of herbicides) would be determined on a property by property basis by the contracted botanist/qualified biologist/restoration ecologist.

3. Use of herbicides must be undertaken by a licensed herbicide applicator.

*Implementation of the above measures would reduce the impact of invasive plant species in the County to a less than significant level pursuant to CEQA.*

### 3.2.10 IMPACT BIO-5. WATERS OF THE UNITED STATES/STATE INCLUDING WETLANDS AND OTHER WATERS

Development implemented under the Draft General Plan may:

> *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) and/or on waters of the State defined pursuant to Section 401 of the Clean Water Act, or the Porter-Cologne Water Quality Control Act through direct removal, filling, hydrological interruption, indirect affects, or other means of impact;*

At this time it is unknown what percentage of the General Plan buildout area supports waters of the United States/State which includes "federally protected wetlands as defined by Section 404 of the Clean Water Act." These significant and sensitive habitats vary from streams, rivers, tributaries, to ponds and seasonal wetlands and are scattered across the County. According to the USDA Forest Service vegetation map, there are approximately 87.1 acres of seasonal wetlands in U.S. Forests in Calaveras County (Figure 4 and Table 1). However, the USDA Forest Service map is very broad brush and only includes U.S. Forest Service lands. Ground surveys of individual properties within the County would likely reveal that wetland acreages in the County are far greater since seasonal wetlands, including vernal pools, are not easy to discern on aerial photographs, and must be ground-truthed to estimate their area. Other aquatic features in the County that are also subject to Clean Water Act regulation include "other waters" which are tributaries that support seasonal or perennial flows that do not otherwise support hydric soils or a dominance of hydrophytic vegetation as necessary to constitute a wetland. The extent of waters of the United States/State in the County cannot be quantified at a programmatic level. Because of the programmatic nature of the Draft General Plan, a precise, project-level analysis of potential impacts to other waters/wetlands must be evaluated on a project by project basis.

Direct impacts to waters of the United States/State, including wetlands, includes the filling, removal or alteration of natural waterways including the rerouting or culverting of tributary flows to accommodate development. Indirect impacts include degradation of the waterways caused by incidental fill or erosion into waters as land is disturbed by grading and manipulation.

In order for development under the Draft General Plan to avoid significant impacts to Corps' and RWQCB regulated wetlands and other waters, the Draft General Plan includes the following policies, and this report recommends one new policy, the implementation of which would reduce impacts to regulated waters. However, although impacts would be reduced, the impact would be **potentially significant** pursuant to CEQA.

**COS 3.3** Require new development to identify and mitigate impacts to wildlife habitat and, wetlands, riparian habitats and other aquatic resources consistent with state and federal regulations. (IM COS-4B and COS-4C)

**COS 3.6** Conservation easements may be acceptable means to mitigate impacts to protect wildlife habitat, wetland areas, and oak woodlands from new development. (IM COS-4D and COS-4F)

*In order for this impact to be minimized to a less than significant level, an additional implementation measure as discussed below would also need to be implemented.*

### 3.2.11 BIO-5 Mitigation Measures: Implementation Measure for Policy 3.3 for Waters of the US/State

**[New] COS 4K** Consistent with CEQA, for any discretionary permit that will be required for a property that has been identified on any resource map as supporting waters (creeks, rivers, streams, tributaries) and/or wetlands (for example, ponds, marshes, vernal pools), or that constitutes an open space or natural lands conversion, the County will require the land owner/project applicant to contract with a qualified wetlands scientist or biologist to evaluate if the project could affect waters of the U.S./State (which includes wetlands) onsite or offsite. If a preliminary evaluation determines that a proposed project could adversely affect waters of the U.S./State, then a qualified wetlands scientist or biologist should delineate the extent of regulated waters in accordance with the federal and state manuals as amended.

If the contracted wetlands scientist/biologist identifies areas on a property that could be regulated as waters of the U.S./State, and those features could be impacted, then the project proponent shall be required to obtain a "confirmed" jurisdictional map from the Corps over the proposed project site.

If project development plans include placement of a culvert, pipe, stormwater outfall, or earthen fill or rip-rap into any waters of the U.S./State, the County shall require the property owner/project applicant to apply to the Corps and the RWQCB for the appropriate permits prior to completing any action in the designated regulated waters. Proof of issuance of such permits shall be provided to the County prior to the commencement of such activities requiring permits from the Corps/RWQCB.

Similarly, if project plans call for impacting a stream channel (anything with a defined bed, bank or channel), or within the driplines of associated riparian canopy, the County shall require the project applicant to contact the CDFW to determine if the project requires a California Fish and Game Code Section 1602 permit (i.e., a "Steambed Alteration Agreement).

Should the County desire to obtain a Routine Maintenance Agreement with the CDFW, Corps, or RWQCB for maintenance of tributary flow capacities, and other modifications to stream channels necessary to prevent localized or regional flooding, the County shall apply for such an agreement from the appropriate state or federal agency listed above.

Any mitigation measures required by these resource agencies shall become conditions of project approval enforceable by Calaveras County.

*Implementation of the above policies would reduce impacts to waters of the United States/State including wetlands and other waters to a less than significant level pursuant to CEQA.*

### 3.2.12 IMPACT BIO-6. WILDLIFE CORRIDORS

Development implemented under the Draft General Plan may:

*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;*

Under the proposed Draft General Plan, the population is projected to increase. This population increase as projected in the Draft General Plan would call for higher density residential, commercial, and industrial uses that would follow the historical development pattern in and around the existing communities where infrastructure and services are available. Areas around such communities have been designated to provide for expansion of commercial, industrial, and residential uses to take advantage of that infrastructure, and to reduce the costs of providing services to a more widely scattered population.

Direct impacts to wildlife *outside* of urban infill and already densely urbanized areas include incremental fragmentation of the landscape, disturbance from increased noise and human presence/intrusion, predation by their pets, and increased trash which may attract predators and discourage wildlife use of surrounding natural habitat. Construction of new roadways will increase the likelihood of animal-car collisions. Development and/or roadway construction near Ebbetts' Pass Scenic Highway located at the southcentral part of the county, a known deer migration corridor, would greatly increase the likelihood of deer-car collisions. An increase in the population and development of new homes would likely result in the construction of walls and fences which would impede animal movements. Indirect impacts include invasion of natural habitats by non-native species and increased presence of humans and domestic animals over the long-term.

Because of the programmatic nature of the County Draft General Plan, a precise, project-level analysis of the specific impacts of individual projects on wildlife movement is not possible at this time and the level of analysis is maintained at the County level.

The Draft General Plan includes the following policies, and this report recommends one new policy and one new implementation measure, the implementation of which would reduce impacts

to wildlife corridors. However, although impacts would be reduced, the impact would be ***potentially significant*** pursuant to CEQA.

**COS 3.4** Identify and protect corridors important to wildlife movement and dispersal. (IM COS-4C and COS-4E);

*In order for this impact to be minimized to a less than significant level, an additional policy as discussed below would also need to be implemented.*

### 3.2.13 BIO-6 Mitigation Measures: New Policy and Implementation Measure for Wildlife Corridors

The following policy shall be added to the Draft General Plan's Conservation and Open Space Element:

**[New] COS 3.9** *Encourage development to be compatible with wildlife movement.*

**[New] COS-4L** *Consistent with CEQA, the County should work with applicants to encourage preservation or enhancement of upland habitat for wildlife species to the maximum extent feasible on parcels slated for development containing suitable habitat (e.g. areas used for foraging, breeding, dispersal, etc.). Habitat preservation and enhancement should be encouraged throughout the county in a way that promotes regional connectivity of open space habitats. The County should work with applicants to encourage development to be compatible with wildlife movement such as installing wildlife friendly fencing or lighting to minimize interference with wildlife movement. Creek corridors should be preserved in undeveloped set-asides as they provide linear wildlife corridors through the County. Similarly, if open spaces are to be preserved within developed areas, they should have connectivity to/with other dedicated or undevelopable open space lands to the extent possible.*

*Implementation of this new policy and Implementation Measure along with all other policies that pertain to wildlife movement would reduce impacts of General Plan build-out to wildlife movement and corridors. Therefore, impacts to wildlife movement would be less than significant with implementation of the above policies and Implementation Measures.*

### 3.2.14 Impact BIO-7. Local Policies and Ordinances Protecting Biological Resources

Development implemented under the Draft General Plan would not:

> *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*. Therefore, this is a less than significant impact.

The County does not have a tree ordinance in place nor does it have any other existing ordinance protecting biological resources. No mitigation is required.

### 3.2.15 Impact BIO-8. Conflicts with Adopted Habitat Conservation Plans

Development implemented under the Draft General Plan would not:

> *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.* Therefore, this is a less than significant impact.

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan occurs within Calaveras County that would conflict with the Draft General Plan. Therefore, no impacts are expected as they relate to conflicts with existing local, regional, or state conservation plans.

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| Ref# | Prefix | Historic Name | Other Name(s) | Multiple Name | Listing Date | NHL Date | Federal Agency | National Park | City | County | State | Address | Restricted | Significant Person | Architect | Request Type | Status | Secondary Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79000471 | | Altaville Grammar School | Old Altaville School,The;Red Brick Grammar School | | 8/24/1979 | | | | Altaville | Calaveras | CA | 125 N. Main St. | FALSE | | Unkown | Single | Listed | |
| 72000220 | | Angels Hotel | | | 3/24/1972 | | | | Angels Camp | Calaveras | CA | Main St. at Birds Way | FALSE | Twain,Mark | Lake,C.C. | Single | Listed | |
| 84000759 | | Choy, Sam, Brick Store | Angels Camp Jail | | 9/20/1984 | | | | Angels Camp | Calaveras | CA | Bird Way | FALSE | | | Single | Listed | |
| 84000764 | | Utica Mansion | Charles D. Lane Mansion | | 5/31/1984 | | | | Angels Camp | Calaveras | CA | 1103 Bush St. | FALSE | | | Single | Listed | |
| 85001683 | | Calaveras County Bank | Calaveras Meat Market | | 8/1/1985 | | | | Angels Camp | Calaveras | CA | 1239 Main St. | FALSE | | Depierre,E.; Righetti,Perseo | Single | Listed | |
| 15000767 | | Calaveritas Creek Bridge | Bridge 30C-24 | | 11/6/2015 | | | | Calaveritas | Calaveras | CA | Calaveritas Rd. at Calaveritas Cr. | FALSE | | Coulter. W. S.; Stevens , R.L. | Single | Listed | DATE RECEIVED/PENDING NOMINATION |
| 92000309 | | Reed's Store | Copperopolis Copper Mining Company Office | | 4/2/1992 | | | | Copperopolis | Calaveras | CA | 679 Main St. | FALSE | | Unknown | Single | Listed | DATE RECEIVED/PENDING NOMINATION |
| 92000310 | | Honigsberger Store | Calaveras Copper Mining Company Warehouse | | 4/2/1992 | | | | Copperopolis | Calaveras | CA | 665 Main St. | FALSE | | Unknown | Single | Listed | DATE RECEIVED/PENDING NOMINATION |
| 97001587 | | Copperopolis Congregational Church | Copperopolis Community Center | | 12/30/1997 | | | | Copperopolis | Calaveras | CA | 411 Main St. | FALSE | | Angell & Chaloner | Single | Listed | DATE RECEIVED/PENDING NOMINATION |
| 97001588 | | Copperopolis Armory | | | 12/30/1997 | | | | Copperopolis | Calaveras | CA | 695 Main St. | FALSE | | | Single | Listed | DATE RECEIVED/PENDING NOMINATION |
| 73000397 | | Douglas Flat School | | | 5/24/1973 | | | | Douglas Flat | Calaveras | CA | NE of Vallecito on SR 4 | FALSE | | Unknown | Single | Listed | |
| 71000134 | | Murphys Hotel | Mitchler Hotel | | 11/23/1971 | | | | Murphys | Calaveras | CA | Main and Algiers Sts. | FALSE | | Unknown | Single | Listed | |
| 73000398 | | Murphys Grammar School | | | 6/8/1973 | | | | Murphys | Calaveras | CA | Jones St. | FALSE | | Unkown | Single | Listed | |
| 72000221 | | Calaveras County Courthouse | 5th County Seat - 1867-1966 | | 2/28/1972 | | | | San Andreas | Calaveras | CA | Main St. | FALSE | Bolton,Charles | Unkown | Single | Listed | |
| 72000222 | | Thorn House | | | 2/23/1972 | | | | San Andreas | Calaveras | CA | 87 E. St. Charles St. | FALSE | Thorn,Benjamin K. | Thorn,Benjamin K. | Single | Listed | |
| 84000760 | | Synder, John J., House | Snyder House | | 8/2/1984 | | | | San Andreas | Calaveras | CA | 247 W. St. Charles St. | FALSE | | | Single | Listed | |




# Calaveras County General Plan

**Calaveras County, California**

**December 4th, 2017**

**jcb Project # 2016-229**

**Prepared for:**

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This section provides a discussion of the regulatory setting, a general description of existing noise sources in the Calaveras County, and a discussion of the impacts and mitigation measures associated with implementation of the Update Calaveras County General Plan. The analysis in this section was prepared with assistance from j.c. brennan & associates, Inc.

# ENVIRONMENTAL SETTING

## KEY TERMS

| | |
|---|---|
| **Acoustics** | The science of sound. |
| **Ambient Noise** | The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study. |
| **Attenuation** | The reduction of noise. |
| **A-Weighting** | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. |
| **Decibel or dB** | Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. |
| **CNEL** | Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging. |
| **Frequency** | The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz. |
| **Impulsive** | Sound of short duration, usually less than one second, with an abrupt onset and rapid decay. |
| **$L_{dn}$** | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting. |
| **$L_{eq}$** | Equivalent or energy-averaged sound level. |
| **$L_{max}$** | The highest root-mean-square (RMS) sound level measured over a given period of time. |
| **$L_{(n)}$** | The sound level exceeded a described percentile over a measurement period. For instance, an hourly $L_{50}$ is the sound level exceeded 50 percent of the time during the one hour period. |
| **Loudness** | A subjective term for the sensation of the magnitude of sound. |
| **Noise** | Subjective reaction to different types of sounds. |
| **SEL** | A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event |

## FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

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

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

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

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

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

$L_{dn}$, but includes a +3 dB penalty for evening noise. Table 1 lists several examples of the noise levels associated with common situations.

***TABLE 1: TYPICAL NOISE LEVELS***

| COMMON OUTDOOR ACTIVITIES | NOISE LEVEL (DBA) | COMMON INDOOR ACTIVITIES |
|---|---|---|
| | --110-- | Rock Band |
| Jet Fly-over at 300 m (1,000 ft) | --100-- | |
| Gas Lawn Mower at 1 m (3 ft) | --90-- | |
| Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph) | --80-- | Food Blender at 1 m (3 ft)<br>Garbage Disposal at 1 m (3 ft) |
| Noisy Urban Area, Daytime<br>Gas Lawn Mower, 30 m (100 ft) | --70-- | Vacuum Cleaner at 3 m (10 ft) |
| Commercial Area<br>Heavy Traffic at 90 m (300 ft) | --60-- | Normal Speech at 1 m (3 ft) |
| Quiet Urban Daytime | --50-- | Large Business Office<br>Dishwasher in Next Room |
| Quiet Urban Nighttime | --40-- | Theater, Large Conference Room (Background) |
| Quiet Suburban Nighttime | --30-- | Library |
| Quiet Rural Nighttime | --20-- | Bedroom at Night, Concert Hall (Background) |
| | --10-- | Broadcast/Recording Studio |
| Lowest Threshold of Human Hearing | --0-- | Lowest Threshold of Human Hearing |

*SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2013.*

## EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

## EXISTING NOISE LEVELS

### Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop $L_{dn}$ (24-hour average) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly $L_{eq}$ values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict $L_{dn}$ values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Traffic data representing annual average traffic volumes for existing conditions were obtained from Caltrans and the Calaveras County General Plan traffic consultant. Day/night traffic distribution for Highway 49, Highway 12, and Highway 4 were based upon continuous hourly noise measurement data collected for those roadways. Truck mix data were also based upon Caltrans and j.c. brennan & associates, Inc. file data. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing traffic volumes in terms of the $L_{dn}$ metric. Distances from the centerlines of selected roadways to the 60, 65 and 70 dB $L_{dn}$ contours are summarized in Table 2.

In many cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA model. Factors such as roadway curvature, roadway grade, shielding from local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation. The distances reported in Table 2 are generally considered to be conservative estimates of noise exposure along roadways in the Calaveras County.

The effects of factors such as roadway curvature, and grade, can be determined from site-specific traffic noise measurements. The noise measurement results can be compared to the FHWA model

results by entering the observed traffic volumes, speed and distance as inputs to the FHWA model. The differences between the measured and predicted noise levels can be used to adjust the FHWA model and more precisely determine the locations of the traffic noise contours. Appendix A shows the FHWA Model inputs and results for the existing traffic noise levels.

Figure 1 shows a key to existing traffic noise contour maps for the major highways in Calaveras County. (Please refer to Calaveras County General Plan Noise Element Background Report for mapping of existing roadway noise contours).

***TABLE 2: PREDICTED EXISTING TRAFFIC NOISE LEVELS***

| ROADWAY | SEGMENT | NOISE LEVEL AT 100 FEET, $L_{DN}$ | DISTANCES TO TRAFFIC NOISE CONTOURS, $L_{DN}$ (FEET) | | |
|---|---|---|---|---|---|
| | | | 70 DB | 65 DB | 60 DB |
| SR 4 | Stanislaus Co Line to West of Hunt Rd | 66 dBA | 54 | 116 | 251 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dBA | 54 | 116 | 250 |
| SR 4 | East of Stallion Way to SR 49 | 64 dBA | 40 | 86 | 186 |
| SR 4 | SR 49 to Allen Ln | 64 dBA | 42 | 90 | 194 |
| SR 4 | Allen Ln to Broadview Ln | 66 dBA | 52 | 111 | 240 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dBA | 60 | 129 | 278 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dBA | 51 | 109 | 235 |
| SR 4 | Henry Dr to Sierra Pkway | 66 dBA | 53 | 114 | 245 |
| SR 4 | Skyline Dr to Alpine Co Line | 61 dBA | 27 | 58 | 124 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dBA | 43 | 92 | 199 |
| SR 12 | San Joaquin Co Line to Burson Rd | 64 dBA | 42 | 90 | 193 |
| SR 12 | Burson Rd to SR 26 | 66 dBA | 58 | 126 | 271 |
| SR 12 | SR 26 to SR 49 | 66 dBA | 58 | 126 | 271 |
| SR 26 | San Joaquin Co Line to Silver Rapids Rd | 65 dBA | 44 | 94 | 203 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dBA | 60 | 129 | 277 |
| SR 26 | SR 12 to SR 49 | 59 dBA | 17 | 37 | 80 |
| SR 26 | SR 49 tp Ridge Rd | 55 dBA | 11 | 23 | 50 |
| SR 26 | Ridge Rd to Winton Rd | 57 dBA | 13 | 29 | 62 |
| SR 26 | Winton Rd to Amador Co Line | 56 dBA | 12 | 26 | 57 |
| SR 49 | Amador Co Line to SR 12 | 63 dBA | 33 | 71 | 152 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dBA | 49 | 105 | 226 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dBA | 56 | 120 | 259 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dBA | 56 | 120 | 259 |
| SR 49 | Mountain Ranch Rd to 4th Crossing | 65 dBA | 44 | 95 | 204 |
| SR 49 | 4th Crossing Rd to Brunner Hill Rd | 65 dBA | 47 | 100 | 216 |

**TABLE 2: PREDICTED EXISTING TRAFFIC NOISE LEVELS**

| ROADWAY | SEGMENT | NOISE LEVEL AT 100 FEET, $L_{DN}$ | DISTANCES TO TRAFFIC NOISE CONTOURS, $L_{DN}$ (FEET) | | |
|---|---|---|---|---|---|
| | | | 70 DB | 65 DB | 60 DB |
| SR 49 | Copello Dr to Dogtown Rd | 63 dBA | 44 | 95 | 204 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dBA | 45 | 98 | 211 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dBA | 55 | 119 | 256 |
| SR 49 | Murphy's Grad Rd to Stanislaus Ave | 63 dBA | 35 | 75 | 161 |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dBA | 48 | 103 | 222 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dBA | 49 | 106 | 228 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dBA | 42 | 90 | 194 |
| SR 49 | SR 4 South to Tuolumne Co. Line | 62 dBA | 39 | 83 | 179 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dBA | 15 | 31 | 68 |
| Baldwin St | SR 26 to Milton Rd | 57 dBA | 13 | 29 | 62 |
| Big Tree Rd | SR 4 to Main St. Murphy's | 58 dBA | 21 | 44 | 95 |
| Burson Rd | SR 26 to Cammanche Parkway South | 52 dBA | 11 | 24 | 52 |
| Cammanche Parkway Sout | SR 12 to Amador Co. Line | 52 dBA | 8 | 17 | 36 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dBA | 4 | 8 | 17 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dBA | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St | 57 dBA | 15 | 31 | 68 |
| Gold Strike Road | Neilsen Rd to SR 49 | 57 dBA | 15 | 32 | 69 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dBA | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dBA | 1 | 3 | 7 |
| Jenny Lind Rd | SR 26 Milton | 56 dBA | 16 | 35 | 75 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dBA | 3 | 7 | 14 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dBA | 21 | 44 | 95 |
| Milton Rd | SR 26 to Stanislaus Co. Line | 54 dBA | 10 | 21 | 45 |
| Moran Rd | SR 4 to SR 4 | 58 dBA | 15 | 33 | 72 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dBA | 22 | 48 | 104 |
| Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 58 dBA | 17 | 37 | 80 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dBA | 26 | 56 | 122 |

***TABLE 2: PREDICTED EXISTING TRAFFIC NOISE LEVELS***

| ROADWAY | SEGMENT | NOISE LEVEL AT 100 FEET, $L_{DN}$ | DISTANCES TO TRAFFIC NOISE CONTOURS, $L_{DN}$ (FEET) | | |
|---|---|---|---|---|---|
| | | | 70 DB | 65 DB | 60 DB |
| O'Byrnes Ferry Road | Reed's Turnpike to Tuolumne Co. Line | 58 dBA | 22 | 48 | 104 |
| Olive Orchard Road | SR26 to Burson Road | 55 dBA | 14 | 31 | 66 |
| Ospital Road | Southworth Road to San Joaquin Co. line | 50 dBA | 6 | 13 | 27 |
| Paloma Road | SR 12 to SR 26 | 55 dBA | 13 | 27 | 59 |
| Parrotts Ferry Road | SR 4 to Tuolumne County Line | 57 dBA | 17 | 36 | 77 |
| Pennsylvania Gulch Road | SR4 to END | 54 dBA | 13 | 27 | 59 |
| Pettinger Road | SR12 to Southworth Road | 54 dBA | 13 | 29 | 62 |
| Pool Station Road | SR 4 to SR 49 | 54 dBA | 11 | 24 | 52 |
| Rail Road Flat Road | Sheep Ranch Rd to SR 26 | 55 dBA | 12 | 25 | 54 |
| Ridge Road | SR 26 to Railroad Flat Rd | 52 dBA | 7 | 16 | 34 |
| Rock Creek Road | Milton Road to SR4 | 40 dBA | 4 | 8 | 17 |
| Sheep Ranch Road | Mountain Ranch Road to Main Street Murphys | 57 dBA | 14 | 31 | 66 |
| Silver Rapids Road | Hogan Dam Road to Heney Lane | 53 dBA | 10 | 22 | 47 |
| Vista de Lago | SR26 to Hogan Dam Road | 58 dBA | 19 | 41 | 88 |

*NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.*
*SOURCE: FEHR & PEERS TRANSPORTATION ENGINEERS, CALTRANS, J.C. BRENNAN & ASSOCIATES, INC., - 2013*

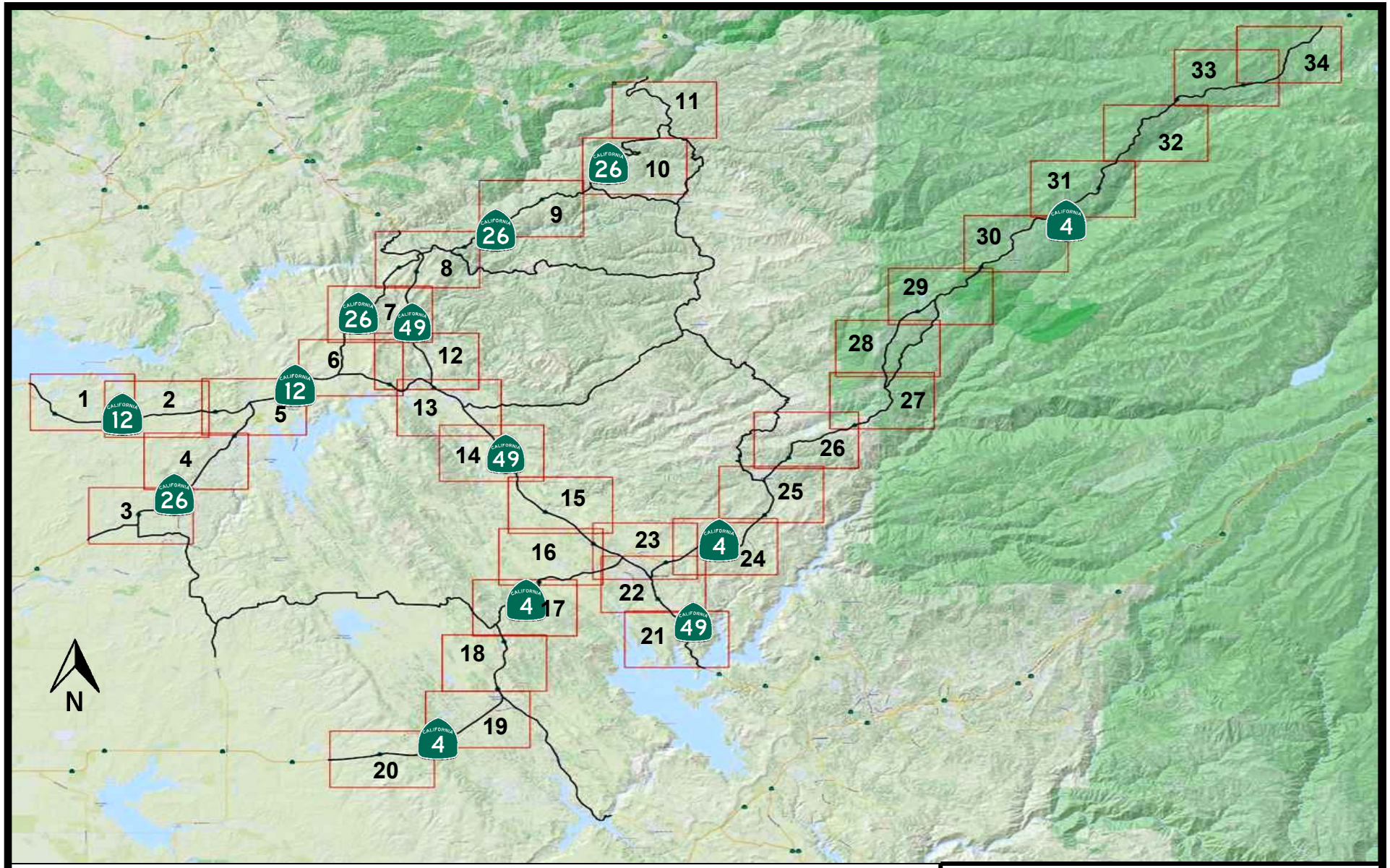



**Figure 1**
**Map Reference**
**Sheets 1-34**

**Calaveras County General Plan**
**Noise Element Update**
**Figure 1 Existing Traffic Noise Contours**

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*Figure Prepared April 2014*

## Aviation Noise Levels

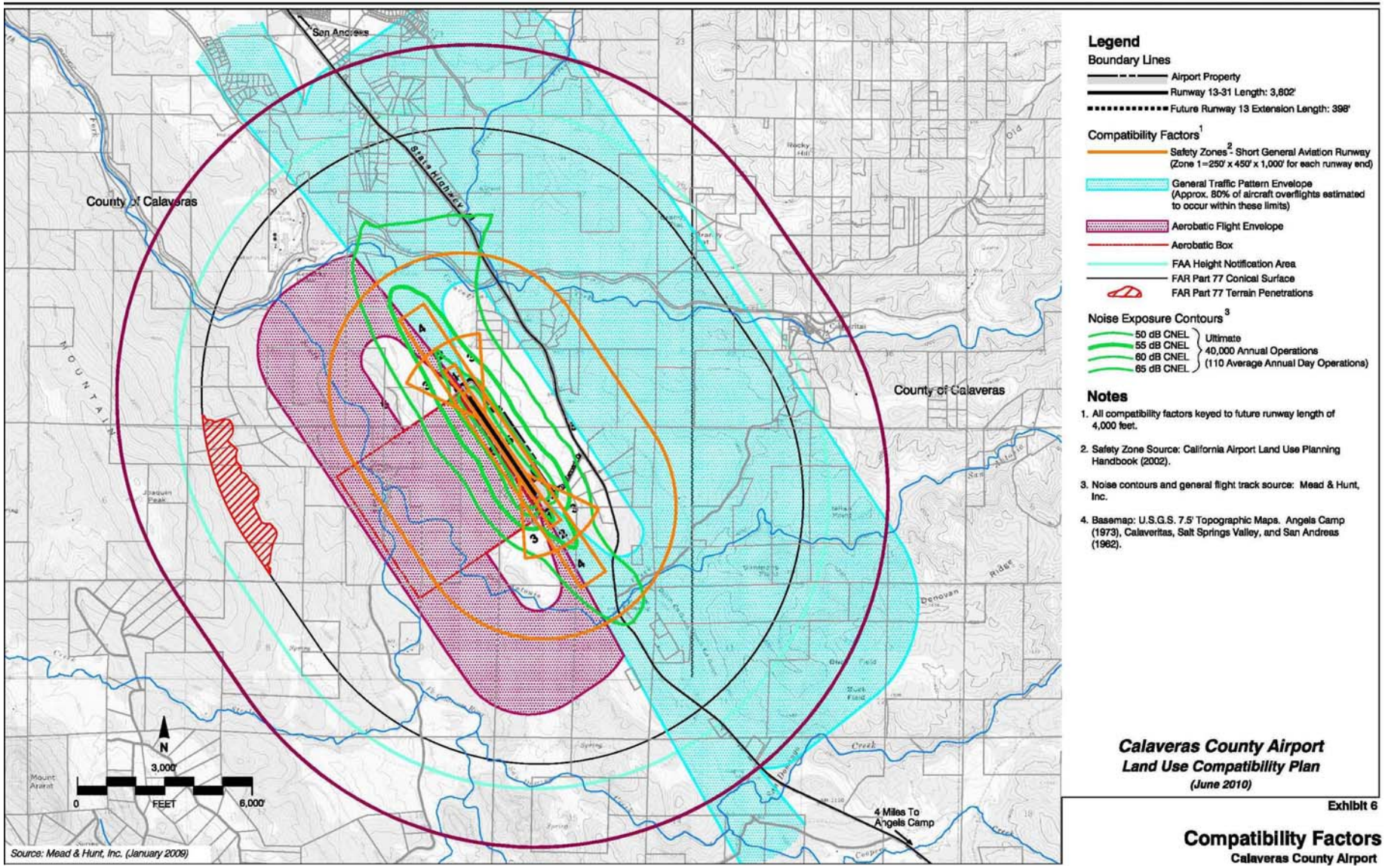
The Calaveras County Airport - Maury Rasmussen Field is located in the vicinity of the City of San Andreas. The Calaveras County Airport – Maury Rasmussen Field is owned and operated by Calaveras County.

Noise Impacts and contours associated with Calaveras County Airport – Maury Rasmussen Field are addressed in the *Calaveras County Airport Land Use Compatibility Plan,* Adopted by the Airport Land Use Commission on June 2, 2010.

The Calaveras County Airport – Maury Rasmussen Field is located 4 miles southeast of the center of the City of San Andreas. This airport has a single runway with a heading of 13/31 and two helipads, at an elevation of 1,325 feet above sea level. The airport is open 24 hours per day, and has a lighted runway for night operations. Primary use of the airport is single-engine fixed wing aircraft used for general aviation purposes. The (2008) aircraft activity level at Calaveras County Airport was estimated to be approximately 30,000 annual operations based on the 2010 Calaveras County ALUCP. The current (2015) aircraft activity level is approximately 32,000 annual operations based upon the United States Department of Transportation Federal Aviation Administration form 5010-1. An aircraft operation is defined as a landing or a takeoff. The majority (85%) of the activity is conducted by small, single-engine aircraft. Other types of aircraft, including multi-engine piston aircraft and, to a lesser extent, transient jets and helicopters, use the airport on a limited basis. The majority of the helicopter activity is generated by the Calaveras County Sheriff's Department, Air National Guard, and air ambulance companies.

The airport bases approximately 52 single engine and 2 multi engine aircraft, based on U.S. Department of Transportation Federal Aviation Administration form 5010-1. The airport has 43 hangar spaces and 64 tie-downs. New T-hangars are planned that would increase the airport capacity for an additional 22 aircraft. Further information and analysis for this airport can be found in the above referenced ALUCP and United States Department of Transportation Federal Aviation Administration form 5010-1. Figure 2 shows the Calaveras County Airport noise impact area for year 2010.

Figure 2
Calaveras County Airport – Maury Rasmussen Field
2010 Noise Exposure Contours







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## Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified music and voice

The types of uses which may typically produce the noise sources described above, include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields.

Calaveras County has five primary areas where industrial noise sources exist. The primary industrial noise generating areas are located along the western, southwestern and southeastern county boundaries. The following descriptions are intended to be representative of the relative noise impacts of such uses and to identify individual noise sources needing consideration during the environmental review process of developments in their vicinity. Foothills Materials, Calaveras Materials, Rock Creek Solid Waste Facility, Red Hill Transfer Station and Avery Transfer Station have been identified as primary industrial noise generators located within Calaveras County.

**Site 1 - Foothill Materials:** Foothill Materials is an aggregate productions facility located at 3650 Hogan Dam Road, Valley Springs CA, 95252. The primary noise sources are the production of aggregate, i.e. loader, excavator, rock crusher, impact rock hammer, conveyors, diesel generator and trucks entering/exiting the plant. Noise level measurements were conducted at the east boundary of Foothill Materials, and approximately 585 feet from the center of the noise source. The noise level measurements were conduct on October 18, 2013. Measured noise levels were 51 dBA $L_{eq}$ and 70 dBA $L_{max}$. The distances to the 45 dBA and 55 dBA $L_{eq}$ noise contours are 1,167 feet and 369 feet, respectively. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 3.

**Site 2 - Calaveras Materials:** Calaveras Materials is an aggregate production facility located at 2288 Pool Station Road, San Andreas CA, 95242. The primary noise sources are the production of aggregate, i.e. loader, excavator, rock crusher, water truck, conveyors, diesel generator, trucks entering/exiting the plant. Noise level measurements were conducted at the northeast boundary of Calaveras Materials, and approximately 900 feet from the center of the noise source. The noise level measurements were conducted on October 18, 2013. Measured noise Levels were 63 dBA $L_{eq}$ due to the plant operations. The distances to the 45 dBA $L_{eq}$ and 55 dBA $L_{eq}$ noise contours are 2,260 feet and 715 feet, respectively. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 3.

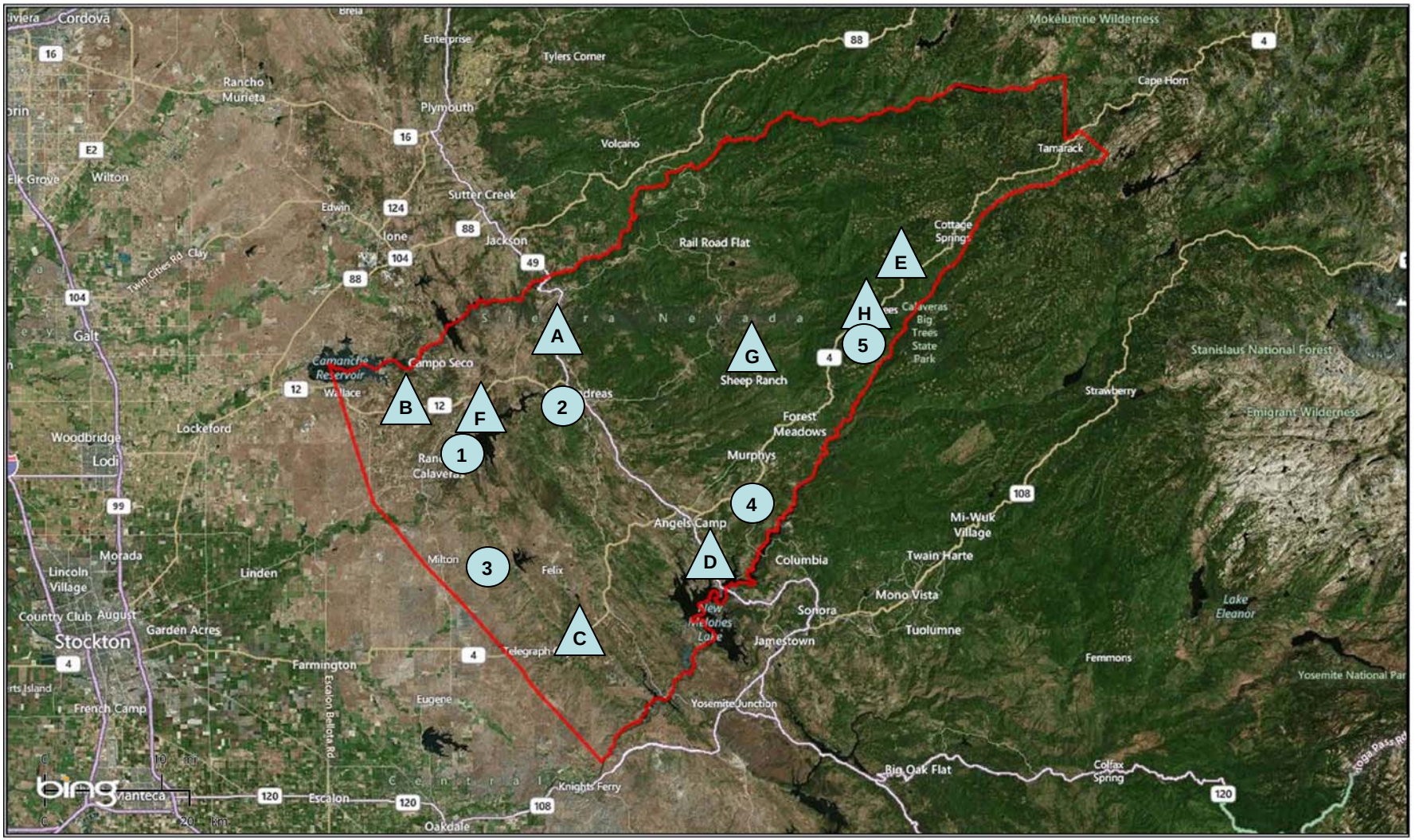
**Site 3 - Rock Creek Solid Waste Facility:** Rock Creek Solid Waste Facility is a landfill facility located at 12021 Hunt Road, Farmington CA, 95230. The primary noise sources are the ingress and egress of trucks entering the facility from Hunt Road, heavy equipment and backup alarms from equipment operations in the landfill. The noise level measurements were conducted at the northwest boundary of the Rock Creek Solid Waste Facility, and approximately 114 feet from the center of the noise source. The noise level measurements were conduct on October 18, 2013. Measured noise levels are 45 dBA $L_{eq}$ and 63 dBA $L_{max}$, the distances to the 45 dBA $L_{eq}$ and 55 dBA $L_{eq}$ noise contours are 114 feet and 36 feet, respectively. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 3.

**Site 4 - Red Hill Transfer Station:** Red Hill Transfer Station is a solid waste collection facility located at 5314 Red Hill Road, Vallecito, CA 95251. The primary noise sources are the loading, unloading of refuse at the facility, and truck traffic at the site. The noise level measurements were conducted near the northeast gate, and approximately 225 feet from the center of the noise source. The noise level measurements were conducted on October 18, 2013. Measured noise Levels are 53 dBA $L_{eq}$ and 75 dBA $L_{max}$. The distances to the 45 dBA $L_{eq}$ and 55 dBA $L_{eq}$ noise

contours are 634 feet and 252 feet, respectively. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 3.

**Site 5 - Avery Transfer Station:** Avery Transfer Station is a solid waste collection facility located at 4541 Segale Road, Avery, CA 95224. The primary noise sources are the loading and unloading of refuse at the facility and truck traffic at the site. The noise level measurements were conducted near the loading dock, and approximately 135 feet from the center of the noise source. The noise level measurements were conduct on October 18, 2013. Measured noise levels are 59 dBA $L_{eq}$ and 78 dBA $L_{max}$. The distances to the 45 dBA $L_{eq}$ and 55 dBA $L_{eq}$ noise contours are 759 feet and 240 feet, respectively. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 3.

**Figure 3**
**Calaveras General Plan Noise Monitoring Sites**




A **Continuous Noise Measurement Site**

\# **Short-term Noise Measurement Site**

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| TABLE 3: EXISTING SHORT-TERM FIXED NOISE SOURCE NOISE MONITORING RESULTS | | | | | | |
|---|---|---|---|---|---|---|
| | | | MEASURED SOUND LEVEL, DB | | | |
| SITE | LOCATION | TIME[1] | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ | NOTES |
| 1 | Hogan Quary, 3650 Hogan Dam Road | 11:06 a.m. | 51 | 43 | 70 | 585 feet from equipment |
| 2 | Calaveras Materials, 2288 Pool Station Road | 12:07 p.m. | 63 | 53 | 81 | 900 feet from equipment |
| 3 | Rock Creek Solid Waste Facility, 12021 Hunt Road | 9:45 a.m. | 45 | 37 | 63 | 114 feet from equipment |
| | | 10:13 a.m. | 39 | 36 | 59 | No equipment running |
| 4 | Red Hill Transfer Station, 5314 Red Hill Road | 2:36 p.m. | 53 | 46 | 75 | 225 feet from noise source |
| 5 | Avery Transfer Station, 4541 Segale Road | 1:29 p.m. | 59 | 55 | 78 | 135 feet from equipment |
| | | 1:49 p.m. | 51 | 48 | 66 | 135 feet from manual disposal |

*1 - ALL COMMUNITY NOISE MEASUREMENT SITES HAVE TEST DURATIONS OF 20:00 MINUTES AND WERE CONDUCTED ON OCTOBER 18, 2013.*
*SOURCE - J.C. BRENNAN & ASSOCIATES, INC. 2013.*

## COMMUNITY NOISE SURVEY

A community noise survey was conducted to document noise exposure in the County containing noise sensitive land uses and for major roadways. Noise monitoring sites were selected to be representative of typical residential, commercial or recreational areas within the County. Short-term noise measurements were conducted at five locations on October 18, 2013 (See Table 3). In addition, eight continuous 24-hour noise monitoring sites were also established throughout Calaveras County to record day-night statistical noise level trends. The data collected included the hourly average ($L_{eq}$) and the maximum level ($L_{max}$) during the measurement period. Continuous 24-hour noise monitoring sites and the measured noise levels at each site are summarized in Table 4. Figure 3 shows the locations of the noise monitoring sites. A comprehensive listing and graphical representation of the continuous noise measurement data is provided in Appendix B.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with a LDL ½" microphone. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

**Site A - S.R. 49:** This site was selected to provide information on the existing noise levels associated with S.R. 49. This also provided a day/night split of traffic along S.R. 49 to assist in the modeling of overall traffic noise levels. Noise Measurement Site A was a continuous hourly noise measurement site which was conducted for a 24-hour period on October 16-17, 2013. This site was located approximately 65 feet from centerline of S.R. 49, and south of the Town of Mokelumne. The measured noise level at this location was 61 dBA $L_{dn}$. The noise measurement

location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4. Additional traffic noise level data, including distances to traffic noise contours are shown in Table 2.

**Site B – S.R. 12:** This site was selected to provide information on the existing noise levels associated with S.R. 12. This also provided a day/night split of traffic along S.R. 12 to assist in the modeling of overall traffic noise levels. Noise Measurement Site B was a continuous hourly noise measurement site which was conducted for a 24-hour period on October 16-17, 2013. This site was located approximately 54 feet from centerline of S.R. 12, and west of the Town of Burson. The measured noise level at this location was 65 dBA $L_{dn}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4. Additional traffic noise level data, including distances to traffic noise contours are shown in Table 2.

**Site C – S.R. 4:** This site was selected to provide information on the existing noise levels associated with S.R. 4. This also provided a day/night split of traffic along S.R. 4 to assist in the modeling of overall traffic noise levels. Noise Measurement Site C was a continuous hourly noise measurement site which was conducted for a 24-hour period on October 16-17, 2013. This site was located approximately 84 feet from centerline of S.R. 4, and west of the Town of Copperopolis. The measured noise level at this location was 66 dBA $L_{dn}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4. Additional traffic noise level data, including distances to traffic noise contours are shown in Table 2.

**Site D – S.R. 49:** This site was selected to provide information on the existing noise levels associated with S.R. 49. This also provided a day/night split of traffic along S.R. 49 to assist in the modeling of overall traffic noise levels. Noise Measurement Site D was a continuous hourly noise measurement site which was conducted for a 24-hour period on October 16-17, 2013. This site was located approximately 81 feet from centerline of S.R. 49, and south of the Town of Angels Camp. The measured noise level at this location was 65 dBA $L_{dn}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4. Additional traffic noise level data, including distances to traffic noise contours are shown in Table 2.

**Site E – S.R. 4:** This site was selected to provide information on the existing noise levels associated with S.R. 4. This also provided a day/night split of traffic along S.R. 4 to assist in the modeling of overall traffic noise levels. Noise measurement Site E was a continuous hourly noise measurement site which was conducted for a 24-hour period on October 16-17, 2013. This site was located approximately 48 feet from centerline of S.R. 49, and north of the Town of Arnold. The measured noise level at this location was 64 dBA $L_{dn}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4. Additional traffic noise level data, including distances to traffic noise contours are shown in Table 2.

**Site F – New Hogan Lake Recreation Area:** This site was selected to provide information on the existing noise levels associated with a community recreation area. Noise measurement Site F was located northeast of the New Hogan Lake Headquarters. This was a continuous hourly noise measurement site which conducted for a period of 24-hours on November 12-13, 2013. This site

was located approximately 150 feet from the center of the noise source. The primary noise source at this measurement site was roadway traffic on the access road. The measured noise levels were 37 dBA $L_{eq}$ and 62 dBA $L_{max}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4.

**Site G – Rural Area of the Sheep Ranch Community:** This site was selected to provide information on the existing noise levels associated with a rural community. Noise measurement Site G was located south of the community of Sheep Ranch. This was a continuous hourly noise measurement site which conducted for a period of 24-hours on November 12-13, 2013. This site was located approximately 180 feet north of Sheep Ranch Road between Armstrong Road and Lookout Point Road. The primary noise source at this measurement site was roadway traffic on Sheep Ranch Road. The measured noise levels were 39 dBA $L_{eq}$ and 75 dBA $L_{max}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4.

**Site H – White Pines Lake Recreation Area:** This site was selected to provide information on the existing noise levels associated with a community recreation area. Noise measurement Site H was located north of the White Pines Lake Recreation Area. This was a continuous hourly noise measurement site which was conducted for a period of 24-hours on November 12-13, 2013. This site was located approximately 60 feet east of Forest Route 7N08. The primary noise source at this measurement site was roadway traffic with background noise from people recreating. The measured noise levels were 33 dBA $L_{eq}$ and 72 dBA $L_{max}$. The noise measurement location is shown in Figure 3, and the results of the noise level measurements are shown in Table 4.

***TABLE 4: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS***

| SITE | LOCATION | $L_{DN}$ (DBA) | MEASURED HOURLY NOISE LEVELS, DBA | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | DAYTIME (7:00 AM - 10:00 PM) | | | NIGHTTIME (10:00 PM – 7:00 AM) | | |
| | | | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ | $L_{EQ}$ | $L_{50}$ | $L_{MAX}$ |
| A | Hwy 49 South of Mokelumne near Sport Hill Road | 61 | 60 | 49 | 82 | 52 | 34 | 72 |
| B | Hwy 12 between Wallace and Burson near Megan Lane | 65 | 62 | 48 | 81 | 58 | 34 | 78 |
| C | Hwy 4 near Copperopolis south of Telegraph Road | 66 | 61 | 51 | 77 | 60 | 34 | 75 |
| D | Hwy 49 South of Angels Camp South of Rainbow W | 65 | 62 | 55 | 78 | 58 | 35 | 74 |
| E | Hwy 4 North of Arnold North of Moran Rd | 64 | 63 | 45 | 81 | 55 | 26 | 72 |
| F | New Hogan Lake Headquarters along Fire Trail | 43 | 39 | 33 | 56 | 37 | 31 | 48 |
| G | Sheep Hill Road between Armstrong Road and Lookout Point Road | 46 | 41 | 29 | 75 | 39 | 22 | 75 |
| H | White Pines Lake along Forest Road 7N08 north of 4th Street | 44 | 45 | 34 | 65 | 33 | 28 | 47 |

*SOURCE – J.C. BRENNAN & ASSOCIATES, INC. – 2013*

The results of the community noise survey shown in Table 3 and Table 4 indicate that existing transportation noise sources were the major contributor of noise observed during daytime hours, especially during vehicle passbys, with the exception of Calaveras Materials. However, some of the more rural locations do not experience frequent vehicle activity so background noise levels are correspondingly low.

## REGULATORY FRAMEWORK

### Proposed Calaveras County General Plan Update Noise Policies

**Goal**

**N-1** Noise levels consistent with the County's rural atmosphere and that maintain compatibility between differing land uses, and protect the health and well-being of residents, visitors and businesses.

**Policies**

**N 1.1** Locate and design sensitive noise-receiving land uses so they are not exposed to noise levels exceeding noise standards set forth in Tables Noise 1 and 2. (IM N-1B and N-1E)

**N 1.2** Evaluate the potential impacts of noise on and from existing and planned land uses and public and private transportation facilities during the development_review process using noise thresholds set forth in Tables Noise 1 and 2. (IM N-1C and N-1E)

**N 1.3** Determine that a potentially significant adverse noise-related impact exists when a non-transportation related project (excluding temporary initial construction noise) has the potential to increase the overall ambient noise levels at the receiving land use by 3 dB or more when the ambient noise levels exceed the standards in Table Noise-2. (IM N-1E)

**N 1.4** Determine that a potentially significant adverse noise-related impact exists when a project generating transportation noise (excluding temporary initial construction noise) has the potential to do one or more of the following:

- Where existing traffic noise levels are less than 60 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a +5 dB $L_{dn}$ increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels range between 60 and 65 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a +3 dB $L_{dn}$ increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB $L_{dn}$ at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB $L_{dn}$ increase in noise levels due to roadway improvement projects will be considered significant. (IM N-1C and N-1E)

**N 1.5** Design and orient noise-sensitive land uses proposed adjacent to existing transportation noise sources to incorporate noise reduction techniques so that the new noise-sensitive

development will not be affected by noise that exceeds the limits in **Table Noise -1**. (IM N-1B, N-1D and N-1E)

**N 1.6** Design and locate new roads creating transportation noise sources so that existing noise-sensitive land uses will not be exposed to noise levels that exceed the standards shown in **Table Noise-1** or **Policy N 1.4**. (IMN-1B, N-1C and N-1E)

**N 1.7** New development of noise sensitive land uses adjacent to existing stationary noise sources or land designated on the General Plan Land Use Maps as industrial or resource production lands shall be designed to avoid exposure to noise levels in excess of those in **Table Noise-2**. (IM N-1B and N-1E)

**N 1.8** Single event impulsive noise shall not exceed a peak linear overpressure of 122 dB, or a C-weighted Sound Exposure Level (SEL) of 98 dBC. The cumulative noise level from impulsive sounds such as gunshots and blasting shall not exceed 60 dB $LC_{dn}$ or CNELC on any given day. These standards shall be applied at the property line of a receiving land use. (IM N-1A)

**N 1.9** Minimize noise-sensitive development in identified high noise areas surrounding the Calaveras County Airport and ensure that potential new property owners are made aware of existing and anticipated noise levels associated with the airport. (IM N-1D)

**N 1.10** Integrate the goals, policies and programs of the Calaveras County Airport Land Use Compatibility Plan in planning decisions as necessary to insure compatibility between noise-generating and noise-sensitive land uses. (IM N-1D)

**N 1.11** Continue to maintain a County noise ordinance that addresses, at a minimum, the protection of public health, safety, and welfare relative to noise; establishes maximum noise generation levels for new noise sources and receptors; addresses construction noise; identifies exemptions from noise standards, establishes standard practices for reducing noise levels from Transportation Noise Sources and commonly occurring Non-Transportation Noise Sources, and referencing the Right-to-Farm Ordinance. (IM N-1A, N-1B and N-1D)

**N 1.12** Recognize the right of legally pre-existing noise-generating operations to continue operating. (IM N-1A)

**N 1.13** Applicants for development projects that are likely to produce excessive noise that may affect noise sensitive land uses shall provide to the County an acoustic analysis which shall be incorporated into the project review process. (IM N-1E)

**Table 5 (Table Noise-1 /h/ of Calaveras County General Plan Noise Element): Noise Exposure Levels for Sensitive Land Uses adjacent to Existing Transportation Noise Sources (other than Aviation-Related Noise Sources) /a/**

| **Noise Sensitive Land Use** | **Outdoor Activity Areas** /b/ | **Interior Spaces** /f/ | |
|---|---|---|---|
| | $L_{dn}$/CNEL, dB | $L_{dn}$/CNEL, dB | $L_{eq}$, dB /c/ |
| Residential | 60 /d/ | 45 | -- |
| Transient Lodging /g/ | 65 /e/ | 45 | -- |
| Hospitals, Nursing Homes /f/ | 60 /d/ | 45 | -- |
| Theaters, Auditoriums, Music Halls | -- | -- | 45 |
| Churches, Meeting Halls | 60 /d/ | -- | 40 |
| Office Buildings | -- | -- | 45 |
| Schools, Libraries, Museums | -- | -- | 45 |
| Playground, Neighborhood Parks | 70 | -- | -- |

/a/ This table applies to noise exposure levels resulting from a transportation noise source other than an aircraft. Aircraft related noise exposure is governed by the ALUCP. For existing receiving land uses, consideration shall be given to the noise exposures from new transportation noise sources during the design and approval of the new transportation project. In the case of existing transportation noise sources, projects or consideration of land use changes involving noise-sensitive land uses shall address the noise exposure environment and use these standards as thresholds. Evaluations of existing transportation noise sources shall include an analysis of projected future noise levels based on future estimated traffic levels for the transportation noise source.

/b/ An outdoor activity area is a location outside of the immediate structure where formal or informal activities are likely to happen. For example, anywhere on a residential property could be an outdoor activity area, while the outdoor activity area for a school could be a playground or sporting fields, and for a hospital could be an exterior patio or exercise area. Where the location of an outdoor activity area is unknown, the exterior noise level standard shall be applied at the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes or similar land uses, a common area such as a pool or recreation area may be designated as the outdoor activity area.

/c/ As determined for a typical worst-case hour during periods of use.

/d/ Where it is not feasible to reduce noise in outdoor activity areas to 60 dB $L_{dn}$/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

/e/ Where it is not feasible to reduce noise in outdoor activity areas to 65 dB $L_{dn}$/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 70 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

/f/ In a high noise environment, special construction techniques may be necessary to reduce the interior noise level to the standard.

/g/ Transient lodging includes overnight accommodations usually intended for occupancy by visitors or other short-term paying customers (e.g., hotels, motels or homeless shelters). Transient lodging, for the purpose of this application, excludes bed and breakfast establishments located in rural areas, campgrounds or at guest ranches. In the case of hotel/motel facilities or other transient lodging, where outdoor activity areas such as pool areas are not be included in the project design, only the interior noise level criterion will apply.

/h/ The County can impose noise level standards which are up to 5 dB less than those specified in this table where existing ambient noise levels are substantially lower than the thresholds established in this table. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

**Table 6 (Table Noise-2 /a/ Maximum Allowable Noise Exposure from Stationary Noise Sources to Noise Sensitive Land Uses (Outdoor Activity Area /c/)**

| Noise Level Descriptor | Daytime (7 a.m. – 10 p.m.) | Nighttime (10 p.m. – 7 a.m.) |
|---|---|---|
| Hourly $L_{eq}$, dB /b/ | 55 | 45 |

/a/ The County can impose noise level standards which are up to 5 dB less than those specified in this table where existing ambient noise levels are substantially lower than the thresholds established in this table. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

/b/ Each of the noise levels specified above shall be lowered by five dB for simple tone noises (e.g., noises consisting primarily of speech or music), or for recurring impulsive noises (e.g., humming sounds, outdoor speaker systems). Note that the noise levels provided are hourly averages ($L_{eq}$) and are not 24-hour weighted averages (CNEL, $L_{dn}$)

Stationary noise sources typically of concern include, but are not limited to: Commercial HVAC systems, cooling towers/evaporative condensers, pump stations, lift stations, emergency generators, boilers, steam valves, steam turbines, generators, fans, air compressors, heavy equipment, conveyor systems, transformers, pile drivers, grinders, drill rigs, gas or diesel motors, welders, cutting equipment, outdoor speakers, blowers.

Uses that may typically produce noise sources described above include industrial facilities, pump stations, truck operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docs, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, mining, sand and gravel operations and athletic fields.

/c/ An outdoor activity area is a location outside of the immediate structure where formal or informal activities are likely to happen. For example, anywhere on a residential property could be an outdoor activity area, while the outdoor activity area for a school could be a playground or sporting fields, and for a hospital could be an exterior patio or exercise area. Where the location of an outdoor activity area is unknown, the exterior noise level standard shall be applied at the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes or similar land uses, a common area such as a pool or recreation area may be designated as the outdoor activity area.

**Implementation Program**

**N-1A** **<u>County Noise Ordinance</u>**

Update Calaveras County Code Chapter 9.02 (Noise Ordinance) to implement the policies of the general plan noise element and include applicable state and federal standards.

Implements: Policies NOI-1.8, 1.11, 1.12
Responsible Entity: Planning Department

**N-1B** **<u>Noise Reduction Strategies (Discretionary Projects)</u>**

Prepare an approved list of noise reduction strategies acceptable to the County to mitigate potentially significant adverse noise impacts pursuant to CEQA, subject to Planning Commission and Board of Supervisor's approval, where necessary. Include provisions for allowing deviations and alternative strategies proposed by qualified

professionals. This program is intended to facilitate project review and provide predictability for applicants and the public. Noise reduction strategies should:

- Include noise-reducing design techniques for new development along roadways
- Address special events and temporary land uses (e.g., concerts, festivals), which may temporarily exceed the maximum allowable decibel level (e.g., establishing maximum levels of amplification for sound systems).

Implements: Policies NOI-1.1, 1.5, 1.6, 1.7, 1.11
Responsible Entity: Planning Department

**N-1C** **Transportation-Related Noise**

Coordinate with Caltrans and the Calaveras County Council of Governments to evaluate truck route plans and continue to gather input from local communities and businesses to minimize noise from truck travel through residential and visitor-serving centers.

Implements: Policies NOI-1.2, 1.4, 1.6
Responsible Entity: Public Works

**N-1D** **Best Management Practices (Ministerial Projects)**

Make noise-management standards and best management practices for new construction/remodeling available on the County website and at the public counter of the Building or Planning Department. Reference and/or provide a link to the County's noise ordinance.

Implements: Policies NOI-1.5, 1.9, 1.10, 1.11
Responsible Entity: Building Department, Planning Department

**N-1E** **Acoustic Analysis**

When an acoustic analysis is required for a development project the analysis shall be prepared by a qualified professional and include the following:

- Ambient noise level measurements of existing conditions;
- Anticipated noise levels generated by the project;
- Recommended measures to achieve compliance with noise standards set forth in Tables Noise 1 and 2
- Estimate of noise levels after the mitigation measures have been implemented
- Noise monitoring program

Implements: Policies NOI 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.13
Responsible Entity: Planning Department

# IMPACTS AND MITIGATION MEASURES

## THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, a project will have a significant impact related to noise if it will result in:

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

## IMPACTS AND MITIGATION MEASURES

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from a project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Policy N 1.4 provides guidance in the assessment of changes in ambient noise levels for roadway improvement projects. However, it does not provide guidance for evaluating projects associated with commercial developments, industrial developments, residential developments, etc. This report will focus providing additional mitigation measures for those types of projects.

## Impact 1: Traffic Noise Sources (significant and unavoidable)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes provided by Fehr and Peers Transportation Consultants. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly $L_{eq}$ values for free-flowing traffic conditions. To predict $L_{dn}$/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The day/night distribution of traffic was acquired from the 24-hour continuous monitoring results (See Appendix B).

Table 8 shows the Existing (2013) and Future (2035) noise levels associated with traffic on the local roadway network. Table 8 also shows the estimated noise level increases and distances to future noise contours. As indicated by Table 8, the related noise level increases are between 0 and 9 dB $L_{dn}$.

Table 9 shows the Existing (2013) and Future (2035) + Additional Buildout noise levels associated with traffic on the local roadway network. Table 9 also shows the estimated noise level increases and distances to future noise contours. As indicated by Table 9, the related noise level increases are between 0 and 13 dB $L_{dn}$.

The Updated Calaveras County General Plan includes policies and actions that are intended to reduce noise associated with roadway construction projects, as they relate to traffic noise. Specifically, Policy N 1.4 would reduce increases in noise associated with traffic by determining that a potentially significant adverse noise-related impact exists. However, some traffic noise impacts cannot be mitigated to a less-than-significant level due the proximity of sensitive receivers to major roadways and because noise attenuation may not be feasible in all circumstances. According to Table 8, Table 9, and Policy N 1.4 a ***significant and unavoidable*** impact may occur.

However, the following mitigation measures should be considered to assist in reducing the significant increases in traffic noise levels associated with implementation of the General Plan.

**MM1-1:** Apply the criteria contained in Policy N1.4 to future projects which are associated with implementation of the General Plan.

**MM1-2:** When approving projects, the County shall consider methods for reducing traffic noise levels. These include use of alternative roadway pavements such as rubberized asphalt, restricting truck traffic during nighttime hours, reducing speed limits and traffic calming.

**TABLE 8: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) TRAFFIC NOISE LEVELS**

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 4 | Stanislaus Co Line to West of Hunt Rd | 66 dBA | 67 dBA | 1 | 67 | 144 | 309 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dBA | 68 dBA | **2** | 77 | 166 | 358 |
| SR 4 | East of Stallion Way to SR 49 | 64 dBA | 66 dBA | 2 | 51 | 111 | 239 |
| SR 4 | SR 49 to Allen Ln | 64 dBA | 66 dBA | 2 | 57 | 123 | 266 |
| SR 4 | Allen Ln to Broadview Ln | 66 dBA | 67 dBA | 1 | 68 | 146 | 314 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dBA | 68 dBA | 1 | 72 | 156 | 336 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dBA | 66 dBA | 0 | 58 | 125 | 269 |
| SR 4 | Henry Dr to Sierra Pkwy | 66 dBA | 66 dBA | 0 | 54 | 115 | 249 |
| SR 4 | Skyline Dr to Alpine Co Line | 61 dBA | 62 dBA | 1 | 29 | 63 | 136 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dBA | 65 dBA | 1 | 46 | 100 | 215 |
| SR 12 | San Joaquin Co Line to Burson Rd | 64 dBA | 66 dBA | 2 | 55 | 118 | 255 |
| SR 12 | Burson Rd to SR 26 | 66 dBA | 68 dBA | **2** | 72 | 156 | 336 |
| SR 12 | SR 26 to SR 49 | 66 dBA | 69 dBA | **3** | 82 | 176 | 379 |
| SR 26 | San Joaquin Co Line to Silver Rapids Rd | 65 dBA | 66 dBA | 1 | 55 | 118 | 255 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dBA | 68 dBA | 1 | 79 | 170 | 367 |
| SR 26 | SR 12 to SR 49 | 59 dBA | 59 dBA | 0 | 20 | 43 | 92 |
| SR 26 | SR 49 tp Ridge Rd | 55 dBA | 57 dBA | 2 | 13 | 29 | 62 |
| SR 26 | Ridge Rd to Winton Rd | 57 dBA | 57 dBA | 0 | 14 | 31 | 66 |
| SR 26 | Winton Rd to Amador Co Line | 56 dBA | 58 dBA | 2 | 17 | 36 | 77 |

***TABLE 8: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) TRAFFIC NOISE LEVELS***

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 49 | Amador Co Line to SR 12 | 63 dBA | 64 dBA | 1 | 41 | 89 | 191 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dBA | 66 dBA | 1 | 55 | 118 | 254 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dBA | 67 dBA | 1 | 63 | 135 | 290 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dBA | 67 dBA | 1 | 64 | 137 | 295 |
| SR 49 | Mountain Ranch Rd to 4th Crossing | 65 dBA | 67 dBA | 2 | 64 | 137 | 295 |
| SR 49 | 4th Crossing Rd to Brunner Hill Rd | 65 dBA | 67 dBA | 2 | 66 | 143 | 308 |
| SR 49 | Copello Dr to Dogtown Rd | 63 dBA | 65 dBA | 2 | 44 | 95 | 204 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dBA | 65 dBA | 0 | 45 | 98 | 211 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dBA | 66 dBA | 1 | 55 | 119 | 256 |
| SR 49 | Murphy's Grad Rd to Stanislaus Ave | 63 dBA | 63 dBA | 0 | 35 | 75 | 161 |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dBA | 65 dBA | 0 | 48 | 103 | 222 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dBA | 65 dBA | 0 | 49 | 106 | 228 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dBA | 64 dBA | 0 | 42 | 90 | 194 |
| SR 49 | SR 4 South to Tuolumne Co Line | 62 dBA | 64 dBA | 2 | 39 | 83 | 179 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dBA | 57 dBA | 1 | 15 | 31 | 68 |
| Baldwin St | SR 26 to Milton Rd | 57 dBA | 57 dBA | 0 | 13 | 29 | 62 |
| Big Tree Rd | SR 4 to Main St Murphy's | 58 dBA | 60 dBA | 2 | 21 | 44 | 95 |
| Burson Rd | SR 26 to Cammanche Pkwy South | 52 dBA | 56 dBA | 4 | 11 | 24 | 52 |

**TABLE 8: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) TRAFFIC NOISE LEVELS**

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Cammanche Pkwy S | SR 12 to Amador Co Line | 52 dBA | 53 dBA | 1 | 8 | 17 | 36 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dBA | 49 dBA | 4 | 4 | 8 | 17 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dBA | 58 dBA | 0 | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St | 57 dBA | 57 dBA | 0 | 15 | 31 | 68 |
| Gold Strike Rd | Neilsen Rd to SR 49 | 57 dBA | 58 dBA | 1 | 15 | 32 | 69 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dBA | 56 dBA | 0 | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dBA | 43 dBA | 0 | 1 | 3 | 7 |
| Jenny Lind Rd | SR 26 Milton | 56 dBA | 58 dBA | 2 | 16 | 35 | 75 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dBA | 47 dBA | 1 | 3 | 7 | 14 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dBA | 60 dBA | 2 | 21 | 44 | 95 |
| Milton Rd | SR 26 to Stanislaus Co Line | 54 dBA | 55 dBA | 1 | 10 | 21 | 45 |
| Moran Rd | SR 4 to SR 4 | 58 dBA | 58 dBA | 0 | 15 | 33 | 72 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dBA | 60 dBA | 0 | 22 | 48 | 104 |
| Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 58 dBA | 59 dBA | 1 | 17 | 37 | 80 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dBA | 61 dBA | 1 | 22 | 48 | 104 |
| O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 58 dBA | 60 dBA | 2 | 14 | 31 | 66 |
| Olive Orchard Rd | SR26 to Burson Rd | 55 dBA | 57 dBA | 2 | 6 | 13 | 27 |
| Ospital Rd | Southworth Rd to San Joaquin Co line | 50 dBA | 52 dBA | 2 | 13 | 27 | 59 |
| Paloma Rd | SR 12 to SR 26 | 55 dBA | 57 dBA | 2 | 17 | 36 | 77 |

***TABLE 8: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) TRAFFIC NOISE LEVELS***

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 57 dBA | 58 dBA | 1 | 13 | 27 | 59 |
| Pennsylvania Gulch Rd | SR4 to END | 54 dBA | 57 dBA | 3 | 13 | 27 | 59 |
| Pettinger Rd | SR12 to Southworth Rd | 54 dBA | 57 dBA | 3 | 13 | 29 | 62 |
| Pool Station Rd | SR 4 to SR 49 | 54 dBA | 56 dBA | 2 | 11 | 24 | 52 |
| Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 55 dBA | 56 dBA | 1 | 12 | 25 | 54 |
| Ridge Rd | SR 26 to Railroad Flat Rd | 52 dBA | 53 dBA | 1 | 7 | 16 | 34 |
| Rock Creek Rd | Milton Rd to SR4 | 40 dBA | 49 dBA | **9** | 4 | 8 | 17 |
| Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 57 dBA | 57 dBA | 0 | 14 | 31 | 66 |
| Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 53 dBA | 55 dBA | 2 | 10 | 22 | 47 |
| Vista de Lago | SR26 to Hogan Dam Rd | 58 dBA | 59 dBA | 1 | 19 | 41 | 88 |

*[1] Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding.*

*[2] Distances to traffic noise contours are measured in feet from the centerlines of the roadways from existing noise barriers or intervening structures.*

*Bold numbers indicate a significant impact.*

*Traffic noise levels may vary depending on actual setback distances and localized shielding.*

*Source: FHWA-RD-77-108 with inputs from Fehr and Peers Transportation Consultants, Caltrans and j.c. brennan & associates, Inc. 2013.*

**TABLE 9: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) + ADDITIONAL BUILDOUT TRAFFIC NOISE LEVELS**

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 4 | Stanislaus Co Line to West of Hunt Rd | 66 dBA | 68 dBA | 2 | 79 | 170 | 367 |
| SR 4 | West of Hunt Rd to East of Stallion Way | 66 dBA | 70 dBA | **4** | 95 | 205 | 442 |
| SR 4 | East of Stallion Way to SR 49 | 64 dBA | 66 dBA | 2 | 56 | 120 | 258 |
| SR 4 | SR 49 to Allen Ln | 64 dBA | 67 dBA | 3 | 65 | 140 | 301 |
| SR 4 | Allen Ln to Broadview Ln | 66 dBA | 69 dBA | 3 | 82 | 176 | 380 |
| SR 4 | Broadview Ln to Lakemont Dr | 67 dBA | 68 dBA | 1 | 72 | 154 | 333 |
| SR 4 | Lakemont Dr to Henry Dr | 66 dBA | 68 dBA | 2 | 76 | 164 | 354 |
| SR 4 | Henry Dr to Sierra Pkwy | 66 dBA | 66 dBA | 0 | 57 | 122 | 263 |
| SR 4 | Skyline Dr to Alpine Co Line | 61 dBA | 63 dBA | 2 | 36 | 78 | 167 |
| SR 4 | Vallecito Rd to Kurt Dr | 64 dBA | 65 dBA | 1 | 44 | 94 | 203 |
| SR 12 | San Joaquin Co Line to Burson Rd | 64 dBA | 68 dBA | 4 | 69 | 148 | 320 |
| SR 12 | Burson Rd to SR 26 | 66 dBA | 69 dBA | **3** | 87 | 188 | 406 |
| SR 12 | SR 26 to SR 49 | 66 dBA | 69 dBA | **3** | 90 | 194 | 418 |
| SR 26 | San Joaquin Co Line to Silver Rapids Rd | 65 dBA | 67 dBA | 2 | 65 | 141 | 304 |
| SR 26 | Silver Rapids Rd to SR 12 | 67 dBA | 69 dBA | 2 | 91 | 195 | 420 |
| SR 26 | SR 12 to SR 49 | 59 dBA | 61 dBA | 2 | 26 | 55 | 119 |
| SR 26 | SR 49 to Ridge Rd | 55 dBA | 59 dBA | 4 | 18 | 39 | 83 |
| SR 26 | Ridge Rd to Winton Rd | 57 dBA | 57 dBA | 0 | 14 | 31 | 66 |

**TABLE 9: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) + ADDITIONAL BUILDOUT TRAFFIC NOISE LEVELS**

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| SR 26 | Winton Rd to Amador Co Line | 56 dBA | 60 dBA | 4 | 22 | 48 | 103 |
| SR 49 | Amador Co Line to SR 12 | 63 dBA | 65 dBA | 2 | 48 | 104 | 225 |
| SR 49 | SR 12 to North of Pool Station Rd | 65 dBA | 67 dBA | 2 | 59 | 126 | 272 |
| SR 49 | North of Pool Station Rd to North of Gold Oak Rd | 66 dBA | 67 dBA | 1 | 67 | 144 | 311 |
| SR 49 | North of Gold Oak Rd to Mountain Ranch Rd | 66 dBA | 67 dBA | 1 | 67 | 144 | 311 |
| SR 49 | Mountain Ranch Rd to 4th Crossing | 65 dBA | 68 dBA | 3 | 72 | 155 | 333 |
| SR 49 | 4th Crossing Rd to Brunner Hill Rd | 65 dBA | 68 dBA | 3 | 74 | 159 | 344 |
| SR 49 | Copello Dr to Dogtown Rd | 63 dBA | 66 dBA | 3 | 54 | 117 | 253 |
| SR 49 | Dogtown Rd to SR 4 (W) | 65 dBA | 66 dBA | 1 | 53 | 114 | 246 |
| SR 49 | SR 4 (W) to Murphys Grade Rd | 65 dBA | 66 dBA | 1 | 55 | 119 | 256 |
| SR 49 | Murphy's Grade Rd to Stanislaus Ave | 63 dBA | 64 dBA | 1 | 37 | 80 | 172 |
| SR 49 | Stanislaus Ave to Mark Twain Rd | 65 dBA | 65 dBA | 0 | 48 | 104 | 225 |
| SR 49 | Mark Twain Rd to Bret Harte Rd | 65 dBA | 66 dBA | 1 | 51 | 110 | 236 |
| SR 49 | Bret Harte Rd to Vallecito Rd | 64 dBA | 65 dBA | 1 | 46 | 99 | 214 |
| SR 49 | SR 4 South to Tuolumne Co Line | 62 dBA | 65 dBA | 3 | 45 | 98 | 210 |
| Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56 dBA | 58 dBA | 2 | 15 | 33 | 72 |
| Baldwin St | SR 26 to Milton Rd | 57 dBA | 58 dBA | 1 | 15 | 33 | 72 |
| Big Tree Rd | SR 4 to Main St Murphy's | 58 dBA | 61 dBA | 3 | 26 | 57 | 123 |

**TABLE 9: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) + ADDITIONAL BUILDOUT TRAFFIC NOISE LEVELS**

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Burson Rd | SR 26 to Cammanche Pkwy South | 52 dBA | 58 dBA | 6 | 17 | 36 | 77 |
| Cammanche Pkwy S | SR 12 to Amador Co Line | 52 dBA | 54 dBA | 2 | 9 | 19 | 42 |
| Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 45 dBA | 50 dBA | 5 | 4 | 9 | 20 |
| Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 58 dBA | 58 dBA | 0 | 16 | 35 | 75 |
| Garner Place | SR 26 to Baldwin St | 57 dBA | 57 dBA | 0 | 14 | 31 | 66 |
| Gold Strike Rd | Neilsen Rd to SR 49 | 57 dBA | 58 dBA | 1 | 17 | 36 | 77 |
| Hogan Dam Rd | SR 26 to Hunt Rd | 56 dBA | 56 dBA | 0 | 12 | 26 | 57 |
| Independence Rd | Railroad Flat Rd to Ridge Rd | 43 dBA | 46 dBA | 3 | 2 | 5 | 11 |
| Jenny Lind Rd | SR 26 to Milton Rd | 56 dBA | 58 dBA | 2 | 17 | 37 | 79 |
| Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46 dBA | 49 dBA | 3 | 4 | 8 | 17 |
| Main St - Copperopolis | SR 4 to Reed's Turnpike | 58 dBA | 61 dBA | 3 | 26 | 55 | 120 |
| Milton Rd | SR 26 to Stanislaus Co Line | 54 dBA | 56 dBA | 2 | 12 | 26 | 55 |
| Moran Rd | SR 4 to SR 4 | 58 dBA | 58 dBA | 0 | 16 | 35 | 75 |
| Mountain Ranch Rd | SR 4 to Gold Hunter | 60 dBA | 61 dBA | 1 | 25 | 53 | 114 |
| Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 58 dBA | 59 dBA | 1 | 17 | 37 | 80 |
| Murphys Grade Rd | SR 4 to SR 49 | 60 dBA | 62 dBA | 2 | 30 | 65 | 139 |
| O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 58 dBA | 62 dBA | 4 | 29 | 63 | 136 |
| Olive Orchard Rd | SR26 to Burson Rd | 55 dBA | 59 dBA | 4 | 19 | 41 | 89 |
| | | 50 dBA | 53 dBA | 3 | 7 | 15 | 32 |
| Ospital Rd | Southworth Rd to San Joaquin Co line | | | | | | |

***TABLE 9: PREDICTED EXISTING (2013) TRAFFIC NOISE LEVELS AND PREDICTED FUTURE (2035) + ADDITIONAL BUILDOUT TRAFFIC NOISE LEVELS***

| Roadway | Segment | Noise Levels ($L_{dn}$, dB) 100 Feet From Centerline[1] | | | Distance to Future Noise Contours, feet[2] | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Future | Change (dB) | 70 dB $L_{dn}$ | 65 dB $L_{dn}$ | 60 dB $L_{dn}$ |
| Paloma Rd | SR 12 to SR 26 | 55 dBA | 58 dBA | 3 | 17 | 37 | 79 |
| Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 57 dBA | 59 dBA | 2 | 20 | 43 | 92 |
| Pennsylvania Gulch Rd | SR4 to END | 54 dBA | 57 dBA | 3 | 13 | 27 | 59 |
| Pettinger Rd | SR12 to Southworth Rd | 54 dBA | 58 dBA | 4 | 17 | 39 | 79 |
| Pool Station Rd | SR 4 to SR 49 | 54 dBA | 57 dBA | 3 | 13 | 29 | 62 |
| Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 55 dBA | 57 dBA | 2 | 13 | 27 | 59 |
| Ridge Rd | SR 26 to Railroad Flat Rd | 52 dBA | 53 dBA | 1 | 7 | 16 | 34 |
| Rock Creek Rd | Milton Rd to SR4 | 40 dBA | 53 dBA | **13** | 7 | 15 | 32 |
| Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 57 dBA | 58 dBA | 1 | 16 | 35 | 75 |
| Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 53 dBA | 58 dBA | 5 | 15 | 32 | 69 |
| Vista de Lago | SR26 to Hogan Dam Rd | 58 dBA | 61 dBA | 3 | 24 | 51 | 111 |

*[1] Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding.*

*[2] Distances to traffic noise contours are measured in feet from the centerlines of the roadways from existing noise barriers or intervening structures.*

*Bold numbers indicate a significant impact.*

*Traffic noise levels may vary depending on actual setback distances and localized shielding.*

*Source: FHWA-RD-77-108 with inputs from Fehr and Peers Transportation Consultants, Caltrans and j.c. brennan & associates, Inc. 2017.*

## Impact 2: Stationary Noise Sources (Significant Impact)

Future development of land uses could result in noise levels that exceed Calaveras County noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, as well as recreational uses. Noise from existing stationary noise sources, as identified in the *Fixed Noise Sources* section of this report, will continue to result in noises that may impact noise-sensitive land uses in the vicinity.

The Updated Calaveras County General Plan includes policies and an implementation program that are intended to reduce noise associated with stationary sources. Specifically, policies N 1.1, N 1.3, N 1.7 and N 1.11 would reduce noise associated with stationary sources. Implementation of the proposed policies of the Updated Calaveras County General Plan will reduce noise impacts from stationary noise sources to a less than significant level.

## Impact 3: Airport Noise (Less than Significant)

Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of $L_{max}$, which is the maximum sound level recorded for each event. A different measurement of single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths.

The Updated Calaveras County General Plan includes policies and an implementation program intended to reduce noise impacts throughout the County. Policies N 1.9 and N1.10 require new property owners to be made aware of existing and anticipated noise levels associated with the airport and the Calaveras County Airport Land Use Compatibility Plan must be considered in planning decisions. With the implementation of the Updated Calaveras County General Plan policies the noise impact relative to airports would be **less than significant**.

## Impact 4: Construction Noise (Less than Significant)

New development, maintenance of roadways, installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment, impact tools. Table 10 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

| TABLE 10: CONSTRUCTION EQUIPMENT NOISE | | | | | | |
|---|---|---|---|---|---|---|
| Type of Equipment | Predicted Noise Levels, $L_{max}$ dB | | | | Distances to Noise Contours (feet) | |
| | Noise Level at 50' | Noise Level at 100' | Noise Level at 200' | Noise Level at 400' | 70 dB $L_{max}$ contour | 65 dB $L_{max}$ contour |
| Backhoe | 78 | 72 | 66 | 60 | 126 | 223 |
| Compactor | 83 | 77 | 71 | 65 | 223 | 397 |
| Compressor (air) | 78 | 72 | 66 | 60 | 126 | 223 |
| Concrete Saw | 90 | 84 | 78 | 72 | 500 | 889 |
| Dozer | 82 | 76 | 70 | 64 | 199 | 354 |
| Dump Truck | 76 | 70 | 64 | 58 | 100 | 177 |
| Excavator | 81 | 75 | 69 | 63 | 177 | 315 |
| Generator | 81 | 75 | 69 | 63 | 177 | 315 |
| Jackhammer | 89 | 83 | 77 | 71 | 446 | 792 |
| Pneumatic Tools | 85 | 79 | 73 | 67 | 281 | 500 |

*Source: Roadway Construction Noise Model User's Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006. j.c. brennan & associates, Inc. 2011.*

Activities involved in construction would typically generate maximum noise levels ranging from 76 to 90 dB $L_{max}$ at a distance of 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance, however, the Calaveras County Noise Ordinance establishes allowable hours of operation from 7 a.m. to 6 p.m.

Since all construction activities will be subject to the requirements of the Calaveras County Noise Ordinance Section 9.02.060D with respect to limits on construction noise, new project construction operations will have a **less than significant** impact.

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 6,800 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 6,780 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 4,330 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 4 | SR 4 | SR 49 to Allen Ln | 7,000 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 5 | SR 4 | Allen Ln to Broadview Ln | 9,600 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 9,700 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 9,300 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 8,000 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 2,900 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 4,810 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 6,000 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 12 | SR 12 | Burson Rd to SR 26 | 10,000 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 13 | SR 12 | SR 26 to SR 49 | 10,000 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids Rd | 6,900 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 11,000 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 16 | SR 26 | SR 12 to SR 49 | 1,700 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 17 | SR 26 | SR 49 tp Ridge Rd | 1,300 | 85 | | 15 | 2 | 2 | 50 | 100 | |
| 18 | SR 26 | Ridge Rd to Winton Rd | 2,300 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 19 | SR 26 | Winton Rd to Amador Co Line | 2,000 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 20 | SR 49 | Amador Co Line to SR 12 | 4,700 | 85 | | 15 | 2 | 4 | 55 | 100 | |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 10,000 | 84 | | 16 | 2 | 4 | 50 | 100 | |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak Rd | 10,000 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch Rd | 10,000 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing Rd | 7,000 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 7,300 | 84 | | 16 | 1 | 5 | 55 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 5,110 | 84 | | 16 | 1 | 5 | 55 | 100 | |
| 27 | SR 49 | Dogtown Rd to SR 4 | 8,140 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 9,480 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 6,950 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 11,240 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 9,510 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 8,800 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 5,700 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 2,460 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 35 | Baldwin St | SR 26 to Milton Rd | 2,560 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 3,690 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 820 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 950 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 180 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 3,520 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 41 | Garner Place | SR 26 to Baldwin St | 2,550 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 2,720 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 2,260 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 120 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 2,460 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 240 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 3,410 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 1,300 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 49 | Moran Rd | SR 4 to SR 4 | 3,160 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 5,840 | 85 | | 15 | 1 | 1 | 45 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 3,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 6,260 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 3,420 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 1,890 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 560 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 56 | Paloma Rd | SR 12 to SR 26 | 1,690 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 2,650 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 1,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 1,510 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 60 | Pool Station Rd | SR 4 to SR 49 | 1,310 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 1,930 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 980 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 60 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 2,650 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 1,060 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 3,540 | 85 | | 15 | 1 | 1 | 45 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 63.8 | 54.2 | 61.1 | 66 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 63.8 | 54.2 | 61.1 | 66 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 61.9 | 52.2 | 59.2 | 64 |
| 4 | SR 4 | SR 49 to Allen Ln | 61.4 | 53.0 | 60.5 | 64 |
| 5 | SR 4 | Allen Ln to Broadview Ln | 62.8 | 54.3 | 61.8 | 66 |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 64.2 | 55.1 | 62.3 | 67 |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 62.7 | 54.2 | 61.7 | 66 |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 63.3 | 54.3 | 61.5 | 66 |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 58.9 | 49.9 | 57.1 | 61 |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 62.3 | 52.7 | 59.6 | 64 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 62.1 | 52.5 | 59.4 | 64 |
| 12 | SR 12 | Burson Rd to SR 26 | 64.3 | 54.7 | 61.7 | 66 |
| 13 | SR 12 | SR 26 to SR 49 | 64.3 | 54.7 | 61.7 | 66 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids | 62.2 | 49.6 | 60.5 | 65 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 64.3 | 51.6 | 62.6 | 67 |
| 16 | SR 26 | SR 12 to SR 49 | 56.2 | 43.5 | 54.5 | 59 |
| 17 | SR 26 | SR 49 tp Ridge Rd | 53.9 | 44.7 | 48.9 | 55 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 55.1 | 46.5 | 51.0 | 57 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 54.4 | 45.9 | 50.4 | 56 |
| 20 | SR 49 | Amador Co Line to SR 12 | 60.6 | 51.0 | 57.9 | 63 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 62.8 | 53.7 | 61.0 | 65 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak | 64.0 | 54.4 | 61.3 | 66 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 64.0 | 54.4 | 61.3 | 66 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing R | 62.5 | 52.8 | 59.8 | 65 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 62.7 | 50.0 | 60.9 | 65 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 61.1 | 48.5 | 59.4 | 63 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 61.9 | 49.8 | 61.0 | 65 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 62.6 | 50.5 | 61.7 | 65 |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 59.9 | 48.4 | 59.9 | 63 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 62.0 | 50.5 | 62.0 | 65 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 62.6 | 50.5 | 61.7 | 65 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 61.0 | 49.5 | 61.0 | 64 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 59.1 | 47.6 | 59.1 | 62 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 55.4 | 43.8 | 48.3 | 56 |
| 35 | Baldwin St | SR 26 to Milton Rd | 55.6 | 43.9 | 48.4 | 57 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 57.2 | 45.5 | 50.0 | 58 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 50.7 | 39.0 | 43.5 | 52 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 51.3 | 39.6 | 44.1 | 52 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek | 44.1 | 32.4 | 36.9 | 45 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch F | 57.0 | 45.3 | 49.8 | 58 |
| 41 | Garner Place | SR 26 to Baldwin St | 55.6 | 43.9 | 48.4 | 57 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 55.9 | 44.2 | 48.7 | 57 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 55.1 | 43.4 | 47.9 | 56 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 42.3 | 30.7 | 35.2 | 43 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 55.4 | 43.8 | 48.3 | 56 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 45.3 | 33.7 | 38.2 | 46 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 56.9 | 45.2 | 49.7 | 58 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 52.7 | 41.0 | 45.5 | 54 |
| 49 | Moran Rd | SR 4 to SR 4 | 56.5 | 44.9 | 49.4 | 58 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 59.2 | 47.5 | 52.0 | 60 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 57.2 | 45.5 | 50.0 | 58 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 59.5 | 47.8 | 52.3 | 60 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 56.9 | 45.2 | 49.7 | 58 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 54.3 | 42.6 | 47.1 | 55 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 49.0 | 37.3 | 41.8 | 50 |
| 56 | Paloma Rd | SR 12 to SR 26 | 53.8 | 42.1 | 46.6 | 55 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 55.8 | 44.1 | 48.6 | 57 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 53.3 | 41.6 | 46.1 | 54 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 53.3 | 41.7 | 46.1 | 54 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 52.7 | 41.0 | 45.5 | 54 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 54.4 | 42.7 | 47.2 | 55 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 51.4 | 39.8 | 44.3 | 52 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 39.3 | 27.6 | 32.1 | 40 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murph | 55.8 | 44.1 | 48.6 | 57 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 51.8 | 40.1 | 44.6 | 53 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 57.0 | 45.4 | 49.8 | 58 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Distances to Traffic Noise Contours (75) | (70) | (65) | (60) | (55) |
|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 25 | 54 | 116 | 251 | 541 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 25 | 54 | 116 | 250 | 540 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 19 | 40 | 86 | 186 | 400 |
| 4 | SR 4 | SR 49 to Allen Ln | 19 | 42 | 90 | 194 | 418 |
| 5 | SR 4 | Allen Ln to Broadview Ln | 24 | 52 | 111 | 240 | 516 |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 28 | 60 | 129 | 278 | 599 |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 23 | 51 | 109 | 235 | 505 |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 24 | 53 | 114 | 245 | 527 |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 12 | 27 | 58 | 124 | 268 |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 20 | 43 | 92 | 199 | 429 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 19 | 42 | 90 | 193 | 416 |
| 12 | SR 12 | Burson Rd to SR 26 | 27 | 58 | 126 | 271 | 584 |
| 13 | SR 12 | SR 26 to SR 49 | 27 | 58 | 126 | 271 | 584 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapid | 20 | 44 | 94 | 203 | 438 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 28 | 60 | 129 | 277 | 598 |
| 16 | SR 26 | SR 12 to SR 49 | 8 | 17 | 37 | 80 | 172 |
| 17 | SR 26 | SR 49 tp Ridge Rd | 5 | 11 | 23 | 50 | 108 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 6 | 13 | 29 | 62 | 134 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 6 | 12 | 26 | 57 | 122 |
| 20 | SR 49 | Amador Co Line to SR 12 | 15 | 33 | 71 | 152 | 329 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 23 | 49 | 105 | 226 | 487 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oa | 26 | 56 | 120 | 259 | 557 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 26 | 56 | 120 | 259 | 557 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing | 20 | 44 | 95 | 204 | 439 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 22 | 47 | 100 | 216 | 466 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Distances to Traffic Noise Contours (75) | (70) | (65) | (60) | (55) |
|---|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 17 | 37 | 79 | 171 | 368 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 20 | 44 | 95 | 205 | 441 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 23 | 49 | 105 | 226 | 488 |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 16 | 35 | 75 | 161 | 346 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 22 | 48 | 103 | 221 | 477 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 23 | 49 | 105 | 227 | 489 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 19 | 41 | 87 | 188 | 405 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 14 | 30 | 65 | 141 | 303 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 6 | 12 | 27 | 58 | 125 |
| 35 | Baldwin St | SR 26 to Milton Rd | 6 | 13 | 28 | 59 | 128 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 8 | 16 | 35 | 76 | 163 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 3 | 6 | 13 | 28 | 60 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 3 | 7 | 14 | 31 | 66 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Cree | 1 | 2 | 5 | 10 | 22 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch | 7 | 16 | 34 | 74 | 158 |
| 41 | Garner Place | SR 26 to Baldwin St | 6 | 13 | 28 | 59 | 128 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 6 | 13 | 29 | 62 | 133 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 5 | 12 | 25 | 55 | 118 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 1 | 2 | 4 | 8 | 17 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 6 | 12 | 27 | 58 | 125 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 1 | 3 | 6 | 12 | 26 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 7 | 16 | 33 | 72 | 155 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 4 | 8 | 18 | 38 | 82 |
| 49 | Moran Rd | SR 4 to SR 4 | 7 | 15 | 32 | 68 | 147 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 10 | 22 | 48 | 103 | 222 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

| | | | -------- Distances to Traffic Noise Contours -------- | | | | |
|---|---|---|---|---|---|---|---|
| Segment | Roadway Name | Segment Description | 75 | 70 | 65 | 60 | 55 |
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 8 | 16 | 35 | 76 | 164 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 11 | 23 | 50 | 108 | 232 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Lii | 7 | 16 | 33 | 72 | 155 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 5 | 10 | 23 | 49 | 105 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co lir | 2 | 5 | 10 | 22 | 46 |
| 56 | Paloma Rd | SR 12 to SR 26 | 5 | 10 | 21 | 45 | 97 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 6 | 13 | 28 | 61 | 131 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 4 | 9 | 19 | 42 | 90 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 4 | 9 | 19 | 42 | 90 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 4 | 8 | 18 | 38 | 82 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 5 | 11 | 23 | 49 | 106 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 3 | 7 | 15 | 31 | 68 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 0 | 1 | 2 | 5 | 10 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murp | 6 | 13 | 28 | 61 | 131 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 3 | 7 | 15 | 33 | 71 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 7 | 16 | 34 | 74 | 159 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 9,300 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 11,600 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 6,300 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 4 | SR 4 | SR 49 to Allen Ln | 11,200 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 5 | SR 4 | Allen Ln to Broadview Ln | 14,400 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 12,900 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 11,400 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 8,200 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 3,300 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 5,400 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 9,100 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 12 | SR 12 | Burson Rd to SR 26 | 13,800 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 13 | SR 12 | SR 26 to SR 49 | 16,500 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids Rd | 9,700 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 16,700 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 16 | SR 26 | SR 12 to SR 49 | 2,100 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 17 | SR 26 | SR 49 tp Ridge Rd | 1,800 | 85 | | 15 | 2 | 2 | 50 | 100 | |
| 18 | SR 26 | Ridge Rd to Winton Rd | 2,500 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 19 | SR 26 | Winton Rd to Amador Co Line | 3,200 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 20 | SR 49 | Amador Co Line to SR 12 | 6,600 | 85 | | 15 | 2 | 4 | 55 | 100 | |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 11,900 | 84 | | 16 | 2 | 4 | 50 | 100 | |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak Rd | 11,900 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch Rd | 12,200 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing Rd | 12,200 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 12,400 | 84 | | 16 | 1 | 5 | 55 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 6,700 | 84 | | 16 | 1 | 5 | 55 | 100 | |
| 27 | SR 49 | Dogtown Rd to SR 4 | 8,500 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 11,400 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 7,000 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 11,300 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 9,600 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 9,200 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 8,200 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 3,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 35 | Baldwin St | SR 26 to Milton Rd | 2,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 5,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 2,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 1,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 3,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 41 | Garner Place | SR 26 to Baldwin St | 3,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 3,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 2,400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 3,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 300 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 5,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 1,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 49 | Moran Rd | SR 4 to SR 4 | 3,400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 5,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 4,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 7,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 5,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 3,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 800 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 56 | Paloma Rd | SR 12 to SR 26 | 2,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 3,800 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 2,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 2,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 60 | Pool Station Rd | SR 4 to SR 49 | 2,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 2,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 1,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 3,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 1,800 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 4,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 65.2 | 55.6 | 62.5 | 67 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 66.1 | 56.5 | 63.5 | 68 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 63.5 | 53.9 | 60.8 | 66 |
| 4 | SR 4 | SR 49 to Allen Ln | 63.5 | 55.0 | 62.5 | 66 |
| 5 | SR 4 | Allen Ln to Broadview Ln | 64.6 | 56.1 | 63.6 | 67 |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 65.4 | 56.3 | 63.5 | 68 |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 63.6 | 55.1 | 62.6 | 66 |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 63.4 | 54.4 | 61.6 | 66 |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 59.5 | 50.4 | 57.6 | 62 |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 62.8 | 53.2 | 60.1 | 65 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 63.9 | 54.3 | 61.2 | 66 |
| 12 | SR 12 | Burson Rd to SR 26 | 65.7 | 56.1 | 63.1 | 68 |
| 13 | SR 12 | SR 26 to SR 49 | 66.5 | 56.9 | 63.8 | 69 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids | 63.7 | 51.1 | 62.0 | 66 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 66.1 | 53.4 | 64.4 | 68 |
| 16 | SR 26 | SR 12 to SR 49 | 57.1 | 44.4 | 55.4 | 59 |
| 17 | SR 26 | SR 49 tp Ridge Rd | 55.3 | 46.1 | 50.3 | 57 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 55.4 | 46.9 | 51.3 | 57 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 56.5 | 47.9 | 52.4 | 58 |
| 20 | SR 49 | Amador Co Line to SR 12 | 62.0 | 52.4 | 59.4 | 64 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 63.6 | 54.5 | 61.7 | 66 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak | 64.8 | 55.2 | 62.1 | 67 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 64.9 | 55.3 | 62.2 | 67 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing R | 64.9 | 55.3 | 62.2 | 67 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 65.0 | 52.3 | 63.2 | 67 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 62.3 | 49.6 | 60.6 | 65 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 62.1 | 50.0 | 61.2 | 65 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 63.4 | 51.3 | 62.5 | 66 |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 60.0 | 48.5 | 60.0 | 63 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 62.0 | 50.6 | 62.0 | 65 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 62.6 | 50.6 | 61.8 | 65 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 61.1 | 49.7 | 61.1 | 64 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 60.6 | 49.2 | 60.7 | 64 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56.4 | 44.8 | 49.3 | 57 |
| 35 | Baldwin St | SR 26 to Milton Rd | 55.8 | 44.2 | 48.7 | 57 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 58.7 | 47.0 | 51.5 | 60 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 54.7 | 43.1 | 47.6 | 56 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 52.3 | 40.7 | 45.2 | 53 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek | 47.5 | 35.9 | 40.4 | 49 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch F | 57.1 | 45.4 | 49.9 | 58 |
| 41 | Garner Place | SR 26 to Baldwin St | 56.4 | 44.8 | 49.3 | 57 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 56.6 | 44.9 | 49.4 | 58 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 55.3 | 43.7 | 48.2 | 56 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 41.5 | 29.9 | 34.4 | 43 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 57.1 | 45.4 | 49.9 | 58 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 46.3 | 34.6 | 39.1 | 47 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 58.7 | 47.0 | 51.5 | 60 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 53.8 | 42.2 | 46.7 | 55 |
| 49 | Moran Rd | SR 4 to SR 4 | 56.8 | 45.2 | 49.7 | 58 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 59.2 | 47.6 | 52.1 | 60 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 57.5 | 45.9 | 50.4 | 59 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 60.3 | 48.6 | 53.1 | 61 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 59.2 | 47.6 | 52.1 | 60 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 56.3 | 44.6 | 49.1 | 57 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 50.6 | 38.9 | 43.4 | 52 |
| 56 | Paloma Rd | SR 12 to SR 26 | 55.5 | 43.8 | 48.3 | 57 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 57.3 | 45.7 | 50.2 | 58 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 55.5 | 43.8 | 48.3 | 57 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 55.8 | 44.2 | 48.7 | 57 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 54.7 | 43.1 | 47.6 | 56 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 54.9 | 43.3 | 47.8 | 56 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 51.9 | 40.3 | 44.8 | 53 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 47.5 | 35.9 | 40.4 | 49 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murph | 56.3 | 44.6 | 49.1 | 57 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 54.1 | 42.4 | 46.9 | 55 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 58.2 | 46.5 | 51.0 | 59 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Distances to Traffic Noise Contours (75) | (70) | (65) | (60) | (55) |
|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 31 | 67 | 144 | 309 | 666 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 36 | 77 | 166 | 358 | 772 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 24 | 51 | 111 | 239 | 514 |
| 4 | SR 4 | SR 49 to Allen Ln | 27 | 57 | 123 | 266 | 572 |
| 5 | SR 4 | Allen Ln to Broadview Ln | 31 | 68 | 146 | 314 | 677 |
| 6 | SR 4 | Broadview Ln to Lakemont Dr | 34 | 72 | 156 | 336 | 725 |
| 7 | SR 4 | Lakemont Dr to Henry Dr | 27 | 58 | 125 | 269 | 579 |
| 8 | SR 4 | Henry Dr to Sierra Pkwy | 25 | 54 | 115 | 249 | 536 |
| 9 | SR 4 | Skyline Dr to Alpine Co Line | 14 | 29 | 63 | 136 | 292 |
| 10 | SR 4 | Vallecito Rd to Kurt Dr | 22 | 46 | 100 | 215 | 464 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 25 | 55 | 118 | 255 | 549 |
| 12 | SR 12 | Burson Rd to SR 26 | 34 | 72 | 156 | 336 | 724 |
| 13 | SR 12 | SR 26 to SR 49 | 38 | 82 | 176 | 379 | 816 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapid | 26 | 55 | 118 | 255 | 550 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 37 | 79 | 170 | 367 | 790 |
| 16 | SR 26 | SR 12 to SR 49 | 9 | 20 | 43 | 92 | 198 |
| 17 | SR 26 | SR 49 tp Ridge Rd | 6 | 13 | 29 | 62 | 134 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 7 | 14 | 31 | 66 | 142 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 8 | 17 | 36 | 77 | 167 |
| 20 | SR 49 | Amador Co Line to SR 12 | 19 | 41 | 89 | 191 | 412 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 25 | 55 | 118 | 254 | 547 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oa | 29 | 63 | 135 | 290 | 626 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 30 | 64 | 137 | 295 | 636 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing | 30 | 64 | 137 | 295 | 636 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 31 | 66 | 143 | 308 | 664 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| | | | -------- Distances to Traffic Noise Contours -------- | | | | |
|---|---|---|---|---|---|---|---|
| Segment | Roadway Name | Segment Description | 75 | 70 | 65 | 60 | 55 |
| 26 | SR 49 | Copello Dr to Dogtown Rd | 20 | 44 | 95 | 204 | 440 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 21 | 45 | 98 | 211 | 454 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 26 | 55 | 119 | 256 | 552 |
| 29 | SR 49 | Murphy's Grad Rd to Stanislaus Ave | 16 | 35 | 75 | 161 | 348 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 22 | 48 | 103 | 222 | 479 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 23 | 49 | 106 | 228 | 492 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 19 | 42 | 90 | 194 | 417 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 18 | 39 | 83 | 179 | 387 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 7 | 15 | 31 | 68 | 145 |
| 35 | Baldwin St | SR 26 to Milton Rd | 6 | 13 | 29 | 62 | 133 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 10 | 21 | 44 | 95 | 205 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 5 | 11 | 24 | 52 | 112 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 4 | 8 | 17 | 36 | 77 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Cree | 2 | 4 | 8 | 17 | 37 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch | 7 | 16 | 35 | 75 | 161 |
| 41 | Garner Place | SR 26 to Baldwin St | 7 | 15 | 31 | 68 | 145 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 7 | 15 | 32 | 69 | 149 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 6 | 12 | 26 | 57 | 123 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 1 | 1 | 3 | 7 | 15 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 7 | 16 | 35 | 75 | 161 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 1 | 3 | 7 | 14 | 31 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 10 | 21 | 44 | 95 | 205 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 5 | 10 | 21 | 45 | 97 |
| 49 | Moran Rd | SR 4 to SR 4 | 7 | 15 | 33 | 72 | 155 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 10 | 22 | 48 | 104 | 223 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future
Ldn/CNEL: Ldn
Hard/Soft: Soft

| | | | -------- Distances to Traffic Noise Contours -------- | | | | |
|---|---|---|---|---|---|---|---|
| Segment | Roadway Name | Segment Description | 75 | 70 | 65 | 60 | 55 |
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 8 | 17 | 37 | 80 | 172 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 12 | 26 | 56 | 122 | 262 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Lii | 10 | 22 | 48 | 104 | 223 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 7 | 14 | 31 | 66 | 142 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co lir | 3 | 6 | 13 | 27 | 59 |
| 56 | Paloma Rd | SR 12 to SR 26 | 6 | 13 | 27 | 59 | 126 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 8 | 17 | 36 | 77 | 167 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 6 | 13 | 27 | 59 | 126 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 6 | 13 | 29 | 62 | 133 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 5 | 11 | 24 | 52 | 112 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 5 | 12 | 25 | 54 | 116 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 3 | 7 | 16 | 34 | 73 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 2 | 4 | 8 | 17 | 37 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murp | 7 | 14 | 31 | 66 | 142 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 5 | 10 | 22 | 47 | 101 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 9 | 19 | 41 | 88 | 189 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 12,000 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 15,900 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 7,100 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 4 | SR 4 | Vallecito Road to Kurt Dr | 7,500 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 5 | SR 4 | SR 49 to Allen Ln | 13,500 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 6 | SR 4 | Allen Ln to Broadview Ln | 15,500 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 7 | SR 4 | Broadview Ln to Lakemont Dr | 15,700 | 73 | | 27 | 2 | 4 | 45 | 100 | |
| 8 | SR 4 | Lakemont Dr to Henry Dr | 13,900 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 9 | SR 4 | Henry Dr to Sierra Pkwy | 8,900 | 73 | | 27 | 2 | 4 | 50 | 100 | |
| 10 | SR 4 | Skyline Dr to Alpine Co Line | 3,700 | 73 | | 27 | 2 | 4 | 55 | 100 | |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 12,800 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 12 | SR 12 | Burson Rd to SR 26 | 18,300 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 13 | SR 12 | SR 26 to SR 49 | 19,100 | 82 | | 18 | 2 | 4 | 55 | 100 | |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids Rd | 12,600 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 20,500 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 16 | SR 26 | SR 12 to SR 49 | 3,100 | 85 | | 15 | 1 | 5 | 55 | 100 | |
| 17 | SR 26 | SR 49 to Ridge Rd | 2,800 | 85 | | 15 | 2 | 2 | 50 | 100 | |
| 18 | SR 26 | Ridge Rd to Winton Rd | 2,500 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 19 | SR 26 | Winton Rd to Amador Co Line | 4,900 | 85 | | 15 | 2 | 2 | 45 | 100 | |
| 20 | SR 49 | Amador Co Line to SR 12 | 8,400 | 85 | | 15 | 2 | 4 | 55 | 100 | |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 13,200 | 84 | | 16 | 2 | 4 | 50 | 100 | |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak Rd | 13,200 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch Rd | 13,200 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing Rd | 14,600 | 84 | | 16 | 2 | 4 | 55 | 100 | |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 14,600 | 84 | | 16 | 1 | 5 | 55 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 9,200 | 84 | | 16 | 1 | 5 | 55 | 100 | |
| 27 | SR 49 | Dogtown Rd to SR 4 | 10,700 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 11,400 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 29 | SR 49 | Murphy's Grade Rd to Stanislaus Ave | 7,700 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 11,500 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 10,100 | 84 | | 16 | 1 | 5 | 50 | 100 | |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 10,700 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 10,400 | 84 | | 16 | 1 | 5 | 45 | 100 | |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 3,400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 35 | Baldwin St | SR 26 to Milton Rd | 3,400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 7,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 3,800 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 1,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek Rd | 500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch Rd | 3,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 41 | Garner Place | SR 26 to Baldwin St | 3,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 3,800 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 2,400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 3,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 400 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 7,300 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 2,300 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 49 | Moran Rd | SR 4 to SR 4 | 3,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 6,800 | 85 | | 15 | 1 | 1 | 45 | 100 | |



**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model

## Data Input Sheet

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | ADT | Day % | Eve % | Night % | % Med. Trucks | % Hvy. Trucks | Speed | Distance | Offset (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 4,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 9,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 8,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 4,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 1,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 56 | Paloma Rd | SR 12 to SR 26 | 3,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 4,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 2,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 3,900 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 60 | Pool Station Rd | SR 4 to SR 49 | 2,700 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 2,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 1,100 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 1,000 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murphys | 3,600 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 3,200 | 85 | | 15 | 1 | 1 | 45 | 100 | |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 6,500 | 85 | | 15 | 1 | 1 | 45 | 100 | |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 66.3 | 56.7 | 63.6 | 68 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 67.5 | 57.9 | 64.8 | 70 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 64.0 | 54.4 | 61.3 | 66 |
| 4 | SR 4 | Vallecito Road to Kurt Dr | 61.7 | 53.3 | 60.8 | 65 |
| 5 | SR 4 | SR 49 to Allen Ln | 64.3 | 55.8 | 63.3 | 67 |
| 6 | SR 4 | Allen Ln to Broadview Ln | 66.2 | 57.1 | 64.3 | 69 |
| 7 | SR 4 | Broadview Ln to Lakemont Dr | 64.9 | 56.5 | 64.0 | 68 |
| 8 | SR 4 | Lakemont Dr to Henry Dr | 65.7 | 56.7 | 63.9 | 68 |
| 9 | SR 4 | Henry Dr to Sierra Pkwy | 63.8 | 54.7 | 61.9 | 66 |
| 10 | SR 4 | Skyline Dr to Alpine Co Line | 61.2 | 51.6 | 58.5 | 63 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 65.4 | 55.8 | 62.7 | 68 |
| 12 | SR 12 | Burson Rd to SR 26 | 67.0 | 57.3 | 64.3 | 69 |
| 13 | SR 12 | SR 26 to SR 49 | 67.1 | 57.5 | 64.5 | 69 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapids | 64.9 | 52.2 | 63.2 | 67 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 67.0 | 54.3 | 65.3 | 69 |
| 16 | SR 26 | SR 12 to SR 49 | 58.8 | 46.1 | 57.1 | 61 |
| 17 | SR 26 | SR 49 to Ridge Rd | 57.2 | 48.1 | 52.3 | 59 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 55.4 | 46.9 | 51.3 | 57 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 58.3 | 49.8 | 54.3 | 60 |
| 20 | SR 49 | Amador Co Line to SR 12 | 63.1 | 53.5 | 60.4 | 65 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 64.0 | 55.0 | 62.2 | 67 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oak | 65.2 | 55.6 | 62.6 | 67 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 65.2 | 55.6 | 62.6 | 67 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing R | 65.7 | 56.0 | 63.0 | 68 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 65.7 | 53.0 | 64.0 | 68 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 26 | SR 49 | Copello Dr to Dogtown Rd | 63.7 | 51.0 | 62.0 | 66 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 63.1 | 51.0 | 62.2 | 66 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 63.4 | 51.3 | 62.5 | 66 |
| 29 | SR 49 | Murphy's Grade Rd to Stanislaus Ave | 60.4 | 48.9 | 60.4 | 64 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 62.1 | 50.6 | 62.1 | 65 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 62.9 | 50.8 | 62.0 | 66 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 61.8 | 50.3 | 61.8 | 65 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 61.7 | 50.2 | 61.7 | 65 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 56.8 | 45.2 | 49.7 | 58 |
| 35 | Baldwin St | SR 26 to Milton Rd | 56.8 | 45.2 | 49.7 | 58 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 60.3 | 48.7 | 53.2 | 61 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 57.3 | 45.7 | 50.2 | 58 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 53.3 | 41.6 | 46.1 | 54 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Creek | 48.5 | 36.9 | 41.3 | 50 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch F | 57.1 | 45.4 | 49.9 | 58 |
| 41 | Garner Place | SR 26 to Baldwin St | 56.3 | 44.6 | 49.1 | 57 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 57.3 | 45.7 | 50.2 | 58 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 55.3 | 43.7 | 48.2 | 56 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 44.5 | 32.9 | 37.4 | 46 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 57.4 | 45.8 | 50.3 | 58 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 47.5 | 35.9 | 40.4 | 49 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 60.2 | 48.5 | 53.0 | 61 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 55.1 | 43.5 | 48.0 | 56 |
| 49 | Moran Rd | SR 4 to SR 4 | 57.1 | 45.4 | 49.9 | 58 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 59.8 | 48.2 | 52.7 | 61 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Predicted Levels

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Autos | Medium Trucks | Heavy Trucks | Total |
|---|---|---|---|---|---|---|
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 57.5 | 45.9 | 50.4 | 59 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 61.2 | 49.5 | 54.0 | 62 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Line | 61.0 | 49.4 | 53.9 | 62 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 58.2 | 46.6 | 51.1 | 59 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co line | 51.5 | 39.9 | 44.4 | 53 |
| 56 | Paloma Rd | SR 12 to SR 26 | 57.4 | 45.8 | 50.3 | 58 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 58.4 | 46.8 | 51.3 | 59 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 55.5 | 43.8 | 48.3 | 57 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 57.4 | 45.8 | 50.3 | 58 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 55.8 | 44.2 | 48.7 | 57 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 55.5 | 43.8 | 48.3 | 57 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 51.9 | 40.3 | 44.8 | 53 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 51.5 | 39.9 | 44.4 | 53 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murph | 57.1 | 45.4 | 49.9 | 58 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 56.6 | 44.9 | 49.4 | 58 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 59.7 | 48.0 | 52.5 | 61 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| Segment | Roadway Name | Segment Description | Distances to Traffic Noise Contours (75) | (70) | (65) | (60) | (55) |
|---|---|---|---|---|---|---|---|
| 1 | SR 4 | Stanislaus Co Line to W of Hunt Rd | 37 | 79 | 170 | 367 | 790 |
| 2 | SR 4 | W of Hunt Rd to E of Stallion Wy | 44 | 95 | 205 | 442 | 953 |
| 3 | SR 4 | E of Stallion Wy to SR 49 | 26 | 56 | 120 | 258 | 557 |
| 4 | SR 4 | Vallecito Road to Kurt Dr | 20 | 44 | 94 | 203 | 438 |
| 5 | SR 4 | SR 49 to Allen Ln | 30 | 65 | 140 | 301 | 648 |
| 6 | SR 4 | Allen Ln to Broadview Ln | 38 | 82 | 176 | 380 | 819 |
| 7 | SR 4 | Broadview Ln to Lakemont Dr | 33 | 72 | 154 | 333 | 717 |
| 8 | SR 4 | Lakemont Dr to Henry Dr | 35 | 76 | 164 | 354 | 762 |
| 9 | SR 4 | Henry Dr to Sierra Pkwy | 26 | 57 | 122 | 263 | 566 |
| 10 | SR 4 | Skyline Dr to Alpine Co Line | 17 | 36 | 78 | 167 | 360 |
| 11 | SR 12 | San Joaquin Co Line to Burson Rd | 32 | 69 | 148 | 320 | 689 |
| 12 | SR 12 | Burson Rd to SR 26 | 41 | 87 | 188 | 406 | 874 |
| 13 | SR 12 | SR 26 to SR 49 | 42 | 90 | 194 | 418 | 900 |
| 14 | SR 26 | San Joaquin Co Line to Silver Rapid | 30 | 65 | 141 | 304 | 654 |
| 15 | SR 26 | Silver Rapids Rd to SR 12 | 42 | 91 | 195 | 420 | 905 |
| 16 | SR 26 | SR 12 to SR 49 | 12 | 26 | 55 | 119 | 257 |
| 17 | SR 26 | SR 49 to Ridge Rd | 8 | 18 | 39 | 83 | 179 |
| 18 | SR 26 | Ridge Rd to Winton Rd | 7 | 14 | 31 | 66 | 142 |
| 19 | SR 26 | Winton Rd to Amador Co Line | 10 | 22 | 48 | 103 | 222 |
| 20 | SR 49 | Amador Co Line to SR 12 | 22 | 48 | 104 | 225 | 484 |
| 21 | SR 49 | SR 12 to N of Pool Station Rd | 27 | 59 | 126 | 272 | 586 |
| 22 | SR 49 | N of Pool Station Rd to N of Gold Oa | 31 | 67 | 144 | 311 | 671 |
| 23 | SR 49 | N of Gold Oak Rd to Mountain Ranch | 31 | 67 | 144 | 311 | 671 |
| 24 | SR 49 | Mountain Ranch Rd to 4th Crossing | 33 | 72 | 155 | 333 | 717 |
| 25 | SR 49 | 4th Crossing Rd to Brunner Hill Rd | 34 | 74 | 159 | 344 | 740 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| | | | -------- Distances to Traffic Noise Contours -------- | | | | |
|---|---|---|---|---|---|---|---|
| Segment | Roadway Name | Segment Description | 75 | 70 | 65 | 60 | 55 |
| 26 | SR 49 | Copello Dr to Dogtown Rd | 25 | 54 | 117 | 253 | 544 |
| 27 | SR 49 | Dogtown Rd to SR 4 | 25 | 53 | 114 | 246 | 529 |
| 28 | SR 49 | SR 4 to Murphy's Grade Rd | 26 | 55 | 119 | 256 | 552 |
| 29 | SR 49 | Murphy's Grade Rd to Stanislaus Av | 17 | 37 | 80 | 172 | 371 |
| 30 | SR 49 | Stanislaus Ave to Mark Twain Rd | 22 | 48 | 104 | 225 | 484 |
| 31 | SR 49 | Mark Twain Rd to Bret Harte Rd | 24 | 51 | 110 | 236 | 509 |
| 32 | SR 49 | Bret Harte Rd to Vallecito Rd | 21 | 46 | 99 | 214 | 462 |
| 33 | SR 49 | SR 4 South to Tuolumne Co. Line | 21 | 45 | 98 | 210 | 453 |
| 34 | Avery Sheep Ranch Rd | SR 4 to Sheep Ranch Rd | 7 | 15 | 33 | 72 | 155 |
| 35 | Baldwin St | SR 26 to Milton Rd | 7 | 15 | 33 | 72 | 155 |
| 36 | Big Tree Rd | SR 4 to Main St Murphy's | 12 | 26 | 57 | 123 | 265 |
| 37 | Burson Rd | SR 26 to Cammanche Pkwy S | 8 | 17 | 36 | 77 | 167 |
| 38 | Cammanche Pkwy S | SR 12 to Amador Co Line | 4 | 9 | 19 | 42 | 90 |
| 39 | Felix Rd | Salt Springs Valley Rd to Rock Cree | 2 | 4 | 9 | 20 | 43 |
| 40 | Fricot City Rd | Fourth Crossing Rd to Sheep Ranch | 7 | 16 | 35 | 75 | 161 |
| 41 | Garner Place | SR 26 to Baldwin St | 7 | 14 | 31 | 66 | 142 |
| 42 | Gold Strike Rd | Neilsen Rd to SR 49 | 8 | 17 | 36 | 77 | 167 |
| 43 | Hogan Dam Rd | SR 26 to Hunt Rd | 6 | 12 | 26 | 57 | 123 |
| 44 | Independence Rd | Railroad Flat Rd to Ridge Rd | 1 | 2 | 5 | 11 | 23 |
| 45 | Jenny Lind Rd | SR 26 to Milton Rd | 8 | 17 | 37 | 79 | 170 |
| 46 | Jesus Maria Rd | SR 26 to Railroad Flat Rd | 2 | 4 | 8 | 17 | 37 |
| 47 | Main St - Copperopolis | SR 4 to Reed's Turnpike | 12 | 26 | 55 | 120 | 258 |
| 48 | Milton Rd | SR 26 to Stanislaus Co Line | 6 | 12 | 26 | 55 | 119 |
| 49 | Moran Rd | SR 4 to SR 4 | 7 | 16 | 35 | 75 | 161 |
| 50 | Mountan Ranch Rd | SR 4 to Gold Hunter | 11 | 25 | 53 | 114 | 246 |

**Appendix A**

## FHWA-RD-77-108 Highway Traffic Noise Prediction Model
## Noise Contour Output

Project #: 2016-229
Description: Calaveras County Future + Additional Buildout
Ldn/CNEL: Ldn
Hard/Soft: Soft

| | | | -------- Distances to Traffic Noise Contours -------- | | | | |
|---|---|---|---|---|---|---|---|
| Segment | Roadway Name | Segment Description | 75 | 70 | 65 | 60 | 55 |
| 51 | Mountain Ranch Rd | Gold Hunter to Sheep Ranch Rd | 8 | 17 | 37 | 80 | 172 |
| 52 | Murphys Grade Rd | SR 4 to SR 49 | 14 | 30 | 65 | 139 | 300 |
| 53 | O'Byrnes Ferry Rd | Reed's Turnpike to Tuolumne Co Lii | 14 | 29 | 63 | 136 | 294 |
| 54 | Olive Orchard Rd | SR26 to Burson Rd | 9 | 19 | 41 | 89 | 192 |
| 55 | Ospital Rd | Southworth Rd to San Joaquin Co lir | 3 | 7 | 15 | 32 | 68 |
| 56 | Paloma Rd | SR 12 to SR 26 | 8 | 17 | 37 | 79 | 170 |
| 57 | Parrotts Ferry Rd | SR 4 to Tuolumne Co Line | 9 | 20 | 43 | 92 | 197 |
| 58 | Pennsylvania Gulch Rd | SR4 to END | 6 | 13 | 27 | 59 | 126 |
| 59 | Pettinger Rd | SR12 to Southworth Rd | 8 | 17 | 37 | 79 | 170 |
| 60 | Pool Station Rd | SR 4 to SR 49 | 6 | 13 | 29 | 62 | 133 |
| 61 | Rail Road Flat Rd | Sheep Ranch Rd to SR 26 | 6 | 13 | 27 | 59 | 126 |
| 62 | Ridge Rd | SR 26 to Railroad Flat Rd | 3 | 7 | 16 | 34 | 73 |
| 63 | Rock Creek Rd | Milton Rd to SR4 | 3 | 7 | 15 | 32 | 68 |
| 64 | Sheep Ranch Rd | Mountain Ranch Rd to Main St Murp | 7 | 16 | 35 | 75 | 161 |
| 65 | Silver Rapids Rd | Hogan Dam Rd to Heney Ln | 7 | 15 | 32 | 69 | 149 |
| 66 | Vista del Lago | SR26 to Hogan Dam Rd | 11 | 24 | 51 | 111 | 238 |

**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site A Hwy 49 Mokelumne
10/17/2013 - 10/18/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 11:00 | 60 | 80 | 46 | 29 |
| 12:00 | 61 | 82 | 49 | 32 |
| 13:00 | 60 | 84 | 45 | 31 |
| 14:00 | 62 | 85 | 49 | 35 |
| 15:00 | 61 | 77 | 50 | 33 |
| 16:00 | 60 | 84 | 50 | 34 |
| 17:00 | 60 | 80 | 51 | 35 |
| 18:00 | 61 | 91 | 53 | 36 |
| 19:00 | 57 | 78 | 52 | 50 |
| 20:00 | 57 | 85 | 48 | 46 |
| 21:00 | 62 | 93 | 46 | 42 |
| 22:00 | 51 | 70 | 47 | 43 |
| 23:00 | 49 | 67 | 45 | 41 |
| 0:00 | 47 | 72 | 35 | 29 |
| 1:00 | 42 | 68 | 25 | 23 |
| 2:00 | 48 | 75 | 23 | 21 |
| 3:00 | 51 | 73 | 23 | 21 |
| 4:00 | 52 | 75 | 26 | 22 |
| 5:00 | 53 | 74 | 34 | 24 |
| 6:00 | 59 | 78 | 48 | 33 |
| 7:00 | 59 | 77 | 52 | 37 |
| 8:00 | 60 | 76 | 52 | 37 |
| 9:00 | 60 | 77 | 48 | 31 |
| 10:00 | 58 | 76 | 46 | 31 |

| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 62.1 | 56.8 | 60.1 | 58.8 | 42.0 | 52.4 |
| Lmax (Maximum) | 93.1 | 75.8 | 81.5 | 78.2 | 66.7 | 72.4 |
| L50 (Median) | 53.1 | 44.7 | 49.1 | 48.0 | 22.9 | 33.9 |
| L90 (Background) | 49.6 | 29.2 | 35.9 | 43.3 | 21.4 | 28.6 |

| | |
|---|---|
| Computed Ldn, dB | 61.1 |
| % Daytime Energy | 91% |
| % Nighttime Energy | 9% |

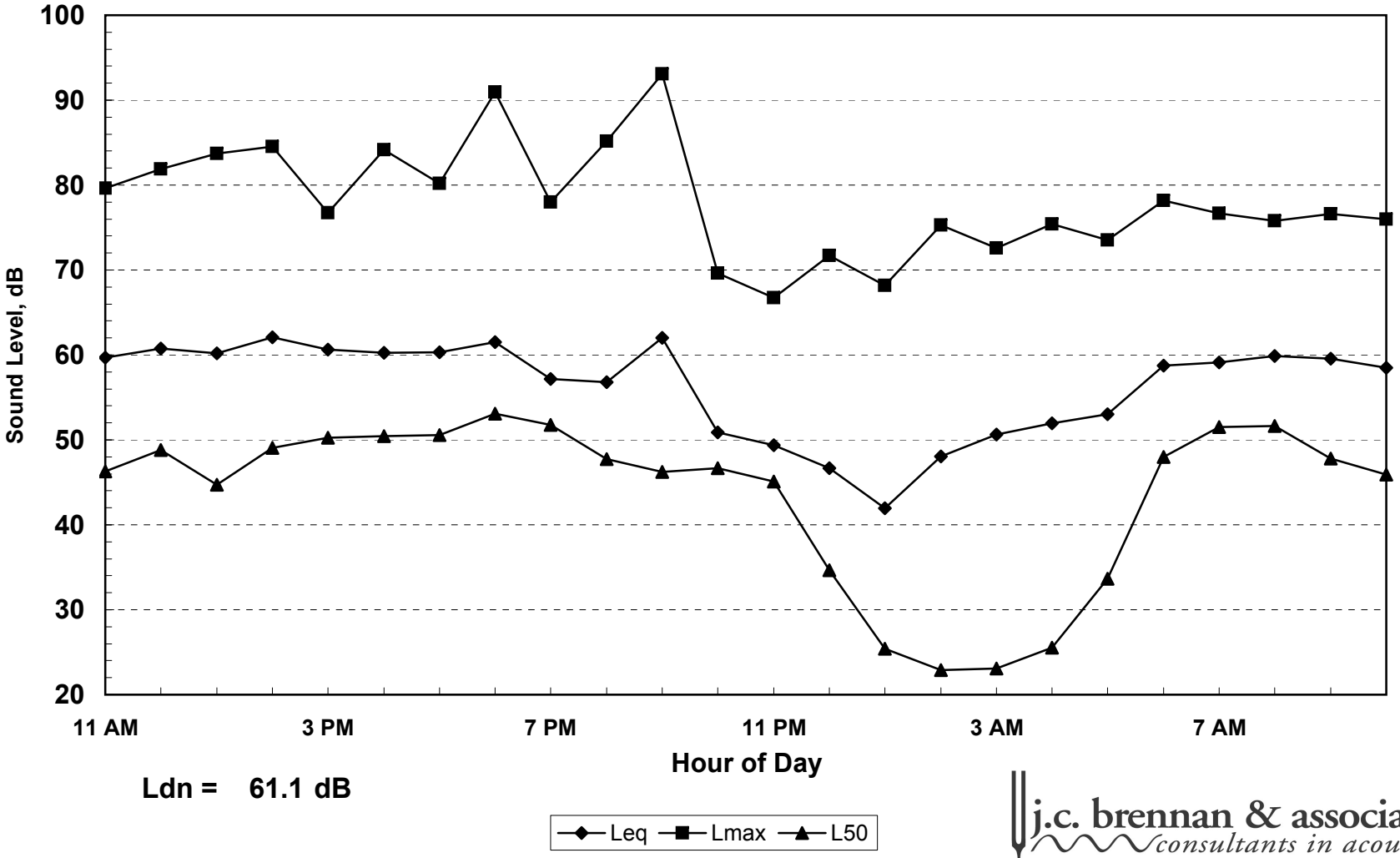
j.c. brennan & associates
consultants in acoustics

**Appendix B**

2013-184 Calaveras Background Noise Measurement

24hr Continuous Noise Monitoring - Site A Hwy 49 Mokelumne

10/17/2013 - 10/18/2013




**Ldn = 61.1 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site B Hwy 12 Burson
10/17/2013 - 10/18/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 12:00 | 63 | 87 | 46 | 31 |
| 13:00 | 62 | 79 | 45 | 31 |
| 14:00 | 62 | 79 | 47 | 33 |
| 15:00 | 63 | 81 | 49 | 33 |
| 16:00 | 64 | 84 | 52 | 35 |
| 17:00 | 63 | 80 | 51 | 36 |
| 18:00 | 62 | 84 | 50 | 39 |
| 19:00 | 61 | 81 | 47 | 39 |
| 20:00 | 60 | 79 | 46 | 35 |
| 21:00 | 59 | 78 | 44 | 30 |
| 22:00 | 56 | 77 | 38 | 25 |
| 23:00 | 55 | 80 | 33 | 24 |
| 0:00 | 51 | 75 | 25 | 21 |
| 1:00 | 46 | 69 | 22 | 19 |
| 2:00 | 50 | 77 | 22 | 20 |
| 3:00 | 52 | 77 | 27 | 22 |
| 4:00 | 58 | 80 | 36 | 24 |
| 5:00 | 62 | 84 | 50 | 36 |
| 6:00 | 64 | 80 | 53 | 42 |
| 7:00 | 63 | 79 | 53 | 43 |
| 8:00 | 63 | 79 | 52 | 41 |
| 9:00 | 63 | 80 | 50 | 33 |
| 10:00 | 62 | 84 | 46 | 31 |
| 11:00 | 62 | 80 | 45 | 31 |

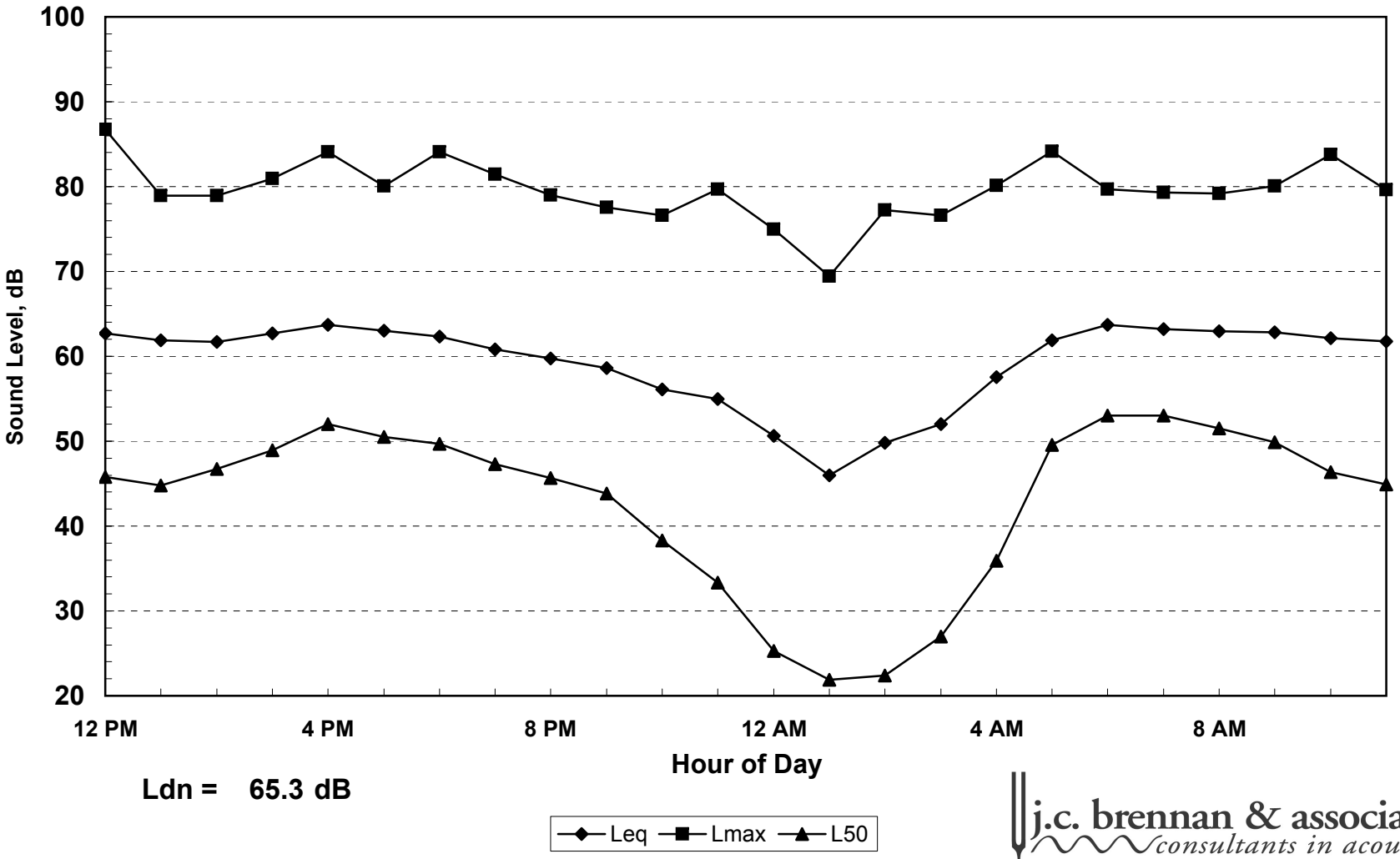
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 63.7 | 58.6 | 62.2 | 63.7 | 46.0 | 57.9 |
| Lmax (Maximum) | 86.8 | 77.5 | 80.9 | 84.1 | 69.4 | 77.6 |
| L50 (Median) | 53.0 | 43.9 | 48.1 | 53.0 | 21.9 | 34.1 |
| L90 (Background) | 42.8 | 30.3 | 34.7 | 42.0 | 19.5 | 25.8 |

| | |
|---|---|
| Computed Ldn, dB | 65.3 |
| % Daytime Energy | 82% |
| % Nighttime Energy | 18% |

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**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site B Hwy 12 Burson
10/17/2013 - 10/18/2013




**Ldn = 65.3 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site C Hwy 4 Copperoplis
10/17/2013 - 10/18/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 13:00 | 61 | 80 | 50 | 35 |
| 14:00 | 61 | 78 | 50 | 34 |
| 15:00 | 60 | 78 | 51 | 36 |
| 16:00 | 61 | 76 | 54 | 38 |
| 17:00 | 62 | 78 | 56 | 42 |
| 18:00 | 61 | 74 | 52 | 39 |
| 19:00 | 61 | 73 | 54 | 33 |
| 20:00 | 58 | 72 | 41 | 25 |
| 21:00 | 59 | 74 | 43 | 28 |
| 22:00 | 58 | 74 | 39 | 20 |
| 23:00 | 55 | 72 | 25 | 20 |
| 0:00 | 55 | 73 | 23 | 19 |
| 1:00 | 53 | 74 | 22 | 19 |
| 2:00 | 54 | 75 | 21 | 19 |
| 3:00 | 58 | 76 | 33 | 20 |
| 4:00 | 58 | 77 | 36 | 19 |
| 5:00 | 62 | 74 | 55 | 34 |
| 6:00 | 65 | 82 | 60 | 43 |
| 7:00 | 64 | 77 | 59 | 43 |
| 8:00 | 62 | 79 | 54 | 39 |
| 9:00 | 62 | 81 | 53 | 36 |
| 10:00 | 62 | 85 | 50 | 35 |
| 11:00 | 61 | 77 | 49 | 34 |
| 12:00 | 61 | 79 | 50 | 36 |

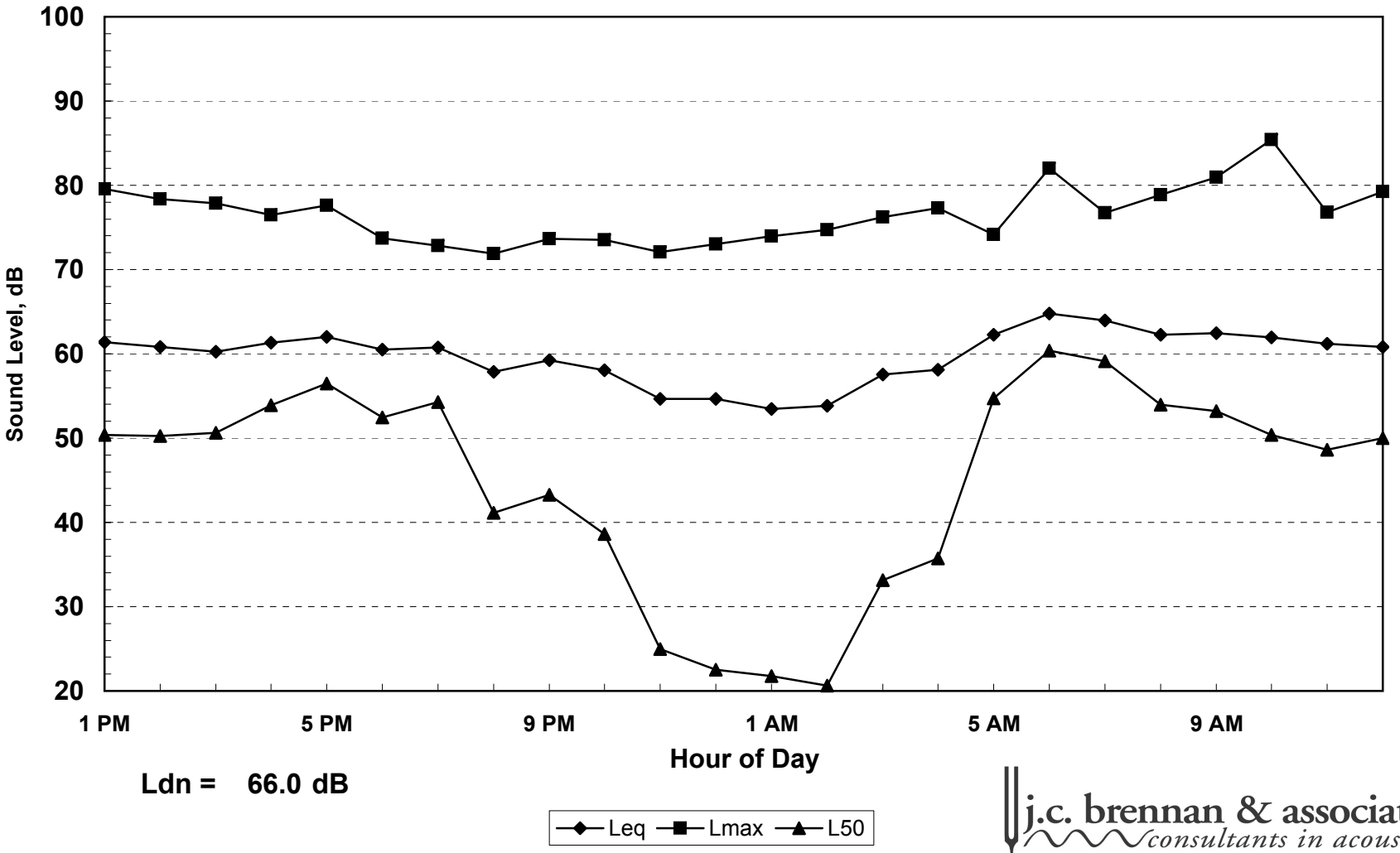
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 64.0 | 57.8 | 61.3 | 64.8 | 53.5 | 59.3 |
| Lmax (Maximum) | 85.4 | 71.9 | 77.3 | 82.0 | 72.1 | 75.2 |
| L50 (Median) | 59.1 | 41.1 | 51.2 | 60.4 | 20.6 | 34.7 |
| L90 (Background) | 42.6 | 25.3 | 35.6 | 42.8 | 19.0 | 23.7 |

| | |
|---|---|
| Computed Ldn, dB | 66.0 |
| % Daytime Energy | 73% |
| % Nighttime Energy | 27% |

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**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site C Hwy 4 Copperoplis
10/17/2013 - 10/18/2013




**Ldn = 66.0 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site D Hwy 49 Angels Camp
10/17/2013 - 10/18/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 14:00 | 61 | 77 | 53 | 37 |
| 15:00 | 62 | 81 | 55 | 37 |
| 16:00 | 62 | 79 | 55 | 36 |
| 17:00 | 64 | 84 | 58 | 45 |
| 18:00 | 63 | 77 | 59 | 44 |
| 19:00 | 62 | 82 | 56 | 44 |
| 20:00 | 59 | 76 | 48 | 41 |
| 21:00 | 58 | 78 | 48 | 36 |
| 22:00 | 57 | 72 | 39 | 32 |
| 23:00 | 52 | 73 | 33 | 30 |
| 0:00 | 51 | 72 | 31 | 29 |
| 1:00 | 51 | 75 | 28 | 22 |
| 2:00 | 48 | 70 | 21 | 20 |
| 3:00 | 54 | 75 | 22 | 21 |
| 4:00 | 57 | 76 | 31 | 22 |
| 5:00 | 60 | 76 | 50 | 29 |
| 6:00 | 64 | 80 | 58 | 36 |
| 7:00 | 66 | 78 | 63 | 52 |
| 8:00 | 65 | 76 | 61 | 47 |
| 9:00 | 61 | 80 | 53 | 33 |
| 10:00 | 61 | 74 | 54 | 36 |
| 11:00 | 61 | 78 | 52 | 36 |
| 12:00 | 62 | 79 | 55 | 40 |
| 13:00 | 62 | 77 | 56 | 43 |

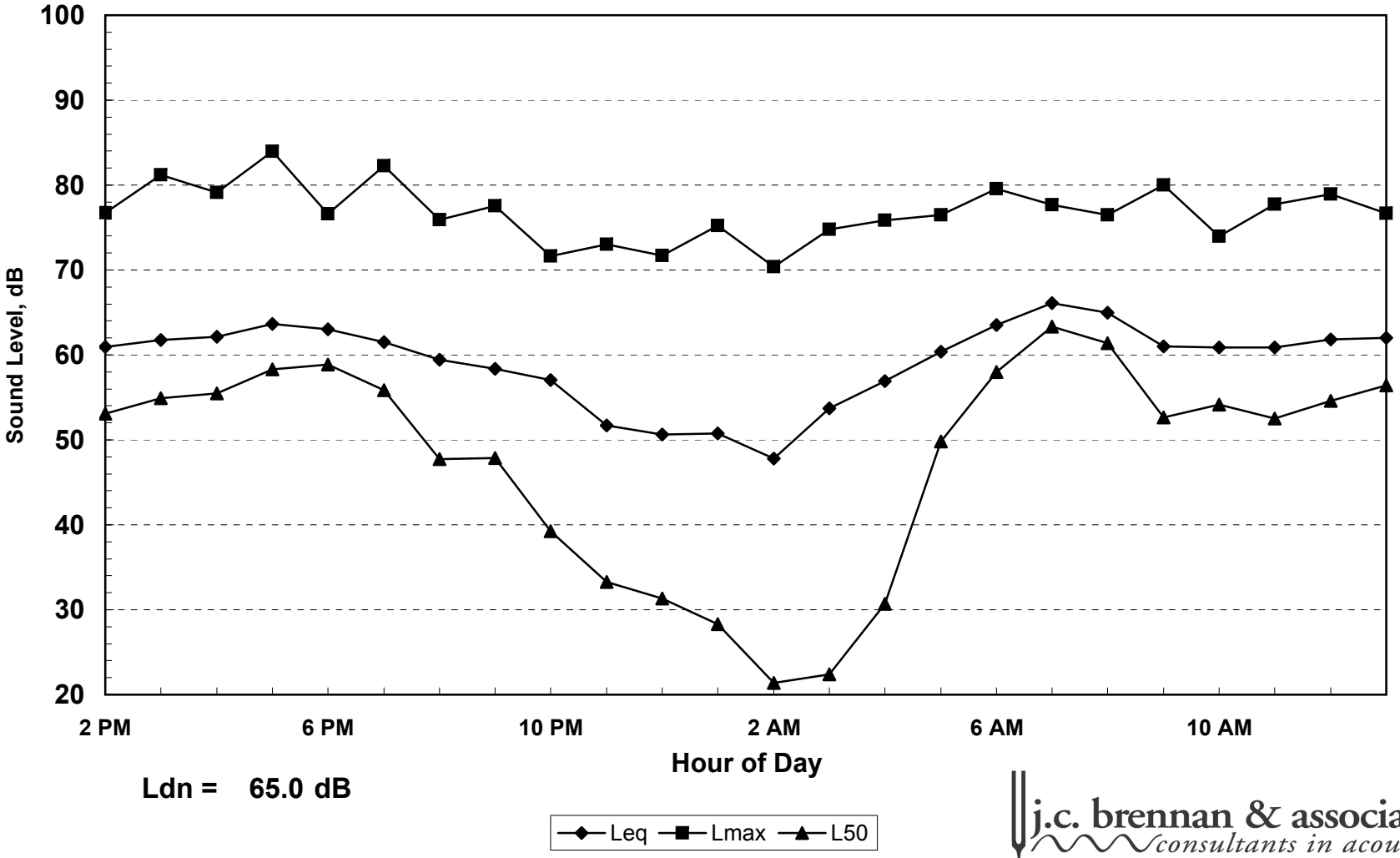
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 66.1 | 58.4 | 62.3 | 63.5 | 47.8 | 57.5 |
| Lmax (Maximum) | 84.0 | 74.0 | 78.3 | 79.6 | 70.4 | 74.3 |
| L50 (Median) | 63.4 | 47.7 | 55.1 | 58.0 | 21.4 | 34.9 |
| L90 (Background) | 52.3 | 33.3 | 40.5 | 35.7 | 20.2 | 26.7 |

| | |
|---|---|
| Computed Ldn, dB | 65.0 |
| % Daytime Energy | 84% |
| % Nighttime Energy | 16% |

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**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site D Hwy 49 Angels Camp
10/17/2013 - 10/18/2013




**Ldn = 65.0 dB**

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**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site E Hwy 4 Arnold
10/17/2013 - 10/18/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 15:00 | 65 | 83 | 56 | 35 |
| 16:00 | 64 | 80 | 53 | 34 |
| 17:00 | 63 | 78 | 44 | 35 |
| 18:00 | 61 | 77 | 42 | 36 |
| 19:00 | 59 | 76 | 36 | 32 |
| 20:00 | 59 | 79 | 31 | 26 |
| 21:00 | 52 | 76 | 25 | 23 |
| 22:00 | 51 | 77 | 25 | 24 |
| 23:00 | 50 | 73 | 26 | 23 |
| 0:00 | 51 | 77 | 24 | 23 |
| 1:00 | 46 | 75 | 23 | 22 |
| 2:00 | 25 | 44 | 23 | 22 |
| 3:00 | 41 | 70 | 23 | 22 |
| 4:00 | 46 | 76 | 23 | 22 |
| 5:00 | 57 | 78 | 29 | 23 |
| 6:00 | 62 | 81 | 39 | 29 |
| 7:00 | 64 | 85 | 42 | 32 |
| 8:00 | 64 | 81 | 47 | 34 |
| 9:00 | 64 | 80 | 50 | 33 |
| 10:00 | 64 | 86 | 52 | 32 |
| 11:00 | 64 | 84 | 52 | 34 |
| 12:00 | 64 | 85 | 53 | 36 |
| 13:00 | 65 | 81 | 55 | 36 |
| 14:00 | 64 | 81 | 51 | 37 |

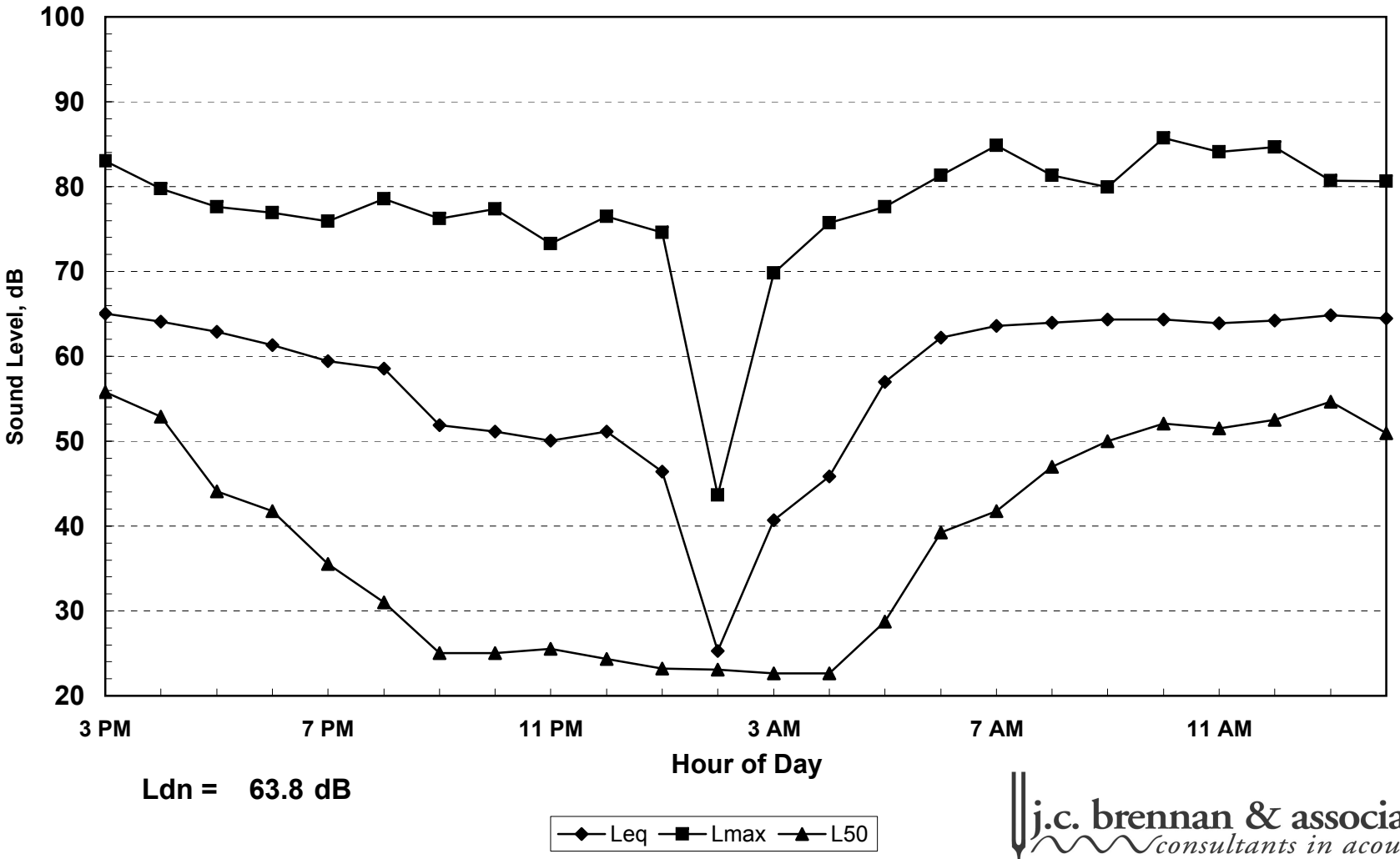
| | **Statistical Summary** | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 65.1 | 51.9 | 63.3 | 62.2 | 25.3 | 54.6 |
| Lmax (Maximum) | 85.7 | 75.9 | 80.7 | 81.3 | 43.7 | 72.2 |
| L50 (Median) | 55.8 | 25.1 | 45.8 | 39.3 | 22.6 | 26.1 |
| L90 (Background) | 36.8 | 23.2 | 33.0 | 29.3 | 22.1 | 23.4 |

| | |
|---|---|
| Computed Ldn, dB | 63.8 |
| % Daytime Energy | 92% |
| % Nighttime Energy | 8% |

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2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site E Hwy 4 Arnold
10/17/2013 - 10/18/2013




**Ldn = 63.8 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site F New Hogan Lake
11/12/2013 - 11/13/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 10:00 | 39 | 59 | 35 | 29 |
| 11:00 | 39 | 57 | 32 | 26 |
| 12:00 | 41 | 62 | 32 | 24 |
| 13:00 | 38 | 56 | 33 | 25 |
| 14:00 | 41 | 59 | 34 | 29 |
| 15:00 | 38 | 53 | 34 | 30 |
| 16:00 | 37 | 52 | 34 | 28 |
| 17:00 | 37 | 54 | 33 | 29 |
| 18:00 | 34 | 51 | 31 | 25 |
| 19:00 | 38 | 54 | 30 | 26 |
| 20:00 | 39 | 56 | 26 | 21 |
| 21:00 | 34 | 58 | 25 | 20 |
| 22:00 | 33 | 49 | 27 | 23 |
| 23:00 | 34 | 47 | 26 | 23 |
| 0:00 | 32 | 45 | 26 | 23 |
| 1:00 | 30 | 45 | 26 | 24 |
| 2:00 | 27 | 37 | 26 | 22 |
| 3:00 | 36 | 48 | 34 | 30 |
| 4:00 | 39 | 50 | 35 | 28 |
| 5:00 | 40 | 55 | 38 | 33 |
| 6:00 | 40 | 52 | 39 | 35 |
| 7:00 | 42 | 53 | 41 | 38 |
| 8:00 | 40 | 59 | 38 | 35 |
| 9:00 | 37 | 49 | 32 | 28 |

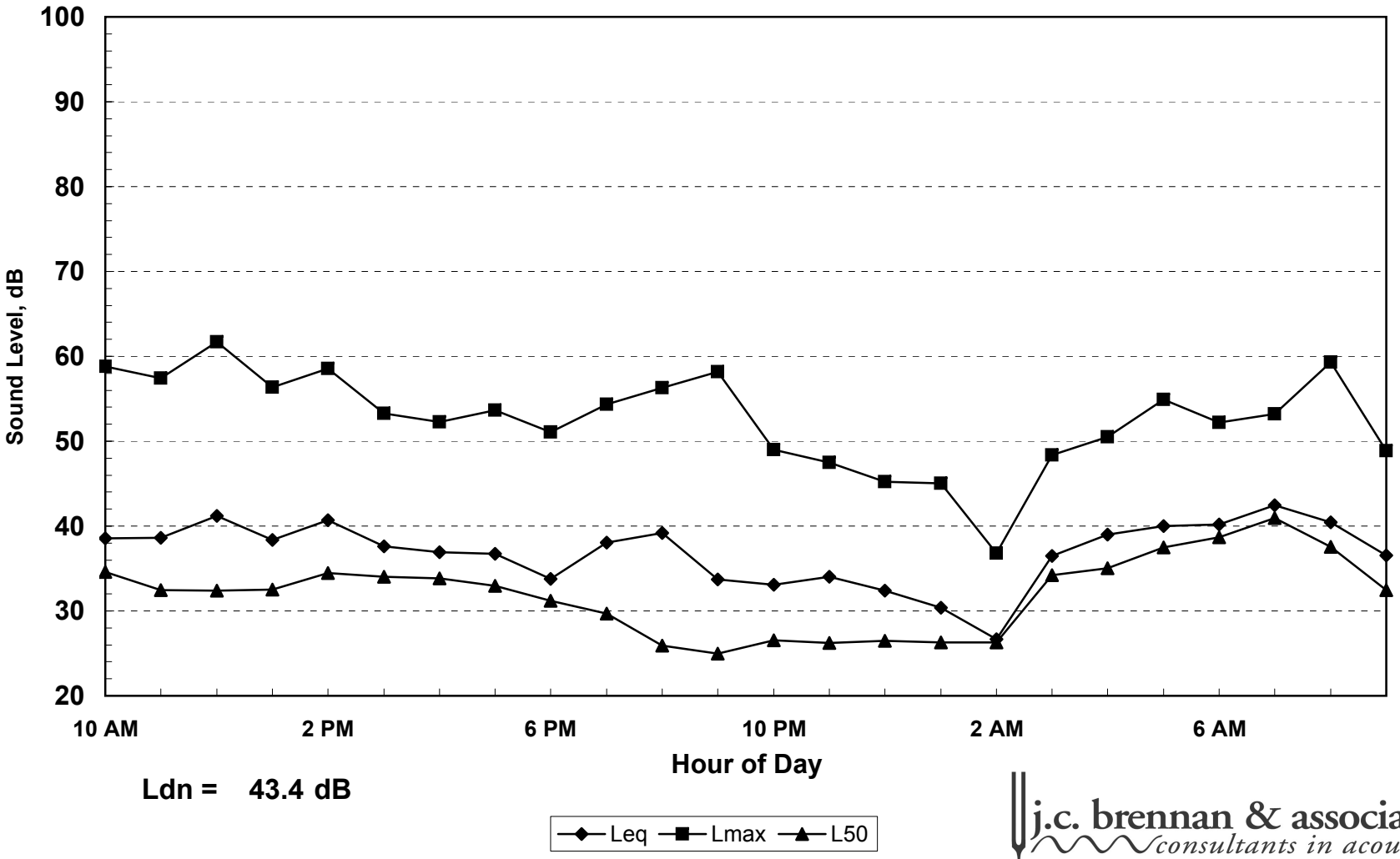
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 42.4 | 33.7 | 38.8 | 40.2 | 26.7 | 36.5 |
| Lmax (Maximum) | 61.7 | 48.9 | 55.6 | 54.9 | 36.8 | 47.7 |
| L50 (Median) | 40.9 | 25.0 | 32.7 | 38.7 | 26.2 | 30.8 |
| L90 (Background) | 38.2 | 20.4 | 27.6 | 34.6 | 21.8 | 26.6 |

| | |
|---|---|
| Computed Ldn, dB | 43.4 |
| % Daytime Energy | 74% |
| % Nighttime Energy | 26% |

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2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site F New Hogan Lake
11/12/2013 - 11/13/2013




**Ldn = 43.4 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site G Sheep Ranch Road
11/12/2013 - 11/13/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 12:00 | 39 | 62 | 32 | 25 |
| 13:00 | 41 | 59 | 31 | 23 |
| 14:00 | 43 | 58 | 32 | 24 |
| 15:00 | 46 | 75 | 33 | 22 |
| 16:00 | 44 | 70 | 33 | 24 |
| 17:00 | 40 | 61 | 28 | 25 |
| 18:00 | 40 | 68 | 25 | 24 |
| 19:00 | 38 | 57 | 25 | 24 |
| 20:00 | 34 | 55 | 23 | 22 |
| 21:00 | 34 | 52 | 22 | 21 |
| 22:00 | 34 | 52 | 21 | 20 |
| 23:00 | 36 | 56 | 21 | 20 |
| 0:00 | 34 | 50 | 21 | 20 |
| 1:00 | 33 | 54 | 20 | 20 |
| 2:00 | 23 | 48 | 20 | 20 |
| 3:00 | 24 | 45 | 21 | 20 |
| 4:00 | 33 | 57 | 20 | 20 |
| 5:00 | 31 | 56 | 20 | 19 |
| 6:00 | 48 | 75 | 32 | 21 |
| 7:00 | 42 | 61 | 32 | 24 |
| 8:00 | 43 | 71 | 30 | 24 |
| 9:00 | 37 | 60 | 28 | 24 |
| 10:00 | 36 | 56 | 28 | 24 |
| 11:00 | 41 | 59 | 32 | 26 |

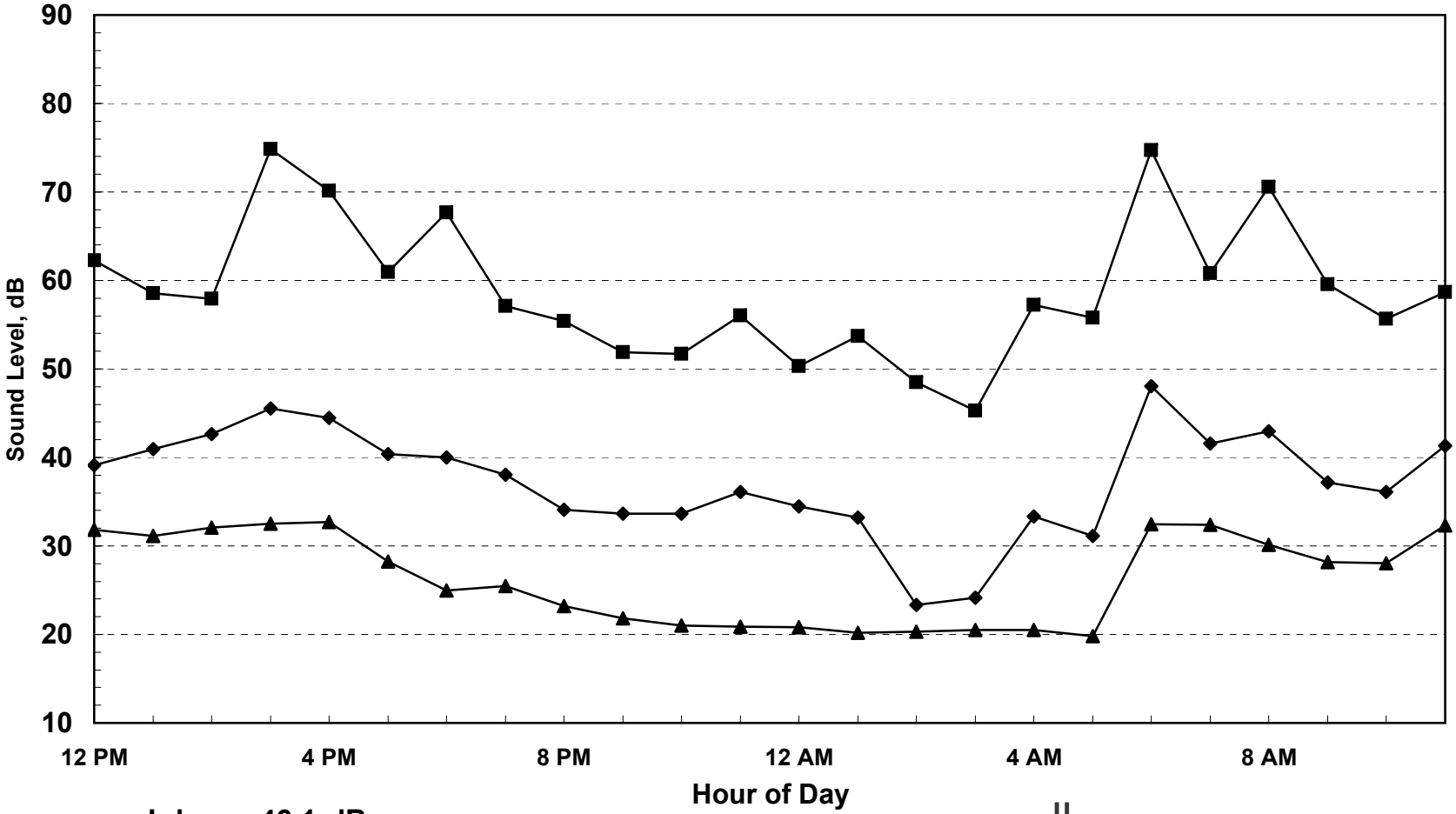
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 45.5 | 33.6 | 41.1 | 48.1 | 23.3 | 39.4 |
| Lmax (Maximum) | 74.9 | 51.9 | 61.5 | 74.7 | 45.3 | 54.8 |
| L50 (Median) | 32.7 | 21.8 | 29.0 | 32.5 | 19.8 | 21.8 |
| L90 (Background) | 25.8 | 20.9 | 23.7 | 21.2 | 19.4 | 19.9 |

| | |
|---|---|
| Computed Ldn, dB | 46.1 |
| % Daytime Energy | 71% |
| % Nighttime Energy | 29% |

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**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site G Sheep Ranch Road
11/12/2013 - 11/13/2013




**Ldn = 46.1 dB**

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**Appendix B**
2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site H White Pines Lake
11/12/2013 - 11/13/2013

| Hour | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|
| 14:00 | 48 | 68 | 37 | 32 |
| 15:00 | 50 | 67 | 41 | 30 |
| 16:00 | 46 | 68 | 35 | 29 |
| 17:00 | 42 | 64 | 35 | 30 |
| 18:00 | 44 | 66 | 32 | 29 |
| 19:00 | 40 | 68 | 31 | 28 |
| 20:00 | 35 | 54 | 30 | 27 |
| 21:00 | 31 | 50 | 28 | 26 |
| 22:00 | 31 | 52 | 28 | 26 |
| 23:00 | 32 | 46 | 28 | 27 |
| 0:00 | 38 | 57 | 28 | 26 |
| 1:00 | 32 | 48 | 28 | 26 |
| 2:00 | 35 | 54 | 27 | 26 |
| 3:00 | 27 | 35 | 27 | 26 |
| 4:00 | 27 | 31 | 27 | 26 |
| 5:00 | 30 | 46 | 27 | 26 |
| 6:00 | 35 | 53 | 29 | 27 |
| 7:00 | 44 | 70 | 34 | 30 |
| 8:00 | 42 | 60 | 36 | 33 |
| 9:00 | 48 | 72 | 37 | 33 |
| 10:00 | 43 | 64 | 35 | 31 |
| 11:00 | 47 | 68 | 34 | 30 |
| 12:00 | 43 | 66 | 35 | 32 |
| 13:00 | 41 | 65 | 35 | 32 |

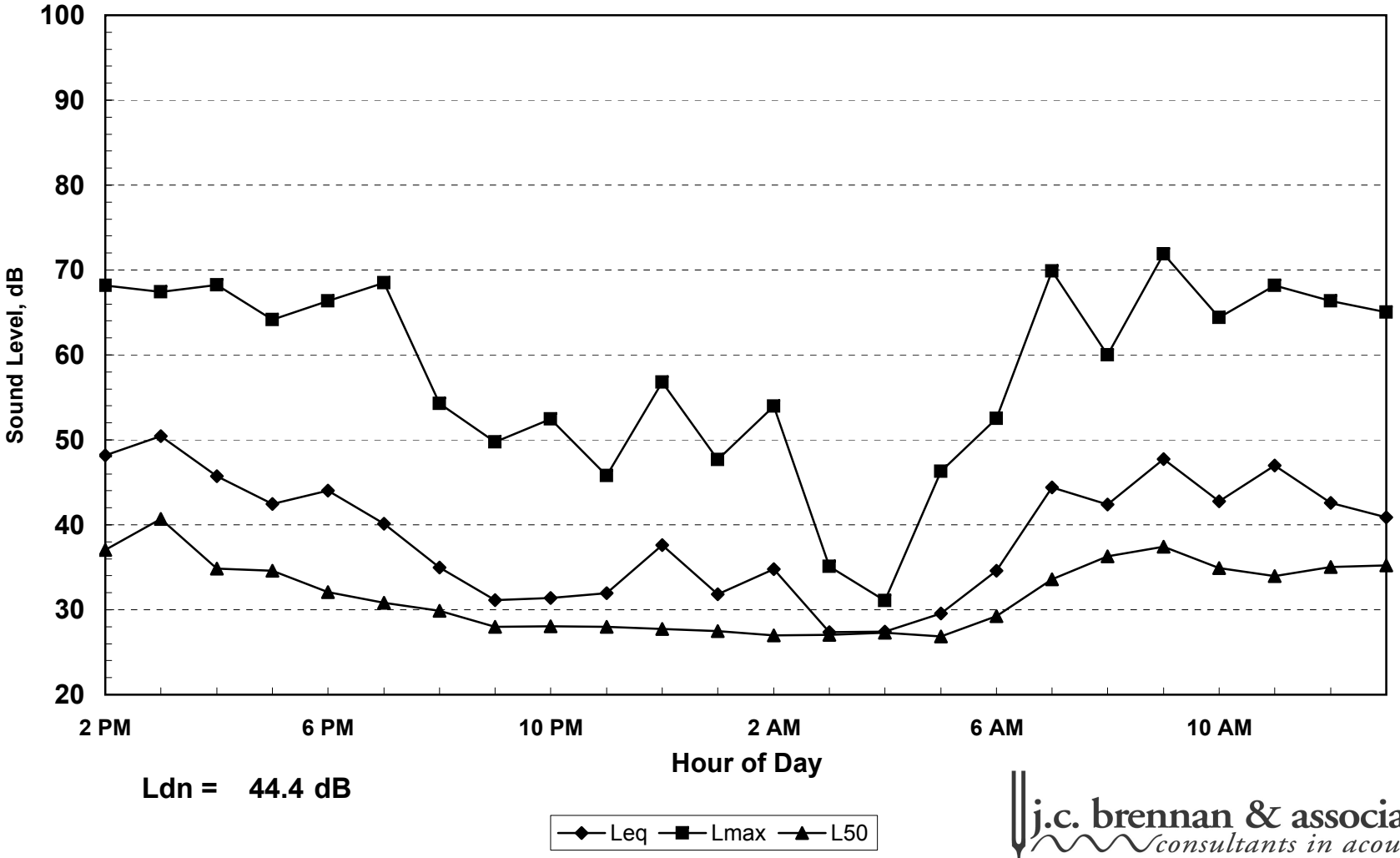
| | Statistical Summary | | | | | |
|---|---|---|---|---|---|---|
| | Daytime (7 a.m. - 10 p.m.) | | | Nighttime (10 p.m. - 7 a.m.) | | |
| | High | Low | Average | High | Low | Average |
| Leq (Average) | 50.5 | 31.1 | 45.0 | 37.6 | 27.4 | 33.0 |
| Lmax (Maximum) | 71.9 | 49.7 | 64.8 | 56.8 | 31.1 | 46.9 |
| L50 (Median) | 40.7 | 28.0 | 34.3 | 29.3 | 26.9 | 27.6 |
| L90 (Background) | 32.6 | 26.3 | 30.2 | 26.7 | 25.6 | 26.2 |

| | |
|---|---|
| Computed Ldn, dB | 44.4 |
| % Daytime Energy | 96% |
| % Nighttime Energy | 4% |

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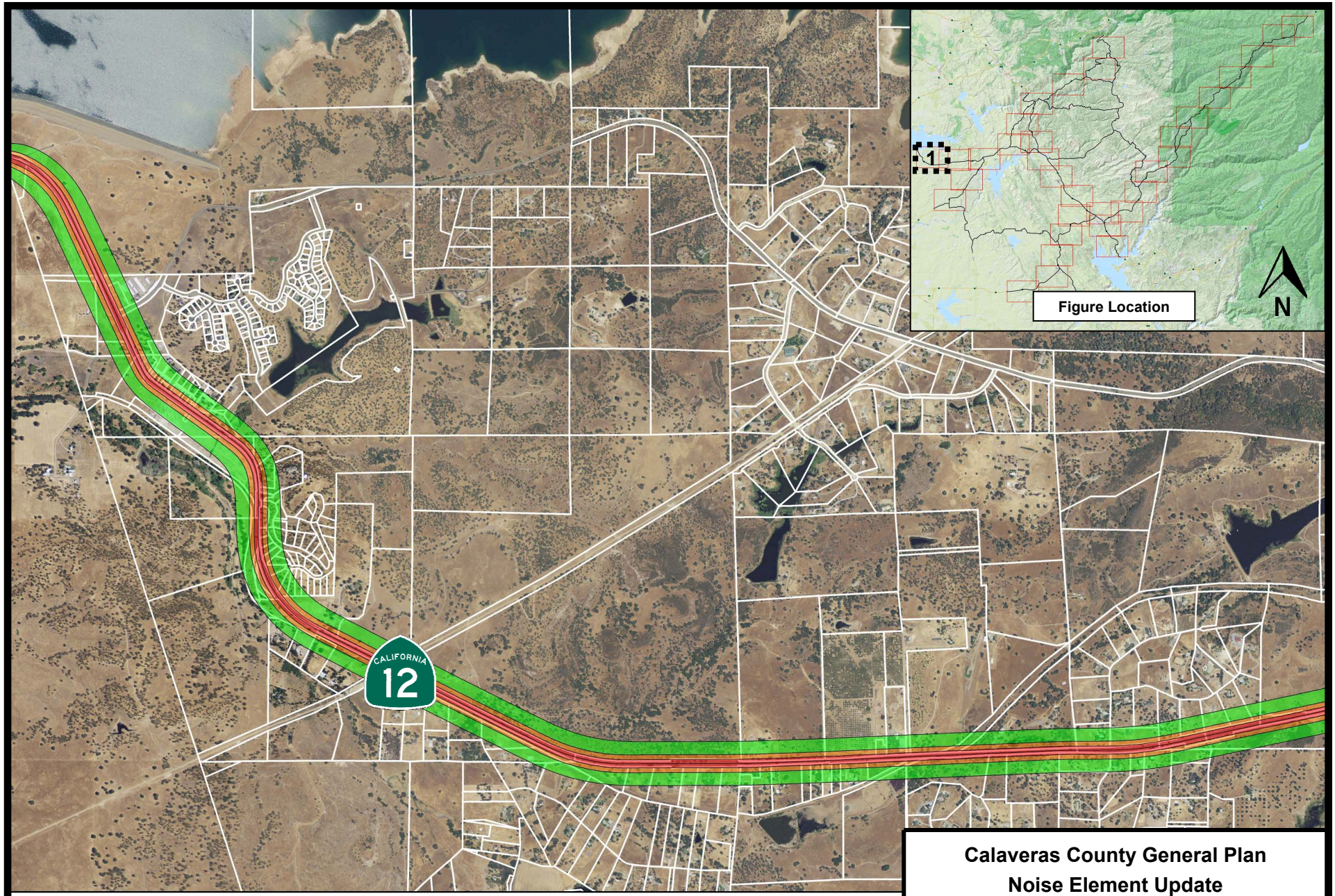
**Appendix B**

2013-184 Calaveras Background Noise Measurement
24hr Continuous Noise Monitoring - Site H White Pines Lake
11/12/2013 - 11/13/2013




**Ldn = 44.4 dB**

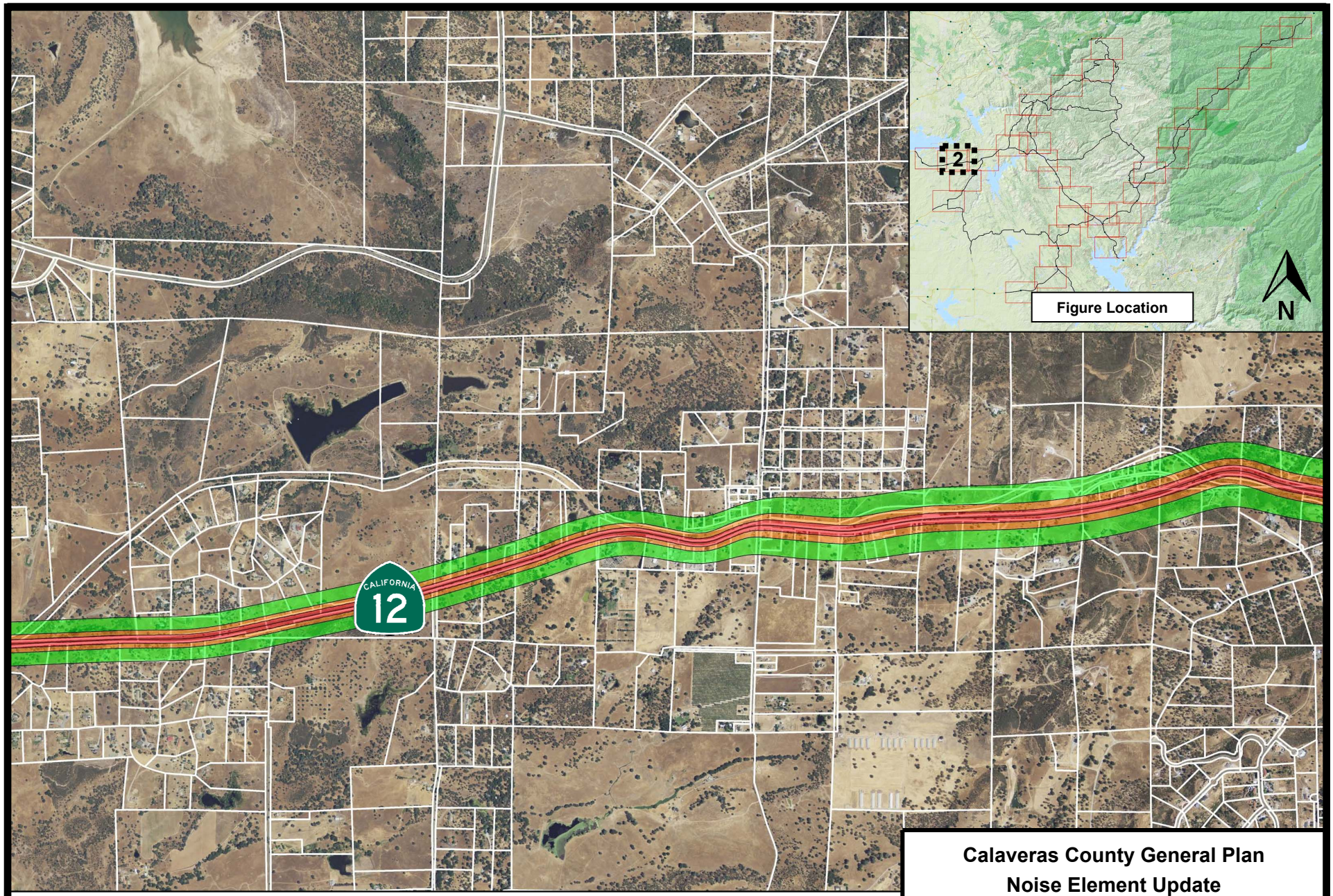
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**Calaveras County General Plan**
**Noise Element Update**
**Figure 1-1: Existing Traffic Noise Contours**

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*Figure Prepared April 2014*




**Calaveras County General Plan**
**Noise Element Update**
**Figure 1-2: Existing Traffic Noise Contours**

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*Figure Prepared April 2014*

# Calaveras County General Plan Update

## Transportation Impact Analysis Report

## Draft

**Prepared for:**
**Calaveras County**

May 2018

FEHR & PEERS

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# CHAPTER 1. INTRODUCTION

This study analyzes the potential impacts to the transportation system associated with adoption of the Calaveras County General Plan Update. The impact analysis examines the vehicular, transit, bicycle, and pedestrian components of the transportation system.

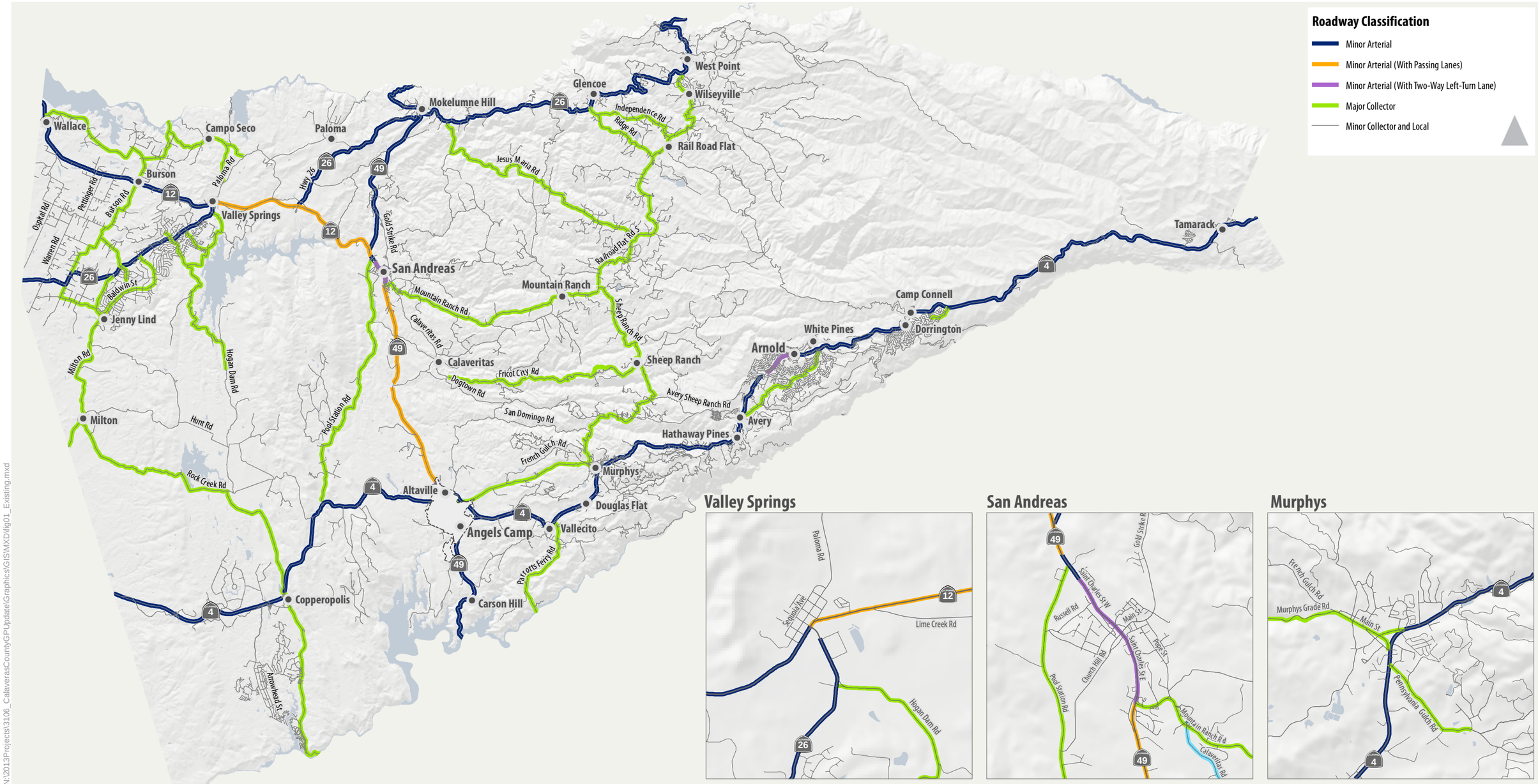
The technical analysis contained in this report will form the basis of the transportation chapter for the Environmental Impact Report (EIR) and includes the analysis of roadway segments within the study area. This report also evaluates policy impacts related to air traffic patterns, hazards, emergency access, transit, bicycle, and pedestrian facilities. The study identifies mitigation measures to address project impacts where appropriate. The methodologies used in this study comply with applicable California Environmental Quality Act (CEQA) guidelines and requirements.

This study analyzes the following scenarios:

- Existing Conditions Analysis – The existing conditions analyses provides a contextual background to the County's transportation system.
- Cumulative (2035) Conditions Analysis **–** The Cumulative (2035) Conditions describes the transportation analysis and identifies potential impacts and mitigation measures associated with adoption of the proposed 2035 General Plan. Transportation modeling and quantitative impact analysis was conducted for 2035 conditions, which account for development under the proposed 2035 General Plan

## STUDY AREA

**Figure 1** shows the existing roadway network functional classification. The project area is Calaveras County and includes the major transportation facilities.




N:\2013Projects\3106_CalaverasCountyGPUpdate\Graphics\GIS\MXD\fig01_Existing.mxd

Figure 1

Existing Circulation System

# ANALYSIS METHODOLOGY

## TRAVEL DEMAND FORECASTING

This study uses a modified version of the most recently adopted Calaveras County travel demand forecasting (TDF) model developed for the Calaveras County 2012 Regional Transportation Plan (RTP) to forecast cumulative (2035) traffic volumes for the General Plan Update.

Before forecasting 2035 conditions, we reviewed the TDF model, the roadway network, and the TAZ detail to confirm appropriateness for application and coding accuracy. Based on this review, we determined that the model had sufficient roadway network detail and TAZs structure for base year validation and subsequent cumulative condition forecasting. Static validation tests consistent with Caltrans' *Travel Forecasting Guidelines* (Caltrans, 1992) and FHWA's *Model Validation and Reasonableness Checking Manual* (FHWA, 1997) were completed to validate the TDF model for the study area.

The 2035 land use allocation was developed using UPlan, which is a simple rule-based growth model develop by the UC Davis. UPlan was developed for regional and county-level modeling. The needed space for each land use type is calculated form simple demographics and assigned based on the net attractiveness of locations to that land use based on user inputs, locations unsuitable for any development, and a general plan that determines where specific types of development are permitted.

The base and future year traffic model land use inputs (by traffic analysis zone) and a summary of the model validation is included in the technical appendix.

## TRAFFIC OPERATIONS

The transportation analysis for the roadway system followed the methodology described below. Conditions for the evening peak hour were evaluated for 66 roadway segments located throughout the County. Roadway segment analysis, using generalized service volume tables is appropriate for long-range analysis, especially in a rural area like Calaveras County that relies on the State Highway System for most regional, sub-regional, and many local trips. The analysis methods and parameters for roadways better match conditions experienced by drives, where the time spent following other vehicles (i.e., ability to pass vehicles) is the primary effect on the driving experience and not delay experienced at intersections. The Highway Capacity Manual (HCM) (Transportation Research Board 2010) identifies that planning analysis, using generalized service volume tables, is appropriate for answering broad issues that include a large number of locations, with a long-range time horizon, for regional performance monitoring.

Utilization of the roadway network was measured by conducting a capacity analysis of major roadway segments. Traffic volumes on the selected roadway segments are used to determine the overall usage. Note that the roadway segment analysis is based on traffic counts taken at a single location or link, which was intended to be representative of the entire segment. A link connects two intersections; a segment is a series of links. The segments used in this analysis were developed based on where a series of links had common physical and traffic conditions.

Traffic capacity on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The LOS grades are generally defined as follows:

- **LOS A** represents free-flow travel with an excellent level of comfort and convenience and the freedom to maneuver.
- **LOS B** has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **LOS C** has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **LOS D** represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **LOS E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **LOS F** is used to define forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion.

The LOS was calculated for each major roadway segment in the County roadway system to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for selected roadway segments, incorporating roadway functional classification, and number of travel lanes, presence of two-way left-turn lanes with peak hour LOS capacity thresholds. These thresholds are shown in **Table 1** and were calculated based on the methodology contained in the HCM. The HCM methodology is the prevailing measurement standard used throughout the United States. The analysis uses the ratio of volume-to-capacity (V/C) to determine roadway segment level of service. Peak hour directional traffic volumes are divided by the roadway type capacity (i.e., volume at LOS E) to calculate the volume-to-capacity (V/C) and to determine level of service for the roadway.

**TABLE 1:**
**ROADWAY CLASS AND PEAK HOUR VOLUME LOS THRESHOLDS (PEAK DIRECTION)**

| Roadway Type | Percent No Passing | Number of Lanes | Peak Hour Level of Service Capacity Thresholds | | |
|---|---|---|---|---|---|
| | | | C or Better | D | E |
| Minor Two-lane Highway | 100% | 2 Lanes | 280 | 655 | 1,330 |
| | 60% | 2 Lanes | 430 | 870 | 1,555 |

| | | | | | |
|---|---|---|---|---|---|
| Major Two-Lane Highway | | 2 Lanes (With Passing Lanes) | 1,140 | 1,300 | 1,580 |
| | 35% | 2 Lanes | 530 | 935 | 1,555 |
| | | 2 Lanes (With Passing Lanes) | 1,190 | 1,330 | 1,580 |
| Arterial | - | 2 Lanes | 490 | 760 | 1,020 |
| | - | 2 Lanes (With TWLTL) | 640 | 1,000 | 1,330 |
| Major Highway | - | 4 Lanes | 2,530 | 3,270 | 3,630 |

Notes:
TWLTL – Two-way left-turn lane
[1]Source: Fehr & Peers 2017.

## ANALYSIS ASSUMPTIONS AND METHODOLOGY LIMITATIONS

### Travel Demand Forecasting Limitations

This study uses a modified version of the Calaveras County travel demand forecasting (TDF) model developed for the Calaveras County 2012 RTP to forecast cumulative (2035) traffic volumes for the General Plan Update. This model was the most current version available at the initiation of the transportation analysis. While this makes the TDF model the most valid and capable tool for forecasting future traffic volumes, the TDF model has some limitations in its application for this study. For example, the model was designed to model traffic for regional planning in Calaveras County and only includes the regional roadway network within Calaveras County. The TDF model does not included roadway network and traffic analysis zone detail in adjacent counties like Amador County, Tuolumne County, and San Joaquin County, and Stanislaus County.

While the model was calibrated and is able to closely replicate existing roadway segment volumes, the model is more limited in its ability to forecast subtle differences in the operational characteristics of the transportation system, particularly congestion experienced at intersections. While the model accounts for segment level congestion, it is more limited in its ability to directly account for changes in routes due to intersection control (stop and signal control), merge conditions, and curve corrections that may result in substantial improvement to conditions experienced by motorists.

To account for some of these limitations, this study uses a process known as the "difference method" to develop traffic volume forecasts. This approach adjusts raw model volume forecasts by adding the forecasted incremental growth from the TDF model to the existing traffic counts.

Traditional TDF models cannot fully capture the benefits of land use, transportation, and urban design policies that reduce travel as measured by vehicle miles traveled (VMT). Extensive research has shown that various planning techniques can reduce vehicle trip, increase non-automobile mode share, reduce trip lengths, and reduce VMT. Increases in development density and intensity are correlated with reduced vehicle trips. Mixing complementary uses in a neighborhood setting increase internal trip "capture." Many different urban design approaches are used to increase transportation connectivity and provide high-quality

bicycle, pedestrian, and transit facilities. This increases the relative attractiveness of non-automobile modes of travel, and can promote travel mode shifts.

#### Traffic Operations Limitations

This study uses analysis methodologies that are consistent with the County's RTP. However, these methodologies have certain limitations. For example, while the development of the roadway segment capacity thresholds in **Table 1** considered the characteristics of the roadways in Calaveras County, such as the percent of no passing zones, the presence of passing lanes, and grade, they are intentionally general and may not be representative of every segment of roadway in the County. In addition, segment-level analysis does not account for the full effect of subtle operational characteristics of intersection traffic control. Also, this methodology does not consider the potential impact on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS thresholds in **Table 1** are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts to other modes such as increasing the walking time for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users.

## REGULATORY SETTING

This section summarizes the transportation policies, laws, and regulations that would apply to the Calaveras County 2035 General Plan. This information provides context for the impact discussion related to the 2035 General Plan's consistency with applicable regulatory conditions.

### FEDERAL

No federal laws, policies, plans, or programs apply directly to the Proposed Project.

The federal Clean Air Act, the Moving Ahead for Progress in the 21st Century Act (MAP-21), and Americans with Disabilities Act (ADA) may have some relevance or influence for individual projects or actions as part of subsequent Draft General Plan implementation.

### STATE

#### Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) and started a process intended to fundamentally change transportation impact analysis as part of California Environmental Quality Act (CEQA) compliance. These changes include the elimination of auto delay, level of service, and other similar measures of vehicle capacity or traffic congestion as a basis for determining significant impacts. The Governor's Office of Planning and Research (OPR) has issued final guidance entitled, Proposed Updates to the CEQA Guidelines (November 2017), covering the specific changes to the CEQA guidelines. The final

guidance recommends elimination of auto delay and level of service for CEQA purposes and the use of Vehicle Miles Traveled, or VMT, as the preferred CEQA transportation metric. SB 743 goes into effect after the new rules are adopted by the Natural Resources Agency.

The updated CEQA Guidelines will apply prospectively only, and would not affect projects that have already commenced environmental review. Statewide application of the new section would not be required until January 1, 2020. Although, public agencies could immediately apply the new Guidelines once adopted.

OPR developed technical advisory that contains recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures. However, lead agencies have the discretion to set or apply their own thresholds of significance. The technical advisory acknowledges that rural areas of noon-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and that significance thresholds may be best determined on a case-by-case basis.

The Calaveras County General Plan Update has not established significance thresholds for CEQA analysis of future projects.

### California Complete Streets Act, AB 1358 (Statutes of 2008)

The California Complete Streets Act requires the legislative body of a city or county, upon revision of the circulation element of their general plan (after January 1, 2011), to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway (i.e., complete streets) including motorists, pedestrians, bicyclists, individuals with disabilities, seniors, and users of public transportation.

### Guides and Plans for Operating Conditions of Caltrans Facilities

For Caltrans facilities, acceptable operating conditions are defined by the *Caltrans Guide for the Preparation of Traffic Impact Studies* (December 2002), the *State Route 4 Transportation Concept Report* (January 2014), the *SR 12 Transportation Concept Report* (January 2012), the *SR 26 Transportation Concept Report* (June 2003), and the *State Route 49 Transportation Corridor Concept Report* (July 2013).

## REGIONAL

### 2017 Calaveras Regional Transportation Plan

The 2017 Regional Transportation Plan serves as the planning blueprint to guide transportation investments in Calaveras County involving local, state, and federal funding.

### 1996 Calaveras County General Plan

The 1996 General Plan includes goals and policies that influence transportation facilities planning, design, and operation. Policy III-7C is the current basis for determining significant roadway impacts in the Calaveras County

- Policy III-7C – Ensure monies are collected to upgrade county roads to the standards of their respective functional service classification.
    - Implementation Measure III-7C-1: Require developers seeking discretionary approval of a project or construction of new multi-family residential, commercial, or industrial development on parcels served by regional county roads at level of service A, B or C to contribute as needed to the road improvement mitigation fund for both the road region and the road serving the subject property.
    - Implementation Measure III-7C-2: When a project is proposed to be located in a road region which includes county roads at level of service D, E, or F on which traffic generated by the project will logically travel, allow the developer the following road improvement options:
        - Defer project consideration until the county road is upgraded to level of service A, B, or C.
        - Construct at developer expense all onsite and offsite improvements necessary to upgrade all county roads impacted by the project to service level A, B, or C.
        - For an improvement district with other property owners in the area to share the cost of upgrading impacted county roads to service level A, B, or C.
    - Implementation Measure III-7C-3: If a developer funds the cost of upgrading a county road to service level A, B, or C, permit execution of an agreement to reimburse the developer for expenses beyond the required proportional share of improvement. Reimbursement may come from fees collected from future developers or future building permits issued in the road region.

The 1996 General Plan also contains goals, policies, and implementation measures addressing other modes but they have not been established as significance thresholds for environmental impact purposes.

### The 2015 Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan

The Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan identifies existing and planned bicycle facilities and is used in the assessment of significant bicycle impacts related to whether projects disrupt existing, or interfere with planned, facilities.

## LOCAL

### Angels Camp 2020 General Plan

Policy 3.A.e identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways. Therefore, LOS D was used as the significance threshold for arterial roadways in the City of Angels Camp.

## SIGNIFICANCE CRITERIA

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in significant adverse impact on the environment. The criteria used to determine the significance of an impact to transportation and traffic are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines. Accordingly, transportation and traffic impacts resulting from the proposed project are considered significant through application of the following thresholds of significance.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- For Calaveras County roadways, acceptable LOS is defined by Policy C 2.2 of the General Plan Update as outlined below.

  Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas, except as specified below, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

  - SR26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.

- For Caltrans roadways, acceptable LOS is defined by the applicable State Highway System Transportation Concept Report. For SR 4, SR 12, and SR 49, LOS C is considered acceptable. For SR 26, LOS D is considered acceptable.

- For the City of Angels, Policy 3.A.e identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways. Therefore, LOS D was used as the significance threshold for arterial roadways in the City of Angels Camp.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

With a population less than 50,000, Calaveras County does not meet the minimum population threshold for an urbanized area that would be required to County to establish a Congestion Management Agency and to prepare a Congestion Management Program. Therefore, no roadway

segments in Calaveras County are subject to standards of a Congestion Management Program. This issue is not discussed further in this document.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

# CHAPTER 2. EXISTING CONDITIONS

This chapter describes the existing travel characteristics and the condition of the roadway, transit, bicycle and pedestrian systems, goods movement, and aviation in the study area. This study uses the existing conditions as the baseline to measure the potential impacts of proposed project.

## TRAVEL CHARACTERISTICS

The automobile is the most widely used mode of transportation in Calaveras County. According to the US Census Bureau, 2014 American Community Survey, about 90 percent of Calaveras County residents work commute by car, truck, or van.[1] The share of commuters that walk or bike to work in the Calaveras County is about three percent. Less than one percent (0.3%) of commuters use public transportation to get to work. Additionally, about seven percent of Calaveras County workers worked at home.

Calaveras County is a net exporter of workers, with about 6,200 workers traveling outside of the county for work. The top three work destinations are San Joaquin County, Amador County, and Tuolumne County, representing the destinations for about 70 percent of workers. The top three origins of workers traveling to Calaveras County for work are Tuolumne County, San Joaquin County, and Amador County, which represents about 80 percent of workers that travel from outside of Calaveras County to work in Calaveras County.

**Table 2** compares home-based work VMT per capita based from the California Household Travel Survey for Calaveras County to neighboring Counties, including Alpine, Amador, El Dorado, Sacramento, San Joaquin, Stanislaus, and Tuolumne. As shown, Calaveras County has the highest HBW VMT per capita of these counties. This is a result of three primary factors, including the number of Jobs in the County, to proximity of households to jobs in the County, and the distance to regional jobs centers (e.g., Sacramento).

**TABLE 2:**
**CALAVERAS COUNTY HOME-BASED WORK (HBW) VMT**

| County | HBW VMT Per Capita |
|---|---|
| Alpine | 3.1 |
| Amador | 6.6 |
| **Calaveras** | **11.1** |
| El Dorado | 6.0 |
| Sacramento | 4.2 |
| San Joaquin | 5.7 |
| Stanislaus | 6.0 |
| Tuolumne | 5.1 |

Notes:
[1] California Household Travel Survey
Source: Fehr & Peers, 2017

[1] U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

# ROADWAY NETWORK

**Figure 1** shows the existing study roadway system. There are about 1,100 miles of maintained roadway in Calaveras County, which includes State Route (SR) 4, SR 12, SR 26, and SR 49. The State Highway System represent about 14 percent of the maintained roadway system, but serve 60 percent of vehicle travel (2015 Highway Performance Monitoring System, FHWA). The following describes the roadway classification used for the General Plan analysis.

- Arterials – Provide mobility of high traffic volumes between various parts of the County. They typically link collectors and local roads to external destinations, and generally have higher speeds and more access control than collectors and local streets. They generally have two travel lanes, periodic passing, climbing lanes, and two-way left-turn lanes, and at-grade intersections.

- Collectors – Provide for relatively short distance travel between arterials, generally have lower speeds and volumes than arterials. Driveway access to collectors is limited less than on arterials. Collectors in the County are two travel lanes.

- Local Roads – Provide direct roadway access to adjacent land uses and serve short distance trips within communities and neighborhoods. Traffic volumes and speeds and local streets are low. Local roadways in the County have two travel lanes.

### State Highways

The State Highways in Calaveras County, operated and maintained by Caltrans, are described below.

State Route 4 is an east/west 2-lane conventional highway that travels between from Stanislaus County (west of Copperopolis) to Alpine County, with an overall length of about 65 miles. SR 4 connects Copperopolis, City of Angels, Vallecito, Murphys, Arnold, and Dorrington.

State Route 12 is an east/west 2-lane conventional highway that travels between from San Joaquin County (near Wallace) to SR 49 in San Andreas, with an overall length of about 20 miles. SR 12 connects Wallace, Valley Springs, and San Andreas.

State Route 26 is an east/west 2-lane conventional highway that travels between from San Joaquin County (west of Valley Springs near Ospital Road) to Amador County (north of West Point), with an overall length of about 45 miles. SR 26 connects Valley Springs, Mokelumne Hill, and West Point.

State Route 49 is a north/south 2-lane conventional highway that travels from Amador County to Tuolumne County, with an overall length of about 30 miles. SR 49 connects Mokelumne Hill, San Andreas, and City of Angels.

# ROADWAY OPERATIONS

The analysis of traffic operations was conducted based on roadway segments representative of the County's overall transportation network. Traffic volumes on the selected roadway segments are used to determine the overall usage. Note that the roadway segment analysis is based on traffic counts taken at a single location or link, which was intended to be representative of the entire segment or series of roadway segments with similar physical and operational characteristics.

Most of the traffic counts for analysis were collected for the Calaveras County 2012 RTP and represent conditions consistent with the 2012 base year travel forecasting model and were collected between 2010 and 2012. More recent counts were used where available from recent transportation analysis studies. Most of the traffic counts were from 24-hour roadway counts and representative of midweek (Tuesday, Wednesday, and Thursday) during non-holiday periods, with schools in session. Other traffic counts were passed on peak period intersection traffic counts that were taken during both the morning (7:00 – 9:00 am) and evening (4:00 – 6:00 pm) peak periods. While these counts were taken over the course of a little more than a two-year period between 2010 and 2012, a review of traffic volumes published on Caltrans' Traffic Census Program[2] shows that traffic volumes between 2011 and 2015 have roughly remained the same or slightly decreased during this time period.

The LOS was calculated for each study roadway segment in the County to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for selected roadway segments with peak hour LOS capacity thresholds from **Table 1**.

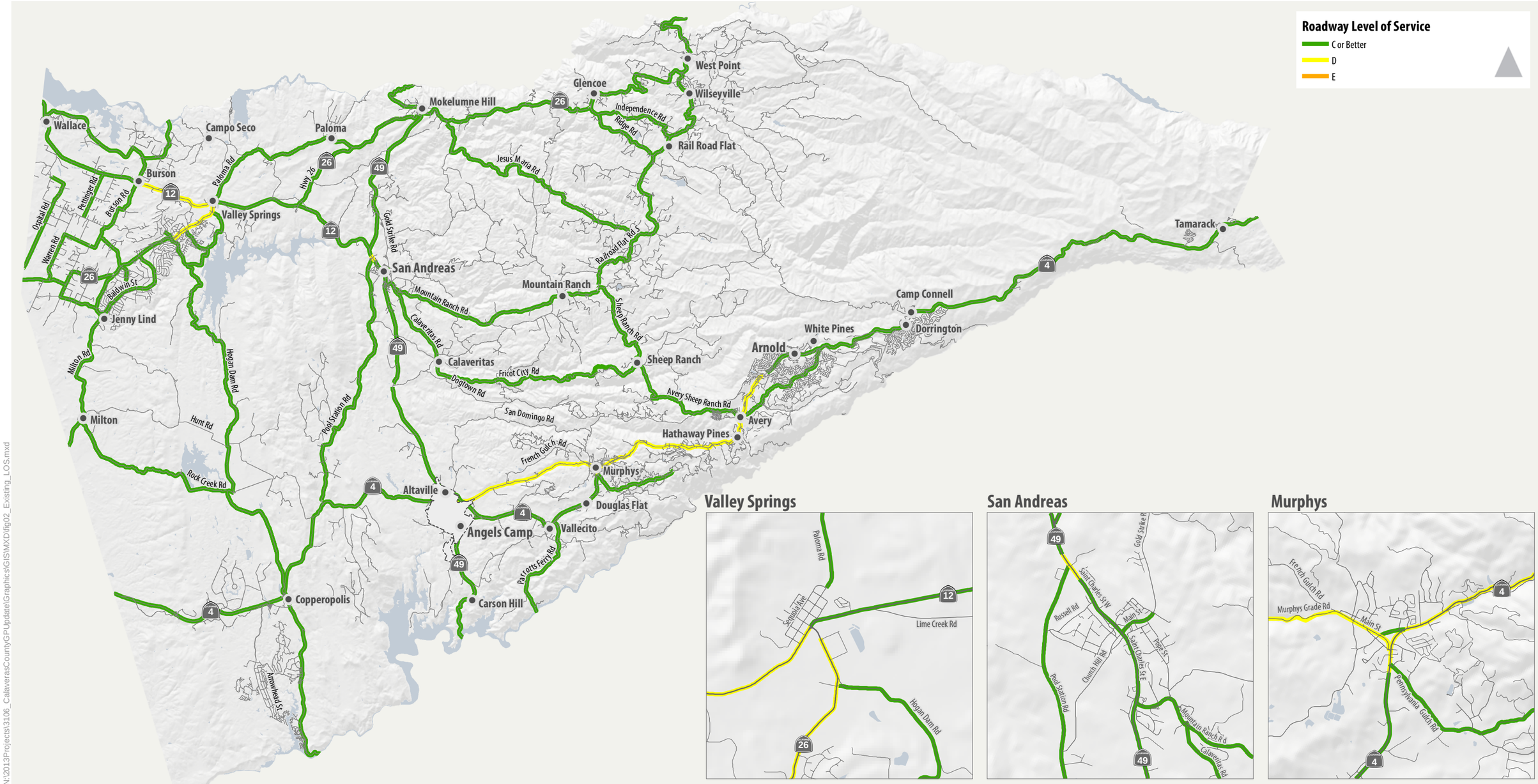
The transportation analysis is based on the PM peak hour because it typically represents the highest hourly volume during a typical weekday. This volume is used to design future roadways because of its regular weekday occurrence. Using a higher or lower volume hour could lead to inadequate designs or designs that are underused.

**Figure 2** shows existing PM peak hour traffic LOS on study roadways. As shown, most study roadway operate acceptably, at LOS C or better, except for the following:

- **Murphys Grade Road** – SR 4 to SR 49 – LOS D
- **SR 4** – Allen Lane to Broadview Lane – LOS D
- **SR 4** – Broadview Lane to Lakemont Drive – LOS D
- **SR 12** – Burson Road to SR 26 – LOS D
- **SR 26** – Silver Rapids Road to SR 12 – LOS D
- **SR 49** – North of Pool Station Road to North of Gold Oak Road – LOS D

[2] http://www.dot.ca.gov/trafficops/census/






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Figure 2

Existing Conditions – PM Peak Hour Level of Service

## TRAFFIC SAFETY

**Table 3** shows recorded automobile collisions for the period between 2010 and 2014 based on Statewide Integrated Traffic Records System (SWITERS) data. For that period, there were about 1,151 collisions. Of the 1,151 collisions, about 63 percent occurred on the State Highway System, which is consistent with the higher use of these facilities discussed above.

**TABLE 3:**
**CALAVERAS COUNTY COLLISION SUMMARY – 2010 THROUGH 2014**

| Collision Summary | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| Total | 275 | 233 | 238 | 188 | 217 |
| Collisions on State Highways | 180 | 151 | 140 | 115 | 134 |
| Fatalities | 11 | 8 | 9 | 7 | 8 |
| **Most Common Primary Collision Factors** | | | | | |
| Unsafe Speed | 78 | 59 | 65 | 46 | 49 |
| Improper Turning | 58 | 40 | 43 | 36 | 65 |
| DUI | 38 | 38 | 43 | 35 | 41 |
| Right-of-Way | 37 | 17 | 20 | 12 | 22 |
| Wrong Side of Road | 36 | 50 | 44 | 43 | 12 |
| **Vehicle Involvement** | | | | | |
| Pedestrian Collision | 5 | 7 | 4 | 3 | 3 |
| Bicycle Collision | 5 | 2 | 3 | 3 | 2 |
| Motorcycle Collision | 60 | 36 | 33 | 29 | 33 |
| Truck Collision | 6 | 2 | 6 | 9 | 6 |

Source: Statewide Integrated Traffic Records System

## PUBLIC TRANSPORTATION

Calaveras Transit provides transit service in Calaveras County and operates the following six routes:

- **Red Line** – The Red Line serves Vista del Lago and Columbia College with stops in Valley Springs, San Andreas, and Angels Camp. Service hours are 5:50 AM to 7:35 PM with 10 daily round trips.
- **Blue Line** – The Blue Line serves Angels Camp, Murphys and Arnold. Service hours are 5:10 AM to 7:52 PM with 5 daily round trips.
- **Green Line** – The Green Line serves West Point, Glencoe, Mokelumne Hill, and San Andreas. Service is provided on Monday and Wednesday from 8:00 AM to 4:25 PM with 3 round trips each day.
- **Purple Line** – The Purple Line serves Mountain Ranch and the City of Jackson (i.e., in Amador County) with a stop in San Andreas. Service hours are 8:02 AM to 6:35 PM with 4 daily round trips. On-Demand service is available at three additional stops on this line.
- **Copper Line** – The Copper Line serves Angels Camp and Copperopolis. Service hours are 6:40 AM to 7:35 PM with 4 daily round trips. On-Demand service is available at the O'Byrnes Ferry Road/Main Street stop.



- **Brown Line** – The Brown Line serves San Andreas, West Point, Mountain Ranch, Rail Road Flat, and Glencoe and is an On-Demand Service. Service hours are 6:35 PM to 8:20 PM

The Saturday Hopper provides service on Saturdays with one round-trip service Valley Springs, San Andreas, Angels Camp, Murphys, and Arnold with 90 minute headways. In addition, the Delta Gold Line provides service serves San Andreas, Valley Springs, La Contenta Plaza, and Stockton with stops at Kaiser Permanente or St. Joseph's Medical Center. Service hours are 7:00 AM and 6:00 PM.

In 2016 (Fiscal Year), Calaveras Transit served about 44,500 passenger trips with about 11,100 vehicle service hours, and 303,600 vehicle service hours.

## BICYCLE AND PEDESTRIAN CIRCULATION

### Bicycle Facilities

Calaveras County has about 22 miles of bikeways and trails, including the City of Angels Camp. The majority of bicycle infrastructure is trails and Class I bike paths. The bicycling facilities are broken down into three classifications, which are each identified below.

- **Class I Bike Paths** are off-street bike paths that are physically separated from roadways.
- **Class II Bike Lanes** are on street facilities marked by pavement striping and typically at least five feet in width.
- **Class III Bike Routes** are on street facilities that share the road with motorized vehicles designated by signs and markings.

### Pedestrian Facilities

Consistent with the rural character of Calaveras County, dedicated pedestrian facilities are limited to developed communities with sidewalks and crossing treatments.

## GOODS MOVEMENT

Trucks provide goods movement in Calaveras County with the State Highway System serving as designated truck routes. All of the State Routes can accommodate California Legal trucks (with some advisory sections). STAA truck, which operate on the National Network, include the following segments:

- **SR 4** – Copperopolis to Stanislaus County.
- **SR 4** – Between SR 49 and Alpine County.
- **SR 49** – Between San Andreas and Vallecito Road (south).
- **SR 12** – Between SR 49 and San Joaquin County.

## AVIATION

The Calaveras County Airport is located on SR 49 between San Andreas and Angels Camp (i.e., about four miles south of San Andreas). Known as Mary Rasmussen Field, this general aviation airport is the only airport in Calaveras County. The airport supports about 32,000 annual flights, or 87 flights per day.

# CHAPTER 3. IMPACT ANALYSIS

This chapter summarizes the potentially significant cumulative impacts of the proposed project on the transportation system. Each impact is followed by a recommended mitigation measure to reduce the significance of identified impacts.

**Impact 1:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System by Resulting in Unacceptable Levels of Service on County-maintained Roadways.** Implementation of the Proposed Project could cause unacceptable LOS conditions on some roadway segments, depending on the analysis scenario. This impact is considered **less than significant** for both the Market-Level and the Proposed General Plan Buildout scenarios.

The Proposed Project includes land use and transportation network changes that would increase future traffic volumes on County roadways. The California Department of Finance, Demographic Research Unit forecasts a total county population of 55,541 persons by 2035, which represents an additional 4,353 dwelling units. The transportation analysis evaluated the following two growth scenarios that include more growth than forecast by the Department of Finance:

- The Market-Level Year 2035 – assumes a growth of 6,374 dwelling units and 1,560 employees.
- General Plan Buildout (Growth Beyond 2035) – assumes a growth of 19,979 dwelling units and 4,889 employees.

**Figures 3** shows the Proposed Project circulation system and **Figure 4** shows the planned roadway expansion to serve forecasted growth through 2035, based on the Market-Level Year 2035 growth scenario. **Table 4** compares existing VMT per day to year 2035 VMT per day for the two growth scenarios when analyzed with the transportation improvements displayed on **Figure 4**.

**TABLE 4:**
**CALAVERAS COUNTY DAILY VMT FORECASTS**

| Scenario | VMT[1] | Population[2] | Employment[3] | VMT/Capita[4] | VMT/Service Population[5] |
|---|---|---|---|---|---|
| Existing | 1,942,500 | 45,578 | 10,020 | 42.6 | 34.9 |
| Market-Level Year 2035 | 2,778,500 | 60,413 | 11,577 | 46.0 | 38.6 |
| General Plan Buildout (Growth Beyond 2035) | 4,027,100 | 117,045 | 14,917 | 34.4 | 30.5 |

Notes:
1 Includes travel from all vehicles. The allocation of VMT includes 100 percent responsibility for all trips with both trip ends in Calaveras County and 50 percent responsibility for trips with only one trip in the County.
2 Population based on project description for the Existing and General Plan Buildout (Growth Beyond 2035) scenarios. The Market-Level Year 2035 population is based on the household growth estimate from UPlan and applying the household population density (i.e., 2.41) from the Existing and General Plan Buildout (Growth Beyond 2035) scenarios.
3 Employment estimates and forecasts based on Calaveras County travel forecasting model land use inputs.
4 VMT Per Capita is calculated by dividing total daily VMT by population. Since the VMT includes VMT generated by commercial vehicles, visitors, and workers/students that live outside Calaveras County, it is not an estimate of the VMT 'generated' per capita for Calaveras residents.

[5] VMT Per Service Population is calculated by dividing total daily VMT by population plus employment. Similar to the VMT per capita metric, this form of VMT include VMT generated by commercial vehicles, visitors, and students that live outside Calaveras County. As such, it is not an estimate of the VMT 'generated' per service population for Calaveras residents and workers.
Source: Fehr & Peers, 2017

As shown in **Table 4**, VMT per capita and VMT per service population will increase compared to existing conditions. Of the two growth scenarios, the General Plan Buildout (Beyond 2035) scenario will result in slightly lower VMT per capita and VMT per service population than the Market-Level Year 2035 scenario. This result is due to placing more population and employment together, which places people closer to jobs, goods, and services.

Roadway LOS results for the Market-Level and General Plan Buildout scenarios are summarized on **Figures 5 and 6**, respectively. The roadway segment analysis results are included in the technical appendix.

Policy C 2.2 of the proposed project has a higher LOS threshold than the 1996 General Plan. For this impact, the Proposed Project LOS results were evaluated to identify locations where the Policy C 2.2 threshold would be exceeded on County-maintained roadways. These locations are listed below for both analysis scenarios.

Market-Level Year 2035

All County-maintained roadways will operate acceptably at LOS C or better under the Market-Level analysis scenario.

General Plan Buildout (Growth Beyond 2035)

All County-maintained roadways outside of Community Areas will operate acceptably at LOS C or better under the General Plan Buildout analysis scenario. **Table 5** compares PM peak hour roadway segment level of service under General Plan Buildout conditions to existing conditions for County-maintained roadways that are forecast to operate at LOS D.

**TABLE 5:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – GENERAL PLAN BUILDOUT (COUNTY-MAINTAINED)**

| | | Existing | | | | Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| Big Trees Road | SR 4 to Main Street | 198 | 0.15 | C | - | 390 | 0.29 | D | 110 |
| O'Byrnes Ferry Road | Reed's Turnpike to County Line | 177 | 0.13 | C | - | 450 | 0.29 | D | 20 |
| Vista del Lago | SR 26 to Hogan Dam Road | 186 | 0.14 | C | - | 350 | 0.26 | D | 70 |

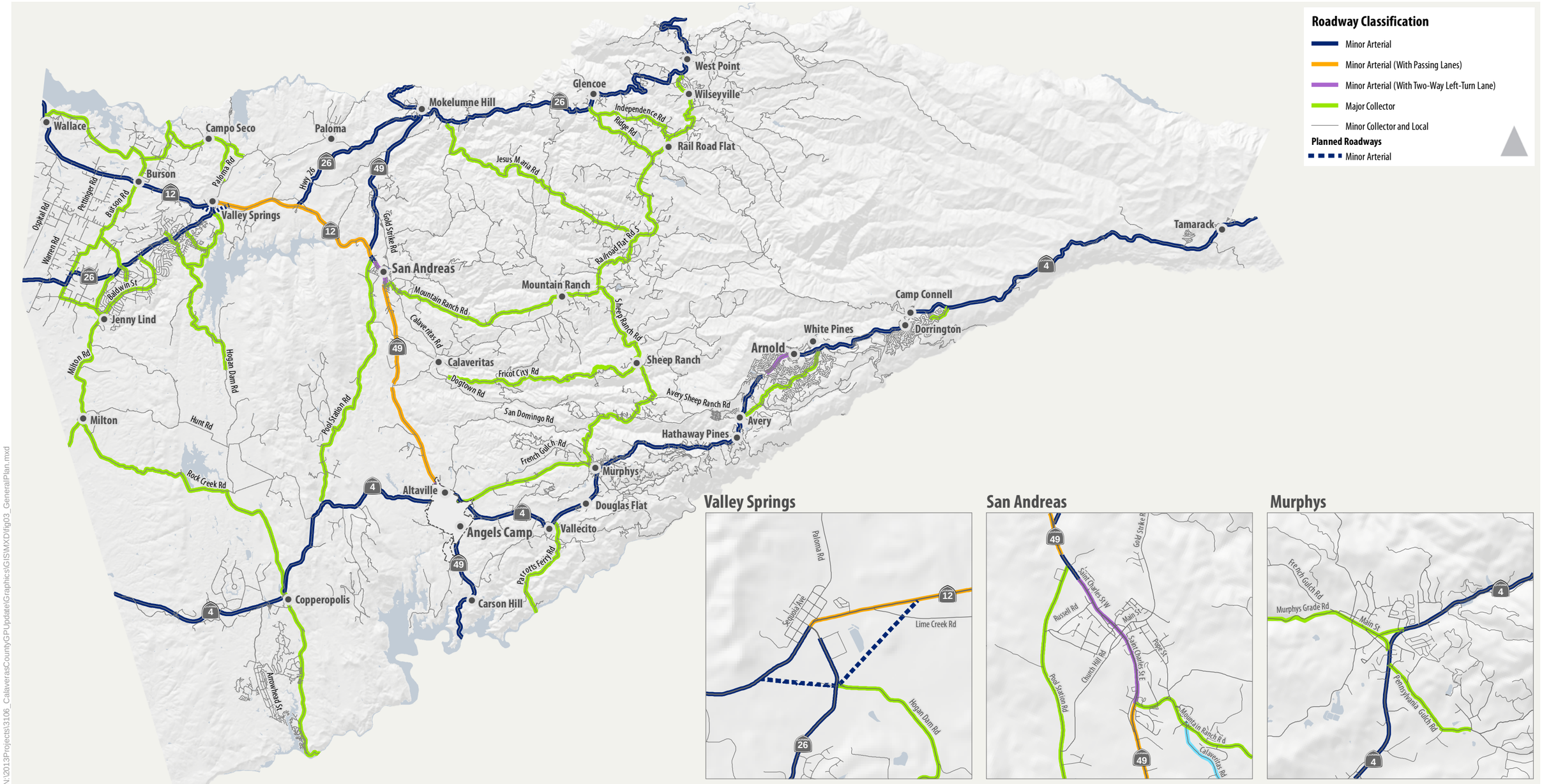
Notes:
Source: Fehr & Peers, 2017

As shown, the following County-maintained roadways in Community Areas will operate at LOS D.

- **Big Trees Road** from SR 4 to Main Street (Murphys) – This segment is forecast to serve 390 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 110 vehicles.
- **O'Byrnes Ferry Road** from Reed's Turnpike to Tuolumne County Line – This segment is forecast to serve 450 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 20 vehicles.
- **Vista del Lago** from SR 26 to Hogan Dam Road – This segment is forecast to serve 350 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 70 vehicles.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impact associated with the Proposed Project.

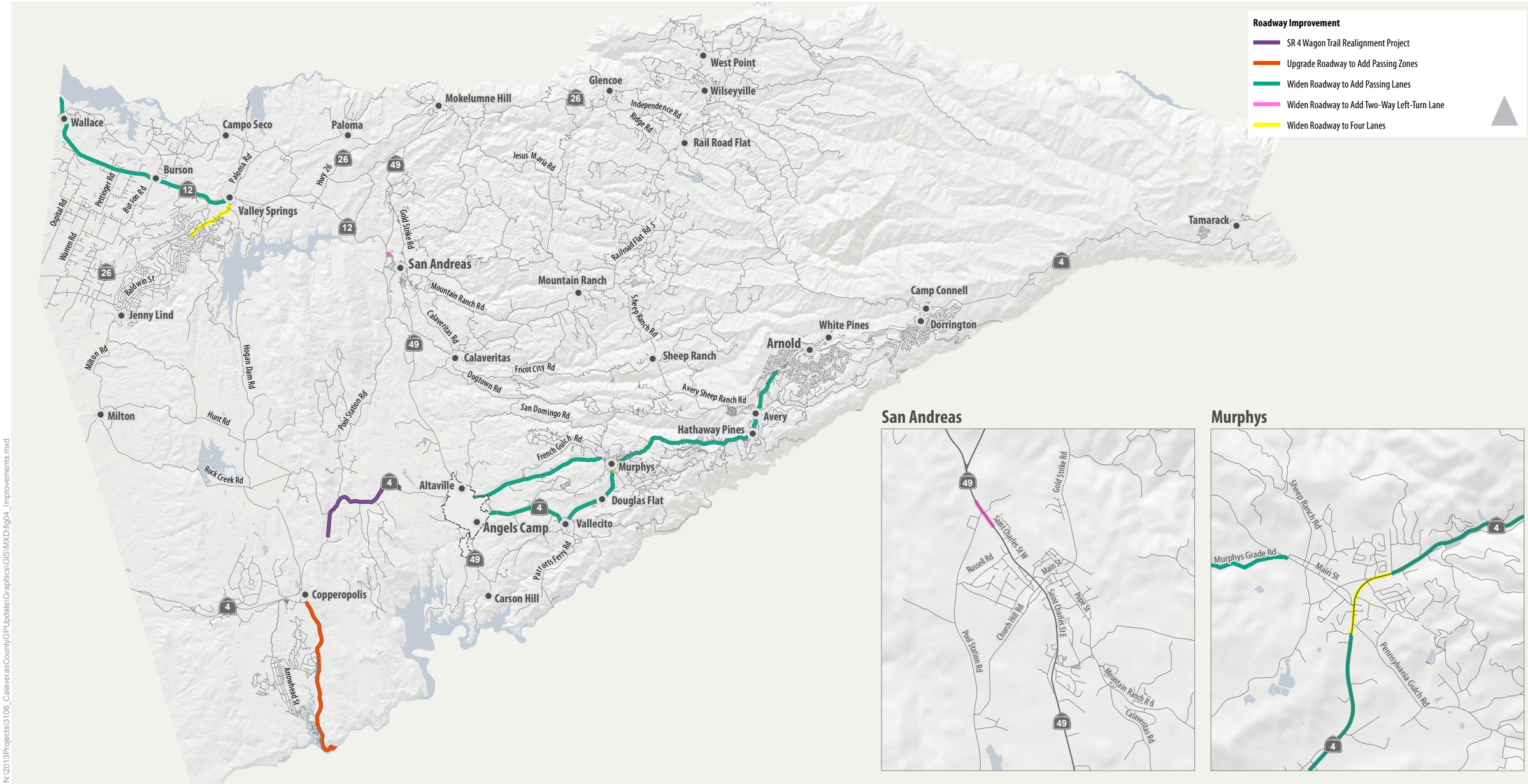
- **Goal C-1** – A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character.
- **Policy C 1.1** – Incorporate the concept of complete streets for planning transportation and development, including operations and maintenance, where feasible and suitable to the rural nature of the county and its topography. (IM C-1A, C-1C and COS-7B)




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Figure 3

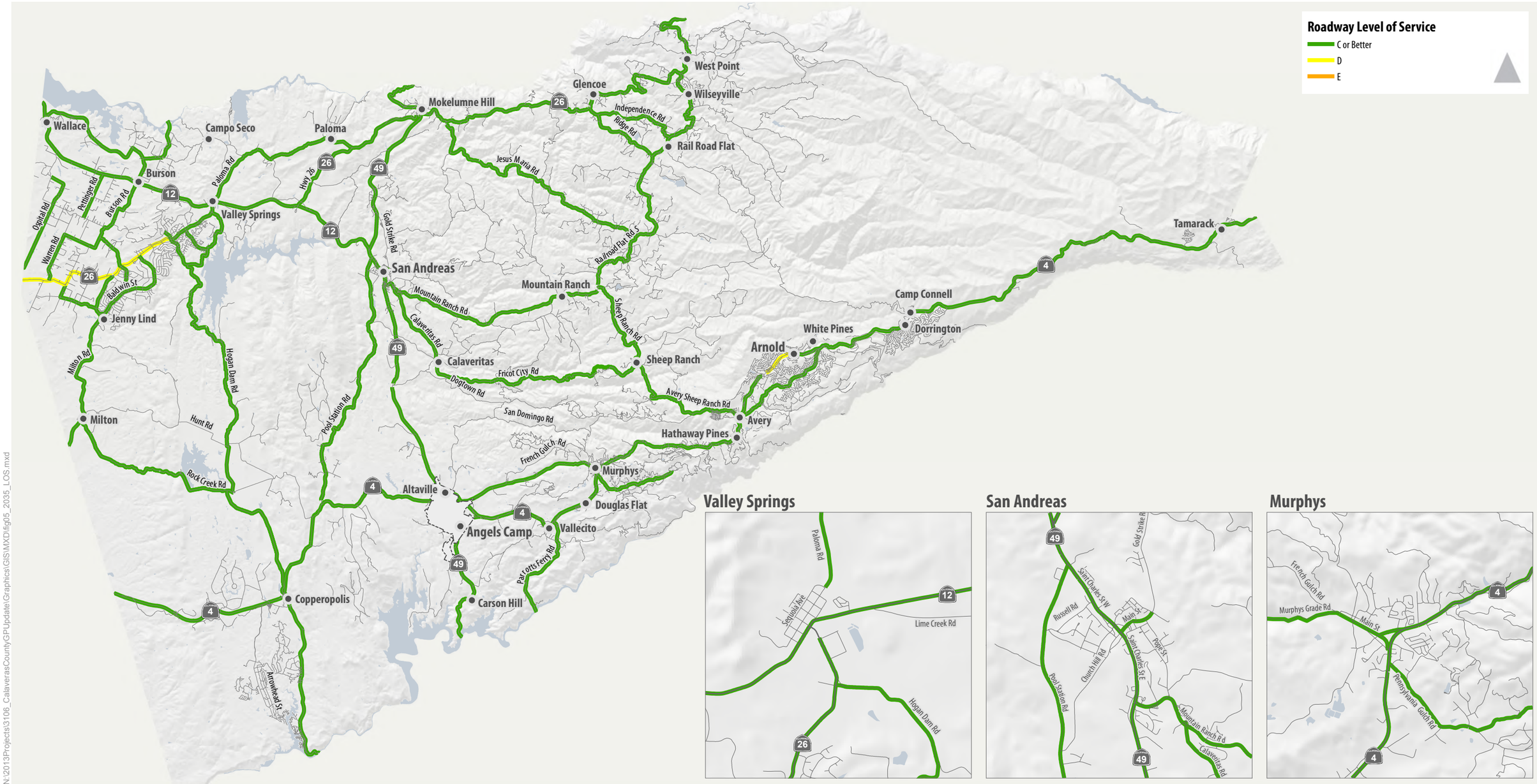
General Plan Circulation System




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Figure 4

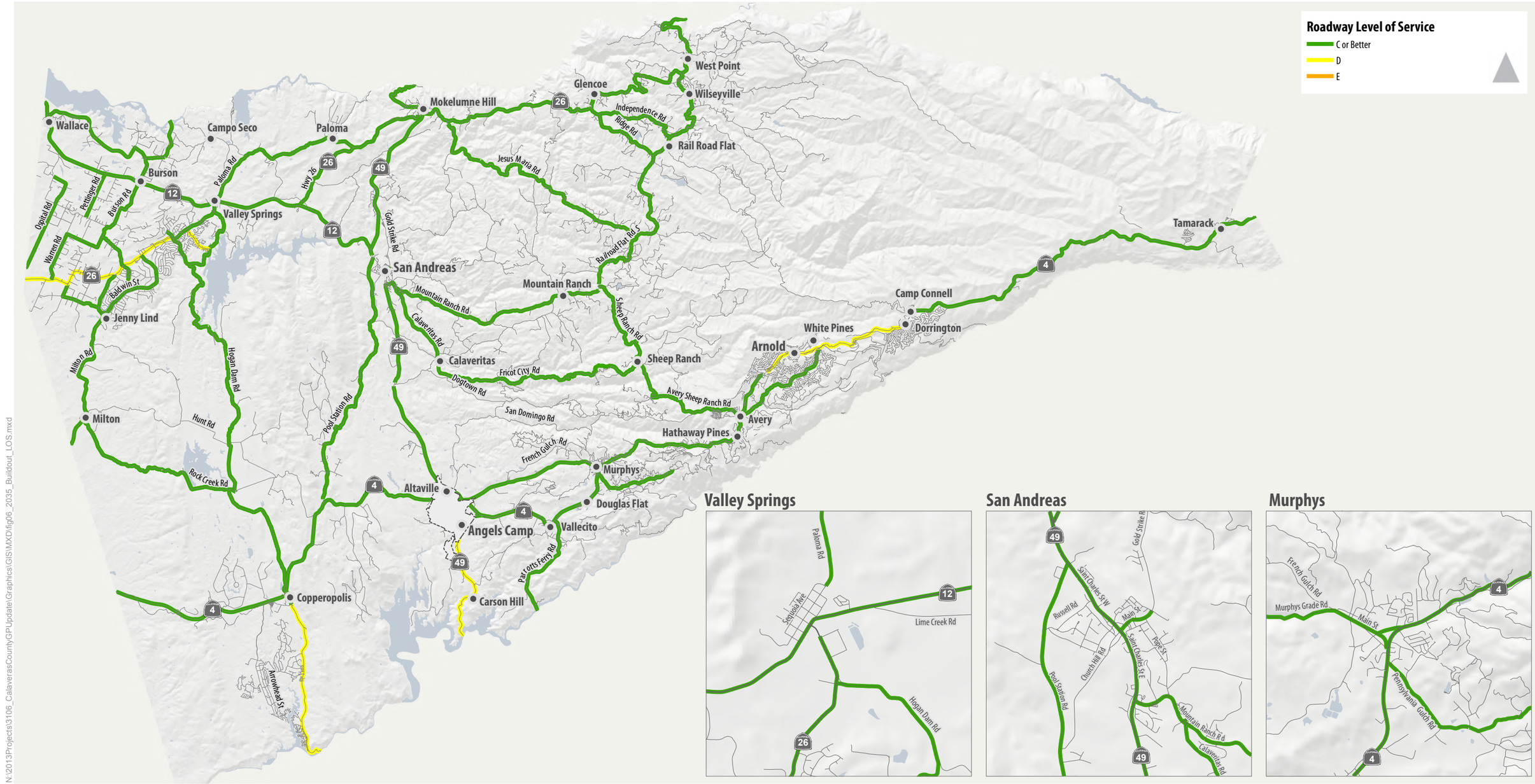
Roadway Expansion to Serve Market-Level Growth Through 2035




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Figure 5

Market-Level Year 2035 – PM Peak Hour Level of Service




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Figure 6

General Plan Buildout (Growth Beyond 2035) – PM Peak Hour Level of Service

- **Policy C 1.3** – Prioritize funding and construction of projects that reduce vehicle miles traveled. (IM C-1A, C-1B, C-1D and COS-5C)

- **Policy C 1.6** – Encourage development that reduces vehicle miles traveled, consistent with the policies of the Land Use Element. (IM C-1A)

- **Goal C-2** – A roadway system that provides safe and efficient access and mobility for Calaveras residents, visitors and businesses and adequately serves existing and planned land uses.

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas, except as specified below, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

    - SR26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

    - Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;

    - Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or

    - Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

- **Goal C-5** – A safe, convenient transportation network for pedestrians, cyclists, and users of other non-motorized modes of transportation that is suitable for the rural nature of the county and its topography.

- **Policy C 5.1 –** Incorporate safe and convenient bicycle and pedestrian access, where feasible, in all transportation improvement projects. (IM C-1A, C-1B and COS-7B)

- **Implementation Measure C-1A (Complete Streets)** – Review the County Municipal Code and Public Works Department Development Manual and incorporate, as appropriate, complete streets design principles such as the following:

    - Balanced design to accommodate walking, cycling, transit, driving, parking, accessibility, drainage, storm water management, emergency vehicle access, snow removal, and deliveries.

- Safe access to public transportation and other non-motorized uses through construction of dedicated paths where appropriate and where right-of-way is available.
- Safe road crossings at major intersections.
- Interconnect roadway networks to expand travel route options and allow short trips to be completed off of arterial roadways.
- Pedestrian and bicycling facilities where appropriate to promote safety and maximize access, including construction of bicycle parking facilities where feasible.

► **Implementation Measure C-1B (Greenhouse Gases)** – When preparing capital improvement plans and reviewing development proposals, the County shall favorably consider projects which minimize greenhouse gas impacts and are appropriate to the rural nature of Calaveras County, including, but not limited to, transit programs, ridesharing programs, bicycle and pedestrian improvements, and maintenance of existing roadways to reduce vehicle emissions.

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity, which would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions.

Market-Level Year 2035

With the implementation of the Proposed Project, this impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

General Plan Buildout (Growth Beyond 2035)

With the implementation of the Proposed Project, this impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 2:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System by Resulting in Unacceptable Levels of Service on Caltrans-Maintained Roadways.** Implementation of the Proposed Project would increase travel and traffic volumes that would result in unacceptable LOS D conditions on SR 4, SR 12, and SR 49. This impact is considered **significant** for both the Market-Level and Proposed General Plan Buildout scenarios.

The Proposed Project includes land use and transportation network changes that would increase future regional traffic volume on SR 4, SR 12, SR 26, and SR 49 under the Market-Level and General Plan Buildout analysis scenarios.

Market-Level Year 2035

**Table 6** compares PM peak hour roadway segment level of service under General Plan Market-Level Year 2035 conditions to existing conditions for Caltrans-maintained roadways that currently operate at LOS D or are forecast to operate at LOS D.

**TABLE 6:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – MARKET-LEVEL YEAR 2035 (CALTRANS-MAINTAINED)**

| | | Existing | | | | Market-Level Year 2035 | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| SR 4 | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,140 | 0.31 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 680 | 0.43 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **650** | **0.49** | **D** | **10** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 730 | 0.46 | C | - |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 490 | 0.32 | D | 60 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,090 | 0.30 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | 620 | 0.47 | C | - |
| | SR 4(W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |

Notes:
**Bold** indicates project impact.
Source: Fehr & Peers, 2017

The increase in traffic is sufficient to result in LOS D operations on the following segments of SR 4, SR 26, and SR 49, listed below for both analysis scenario:

- **SR 4** from Lakemont Drive to Henry Drive – This segment is forecast to serve 650 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 10 vehicles.
- **SR 49** from SR 4 (W) to Murphy's Grade Road – This segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles.

- **SR 49** from Stanislaus Avenue to Mark Twain Road – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 49** from Mark Twain Road to Bret Harte Road – This segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles.

General Plan Buildout (Growth Beyond 2035)

**Table 7** compares PM peak hour roadway segment level of service under General Plan Buildout conditions to existing conditions for County-maintained roadways that are forecast to operate worse than LOS D.

**TABLE 7:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – GENERAL PLAN BUILDOUT (COUNTY-MAINTAINED)**

| | | Existing | | | | Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| SR 4 | Vallecito Road to Kurt Drive | 337 | 0.22 | C | - | **510** | **0.33** | **D** | **80** |
| | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,190 | 0.33 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 820 | 0.52 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **790** | **0.59** | **D** | **150** |
| | Henry drive to Sierra Parkway | 421 | 0.27 | C | - | **470** | **0.30** | **D** | **40** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 950 | 0.60 | C | - |
| | SR 26 to SR 49 | 584 | 0.37 | C | - | **1,210** | **0.77** | **D** | **70** |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 650 | 0.42 | D | 220 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,280 | 0.35 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | **690** | **0.52** | **D** | **50** |
| | Gold Oak Road to Mountain Ranch Road | 522 | 0.39 | C | - | **690** | **0.52** | **D** | **50** |
| | Dogtown Road to SR 4 (W) | 570 | 0.43 | C | - | **700** | **0.53** | **D** | **60** |
| | SR 4 (W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |
| | Bret Harte Road to Vallecito Road | 616 | 0.46 | C | - | **730** | **0.55** | **D** | **90** |
| | SR 4 (S) to County Line | 322 | 0.21 | C | - | **600** | **0.39** | **D** | **70** |

Notes:
**Bold** indicates project impact.
Source: Fehr & Peers, 2017

The increase in traffic is sufficient to result in LOS D operations on the following segments of SR 4, SR 26, and SR 49, listed below for both analysis scenario:

- **SR 4** from Vallecito Road to Kurt Drive – This segment is forecast to serve 510 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 80 vehicles.

- **SR 4** from Lakemont Drive to Henry Drive – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 4** from Henry Drive to Sierra Parkway (Arnold to Dorrington) – This segment is forecast to serve 470 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 40 vehicles.

- **SR 12** from SR 26 to SR 49 – This segment is forecast to serve 1,210 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 1,140 vehicles) by 70 vehicles.

- **SR 49** from Pool Station Road to Gold Oak Road – This segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles.

- **SR 49** from Gold Oak Road to Mountain Ranch Road – This segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles.

- **SR 49** from Dog Town Road to SR 4 (W) – This segment is forecast to serve 700 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 60 vehicles.

- **SR 49** from SR 4 (W) to Murphy's Grade Road – This segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles.

- **SR 49** from Stanislaus Avenue to Mark Twain Road – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 49** from Mark Twain Road to Bret Harte Road – This segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles.

- **SR 49** from Bret Harte Road to SR 4 (S) Vallecito Road– This segment is forecast to serve 730 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 90 vehicles.

- **SR 49** from SR 4 (S) Vallecito Road to Tuolumne County Line – This segment is forecast to serve 600 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 530 vehicles) by 70 vehicles.

The Draft General Plan includes goals, policies, and implementation programs related to LOS, which are discussed under Impact 1. In addition, the following policies and implementation programs related to Caltrans and the State Highway System:

- **Policy C 1.4 –** Coordinate with the Calaveras Council of Governments and Caltrans on the development and maintenance of the regional transportation system. (IM C-1D)

- **Policy C 1.9 –** Consider context sensitive designs, i.e., designs appropriate for the unique characteristics of the community in which it is located, for planned circulation improvements, which are intended to preserve the rural character and historic resources of communities in the County. Alternative designs shall be in accordance with standards adopted or accepted by Caltrans or the County intended to provide a safe and efficient transportation system. (IM C-1A)

- **Implementation Measure C-1D (Circulation and Access Plans)** – Work with CCOG and Caltrans to secure funding for and implementation of comprehensive circulation and access plans for the state highways (i.e., arterial) corridors to ensure that planned development is compatible with current facilities and transportation concept designations.

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity, which would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions. However, LOS D would exceed Caltrans' LOS threshold for SR 4, SR 12, and SR 49. Therefore, this impact is **significant**.

**Mitigation Measure**

Modify Policy C 2.2 as follows for the Market-Level and General Plan Buildout analysis scenarios to allow LOS D on SR 4, SR 12, and SR 49, based on the analysis results outlined above.

<u>The Market-Level Year 2035</u>

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas. Allow the following exceptions on County-maintained roadways outside of Community Areas and on Caltrans-maintained roadways, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

    - **SR 4** from Lakemont Drive to Henry Drive – LOS D
    - **SR 49** from SR 4 (W) to Murphy's Grade Road – LOS D
    - **SR 49** from Stanislaus Avenue to Mark Twain Road – LOS D
    - **SR 49** from Mark Twain Road to Bret Harte Road – LOS D

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

- Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;
- Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or
- Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

General Plan Buildout (Growth Beyond 2035)

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas. Allow the following exceptions on County-maintained roadways outside of Community Areas and on Caltrans-maintained roadways, assuming that roadway safety is addressed consistent with Policy CIR 2.1.
  - **SR 4** from Vallecito Road to Kurt Drive – LOS D
  - **SR 4** from Lakemont Drive to Henry Drive – LOS D
  - **SR 4** from Henry Drive to Sierra Parkway (Arnold to Dorrington) – LOS D
  - **SR 12** from SR 26 to SR 49 – LOS D
  - **SR 49** from North of Pool Station Road to North of Gold Oak Road – LOS D
  - **SR 49** from North of Gold Oak Road to Mountain Ranch Road – LOS D
  - **SR 49** from Dog Town Road to SR 4 (W) – LOS D
  - **SR 49** from SR 4 (W) to Murphy's Grade Road – LOS D
  - **SR 49** from Stanislaus Avenue to Mark Twain Road – LOS D
  - **SR 49** from Mark Twain Road to Bret Harte Road – LOS D
  - **SR 49** from Bret Harte Road to SR 4 (S) Vallecito Road– LOS D
  - **SR 49** from SR 4 (S) Vallecito Road to Tuolumne County Line – LOS D

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:
  - Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;

- Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or
- Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity and would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions. Modification of Policy C 2.2, as outlined above, for either the Market-Level or General Plan Buildout scenarios would further support the County's commitment of providing a safe and efficient transportation system for all users. With these modifications, this impact would be less than significant based on County policy. However, LOS D would still exceed Caltrans' LOS threshold for SR 4, SR 12, and SR 49. Therefore, the County must conservatively acknowledge that this impact would remain **significant and unavoidable**.

**Impact 3:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System Taking into Account All Modes of Transportation.** Implementation of the Proposed Project would not result in conflicts with applicable plans, ordinances ore polices that have not already be discussed in Impacts 1 and 2. This impact is considered **less than significant**.

The Proposed Project addresses competition for space that often occurs between driving, walking, and bicycling by endorsing complete streets.

The Proposed Project changes performance expectations for Calaveras County roadways through Policy C 2.2. This impact was disclosed and addressed under Impact 1. In addition, the Proposed Project would affect performance of the State Highway System. That impact was disclosed under Impacts 2.

For other transportation system components including the bicycle, pedestrian, and transit systems, the Proposed Project does not conflict with existing plans, ordinances, or policies. As explained above, population and employment growth will increase demand for transit, bicycling, and walking in Calaveras County and the Proposed Project's goals and policies are designed to accommodate the increased demand within a complete streets context.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impacts associated with the Proposed Project.

- **Goal C-3** – A safe, effective, and efficient public transportation service that meets the reasonable needs of Calaveras residents.
- **Policy C 3.1 –** Maintain a County transit system and strive to increase service efficiency, availability, and convenience for all residents, employees, and visitors to the degree feasible with available resources. (IM C-3B)

- **Policy C 3.2 –** Encourage the expansion of public transit services to nearby urban areas in order to reduce automotive dependency, access intercity transportation services, and improve mobility for County residents. (IM C-3A, C-3B)
- **Policy C 3.3 –** Strive to develop new attractive, well-maintained, and pedestrian-friendly bus stops, with benches and shelters where warranted, located in high-visibility and heavily used areas. (IM C-3C)
- **Policy C 3.4 –** Encourage the use of public transit, as well as ridesharing, and vanpools. (IM C-3A and C-3C)
- **Policy C 3.5 –** Ensure that new developments incorporate measures into project design that promote the use of alternative modes of transportation. (IM C-3C)
- **Policy C 3.6 –** Coordinate with the City of Angels Camp and adjacent counties to develop the most cost-effective transit program. (IM C-3B)
- **Goal C-5** – A safe, convenient transportation network for pedestrians, cyclists, and users of other non-motorized modes of transportation that is suitable for the rural nature of the county and its topography.
- **Policy C 5.1 –** Incorporate safe and convenient bicycle and pedestrian access, where feasible, in all transportation improvement projects. (IM C-1A, C-1B and COS-7B)
- **Policy C 5.2 –** Bicycle and pedestrian access and circulation shall be designed into new development projects where applicable to enhance internal circulation and interconnectivity with surrounding land uses and to implement any adopted bicycle and/or pedestrian plan. (IM C-1A and COS-7B)
- **Policy C 5.3 –** Safe routes to schools shall be incorporated into new residential projects where appropriate. (IM C-1A and COS 7B)
- **Implementation Measure C-1A (Complete Streets)** – Review the County Municipal Code and Public Works Department Development Manual and incorporate, as appropriate, complete streets design principles such as the following:
    - Balanced design to accommodate walking, cycling, transit, driving, parking, accessibility, drainage, storm water management, emergency vehicle access, snow removal, and deliveries.
    - Safe access to public transportation and other non-motorized uses through construction of dedicated paths where appropriate and where right-of-way is available.
    - Safe road crossings at major intersections.
    - Interconnect roadway networks to expand travel route options and allow short trips to be completed off of arterial roadways.
    - Pedestrian and bicycling facilities where appropriate to promote safety and maximize access, including construction of bicycle parking facilities where feasible.



- **Implementation Measure C-1C (Transportation Alternatives in Impact Fees)** – Consider transit capital improvements and non-auto travel improvements necessary to serve new development in impact fee programs to fund public transportation infrastructure, park-and-ride lots, and bicycle and pedestrian facilities associated with the new development.

- **Implementation Measure C-2B (Transportation Impact Study Guidelines)** – Develop and adopt transportation impact study (TIS) guidelines that consider all modes of travel and define, at a minimum, the need for transportation impact studies, analysis methodology and CEQA significance criteria.

- **Implementation Measure C-3A (Park-and-Ride Facilities)** – As funding allows, designate and implement appropriate "Park and Ride" facilities, and promote ridesharing programs.

- **Implementation Measure C-3B (Transit Planning)** – Work with the Calaveras County Council of Governments and City of Angels Camp to update the annual Unmet Transit Needs Report and to periodically review and update the short-range transit plan.

- **Implementation Measure C-3C (Transit Stops)** – Coordinate with Calaveras Transit when reviewing development projects to determine if transit stops or other public transit facilities should be incorporated into the design of the project.

- **Implementation Measure C-5A (Bicycle and Pedestrian Plans)** – Update the bicycle and pedestrian master plan and implement the priority projects in those documents as funding allows. The County shall pursue available federal, state, and local funding for construction and maintenance of non-motorized transportation facilities.

The Draft General Plan contains numerous goals, policies, implementation programs, strategies, and actions that are largely taken directly or derived from these adopted plans with regards to transit, bicycling, and walking. Further, this update to the General Plan complies with Assembly Bill (AB) 1358 requiring cities and counties to include a complete streets policy in their general plans, which stresses balance and compatibility across modes. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 4:** **Result in Changes to Air Traffic Patterns.** Implementation of the Proposed Project includes land use changes that would have only a limited influence on air traffic patterns. This impact is considered **less than significant**.

The Proposed Project will change land use patterns but not to a degree that would affect existing air traffic patterns or that would allow future air traffic patterns to conflict with the County's planned growth, so and would not be incompatible with aviation the County's aviation facilities and their operation.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impacts associated with the Proposed Project.

- **Goal C 4 –** A safe and efficient aviation system that enhances safety to the public, minimizes the adverse effects of operations on people, and promotes economic health.

- **Policy C 4.1 –** Prevent new land uses and zoning surrounding the Calaveras County Airport that would create future land use conflicts. (IM C-4B)
- **Policy C 4.2 –** Private airports and airstrips may be permitted by Conditional Use Permit when safe and compatible with neighboring land uses and the Airport Land Use Compatibility Plan. (IM C-4A)
- **Policy C 4.3 –** Enhance the Calaveras County Airport operations to increase economic benefits of airport operations and maximize use of airport property consistent with the Airport Land Use Compatibility Plan. (IM C-4C)
- **Implementation Measure C-4A (Private Airstrip Standards)** – Amend the zoning ordinance to provide following criteria for private airstrips:
    - Within a rural area of the county;
    - Not within an existing residential subdivision;
    - Compatible with adjoining existing and potential land uses;
    - Compliant with the Calaveras County Airport Land Use Compatibility Plan;
    - Compliant with County noise and safety policies; and
    - Compliant with the standards of the Airport Overflight and Noise Impact Area Zone and Airport Height Limitation Zone.
- **Implementation Measure C-4B (Airport Land Use Compatibility Plan)** – Implement the Airport Land Use Compatibility Plan when reviewing land use proposals within the airport influence area.
- **Implementation Measure C-4C (Use of Airport Land)** – Promote the use of airport land to attract and retain airport-appropriate land uses consistent with the Airport Land Use Compatibility Plan.

The Proposed Project includes policies intended to avoid or minimize any compatibility issues between urban development within the County and airport facilities including air traffic flight patterns. Draft General Plan Implementation Measure C-4B identifies the need to implement the Airport Land Use Compatibility Plan when reviewing land use proposals within the airport influence area. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 5:** **Substantially Increase Hazards Due to Design Features.** Implementation of the Proposed Project will modify the existing transportation network to accommodate existing and future users that could change existing travel patterns or traveler expectations. This impact is considered **less than significant**.

The Proposed Project will modify the existing transportation network generally to expand existing facilities or to construct new facilities to accommodate planned population and employment growth.

Calaveras County already requires the modification of existing public facilities or the construction of new facilities to comply with applicable design standards, which have been developed to minimize the potential for conflicts or collisions. This standard practice would minimize this impact.

The Proposed Project would not increase hazards due to design features of transportation facilities. All existing facility modifications and new facilities resulting from the circulation diagram proposed improvements would be constructed to applicable design standards that have been developed to minimize the potential for conflicts or collisions. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 6:** **Result in Inadequate Emergency Access.** Implementation of the Proposed Project will alter land use patterns and increase travel demand on the transportation network that may influence emergency access. This impact is considered **less than significant**.

The Proposed Project will modify the existing transportation network generally to expand existing facilities or to construct new facilities to accommodate planned population and employment growth.

The Draft General Plan includes goals, policies, and implementation programs related to the performance of roadways, which are discussed under Impact 1. In addition, the Draft General Plan includes the following goals and policies that would reduce the impact of new development on emergency access.

- **Policy C 1.8 –** Safety shall be the primary factor in prioritizing circulation system improvements and evaluating the ability of the County-maintained roadway system to accommodate traffic growth from new development. (IM C-1A and C-1E)
- **Policy C 2.14 –** New development above 3,000 feet in elevation shall be designed to accommodate snow conditions, including but not limited to maximum grade, and snow removal and storage requirements. (IM C-1F)
- **Implementation Measure C-1F (Design for Snow)** – Review and amend the Public Works Department Development Manual to address snow-area development standards. Standards shall address snow storage, maximum road grade, and surfacing requirements to accommodate snow removal.

The Proposed Project contains policies that are designed to ensure adequate facilities and services are provided for under daily and emergency response conditions. Responsibility for building and maintaining adequate facilities extends to development projects through these policies to ensure that changes to facilities and services are planned in accordance with growth over time. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 7:** **Result in Potential Conflicts with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of Such Facilities**. Implementation of the Proposed Project would not result in



conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. The impact is considered **less than significant.**

The Proposed Project does not conflict with adopted policies, plans, or programs for transit, bicycle, or pedestrian facilities nor would it adversely affect performance or safety of such facilities. The Proposed Project contains provisions that will enhance these modes to encourage greater use of transit and more walking and bicycling in the future. All new facilities contained in the circulation diagram would be constructed to applicable design standards that have been created to minimize the potential for conflicts or collisions.

The Draft General Plan includes goals, policies, and implementation programs related to improving the bike, pedestrian, and transit networks, which are discussed under Impacts 1, 2, and 3.

The Proposed Project goals and policies are designed to accommodate the new travel demand by providing adequate facilities and services including complete streets. Implementation of the Proposed Project would not disrupt any existing, or interfere with any planned, transit, bicycle, or pedestrian facilities or services. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

# Calaveras County General Plan Update

## Transportation Impact Analysis Report

## Draft

**Prepared for:**
**Calaveras County**

May 2018

FEHR & PEERS

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# CHAPTER 1. INTRODUCTION

This study analyzes the potential impacts to the transportation system associated with adoption of the Calaveras County General Plan Update. The impact analysis examines the vehicular, transit, bicycle, and pedestrian components of the transportation system.

The technical analysis contained in this report will form the basis of the transportation chapter for the Environmental Impact Report (EIR) and includes the analysis of roadway segments within the study area. This report also evaluates policy impacts related to air traffic patterns, hazards, emergency access, transit, bicycle, and pedestrian facilities. The study identifies mitigation measures to address project impacts where appropriate. The methodologies used in this study comply with applicable California Environmental Quality Act (CEQA) guidelines and requirements.

This study analyzes the following scenarios:

- Existing Conditions Analysis – The existing conditions analyses provides a contextual background to the County's transportation system.
- Cumulative (2035) Conditions Analysis **–** The Cumulative (2035) Conditions describes the transportation analysis and identifies potential impacts and mitigation measures associated with adoption of the proposed 2035 General Plan. Transportation modeling and quantitative impact analysis was conducted for 2035 conditions, which account for development under the proposed 2035 General Plan

## STUDY AREA

**Figure 1** shows the existing roadway network functional classification. The project area is Calaveras County and includes the major transportation facilities.

**Figure 1 Existing Circulation System**

# ANALYSIS METHODOLOGY

## TRAVEL DEMAND FORECASTING

This study uses a modified version of the most recently adopted Calaveras County travel demand forecasting (TDF) model developed for the Calaveras County 2012 Regional Transportation Plan (RTP) to forecast cumulative (2035) traffic volumes for the General Plan Update.

Before forecasting 2035 conditions, we reviewed the TDF model, the roadway network, and the TAZ detail to confirm appropriateness for application and coding accuracy. Based on this review, we determined that the model had sufficient roadway network detail and TAZs structure for base year validation and subsequent cumulative condition forecasting. Static validation tests consistent with Caltrans' *Travel Forecasting Guidelines* (Caltrans, 1992) and FHWA's *Model Validation and Reasonableness Checking Manual* (FHWA, 1997) were completed to validate the TDF model for the study area.

The 2035 land use allocation was developed using UPlan, which is a simple rule-based growth model develop by the UC Davis. UPlan was developed for regional and county-level modeling. The needed space for each land use type is calculated form simple demographics and assigned based on the net attractiveness of locations to that land use based on user inputs, locations unsuitable for any development, and a general plan that determines where specific types of development are permitted.

The base and future year traffic model land use inputs (by traffic analysis zone) and a summary of the model validation is included in the technical appendix.

## TRAFFIC OPERATIONS

The transportation analysis for the roadway system followed the methodology described below. Conditions for the evening peak hour were evaluated for 66 roadway segments located throughout the County. Roadway segment analysis, using generalized service volume tables is appropriate for long-range analysis, especially in a rural area like Calaveras County that relies on the State Highway System for most regional, sub-regional, and many local trips. The analysis methods and parameters for roadways better match conditions experienced by drives, where the time spent following other vehicles (i.e., ability to pass vehicles) is the primary effect on the driving experience and not delay experienced at intersections. The Highway Capacity Manual (HCM) (Transportation Research Board 2010) identifies that planning analysis, using generalized service volume tables, is appropriate for answering broad issues that include a large number of locations, with a long-range time horizon, for regional performance monitoring.

Utilization of the roadway network was measured by conducting a capacity analysis of major roadway segments. Traffic volumes on the selected roadway segments are used to determine the overall usage. Note that the roadway segment analysis is based on traffic counts taken at a single location or link, which was intended to be representative of the entire segment. A link connects two intersections; a segment is a series of links. The segments used in this analysis were developed based on where a series of links had common physical and traffic conditions.

Traffic capacity on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The LOS grades are generally defined as follows:

- **LOS A** represents free-flow travel with an excellent level of comfort and convenience and the freedom to maneuver.
- **LOS B** has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **LOS C** has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **LOS D** represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **LOS E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **LOS F** is used to define forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion.

The LOS was calculated for each major roadway segment in the County roadway system to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for selected roadway segments, incorporating roadway functional classification, and number of travel lanes, presence of two-way left-turn lanes with peak hour LOS capacity thresholds. These thresholds are shown in **Table 1** and were calculated based on the methodology contained in the HCM. The HCM methodology is the prevailing measurement standard used throughout the United States. The analysis uses the ratio of volume-to-capacity (V/C) to determine roadway segment level of service. Peak hour directional traffic volumes are divided by the roadway type capacity (i.e., volume at LOS E) to calculate the volume-to-capacity (V/C) and to determine level of service for the roadway.

**TABLE 1:**
**ROADWAY CLASS AND PEAK HOUR VOLUME LOS THRESHOLDS (PEAK DIRECTION)**

| Roadway Type | Percent No Passing | Number of Lanes | Peak Hour Level of Service Capacity Thresholds | | |
|---|---|---|---|---|---|
| | | | C or Better | D | E |
| Minor Two-lane Highway | 100% | 2 Lanes | 280 | 655 | 1,330 |
| | 60% | 2 Lanes | 430 | 870 | 1,555 |

| | | | | | |
|---|---|---|---|---|---|
| Major Two-Lane Highway | | 2 Lanes (With Passing Lanes) | 1,140 | 1,300 | 1,580 |
| | 35% | 2 Lanes | 530 | 935 | 1,555 |
| | | 2 Lanes (With Passing Lanes) | 1,190 | 1,330 | 1,580 |
| Arterial | - | 2 Lanes | 490 | 760 | 1,020 |
| | - | 2 Lanes (With TWLTL) | 640 | 1,000 | 1,330 |
| Major Highway | - | 4 Lanes | 2,530 | 3,270 | 3,630 |

Notes:
TWLTL – Two-way left-turn lane
[1]Source: Fehr & Peers 2017.

## ANALYSIS ASSUMPTIONS AND METHODOLOGY LIMITATIONS

### Travel Demand Forecasting Limitations

This study uses a modified version of the Calaveras County travel demand forecasting (TDF) model developed for the Calaveras County 2012 RTP to forecast cumulative (2035) traffic volumes for the General Plan Update. This model was the most current version available at the initiation of the transportation analysis. While this makes the TDF model the most valid and capable tool for forecasting future traffic volumes, the TDF model has some limitations in its application for this study. For example, the model was designed to model traffic for regional planning in Calaveras County and only includes the regional roadway network within Calaveras County. The TDF model does not included roadway network and traffic analysis zone detail in adjacent counties like Amador County, Tuolumne County, and San Joaquin County, and Stanislaus County.

While the model was calibrated and is able to closely replicate existing roadway segment volumes, the model is more limited in its ability to forecast subtle differences in the operational characteristics of the transportation system, particularly congestion experienced at intersections. While the model accounts for segment level congestion, it is more limited in its ability to directly account for changes in routes due to intersection control (stop and signal control), merge conditions, and curve corrections that may result in substantial improvement to conditions experienced by motorists.

To account for some of these limitations, this study uses a process known as the "difference method" to develop traffic volume forecasts. This approach adjusts raw model volume forecasts by adding the forecasted incremental growth from the TDF model to the existing traffic counts.

Traditional TDF models cannot fully capture the benefits of land use, transportation, and urban design policies that reduce travel as measured by vehicle miles traveled (VMT). Extensive research has shown that various planning techniques can reduce vehicle trip, increase non-automobile mode share, reduce trip lengths, and reduce VMT. Increases in development density and intensity are correlated with reduced vehicle trips. Mixing complementary uses in a neighborhood setting increase internal trip "capture." Many different urban design approaches are used to increase transportation connectivity and provide high-quality

bicycle, pedestrian, and transit facilities. This increases the relative attractiveness of non-automobile modes of travel, and can promote travel mode shifts.

#### Traffic Operations Limitations

This study uses analysis methodologies that are consistent with the County's RTP. However, these methodologies have certain limitations. For example, while the development of the roadway segment capacity thresholds in **Table 1** considered the characteristics of the roadways in Calaveras County, such as the percent of no passing zones, the presence of passing lanes, and grade, they are intentionally general and may not be representative of every segment of roadway in the County. In addition, segment-level analysis does not account for the full effect of subtle operational characteristics of intersection traffic control. Also, this methodology does not consider the potential impact on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS thresholds in **Table 1** are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts to other modes such as increasing the walking time for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users.

## REGULATORY SETTING

This section summarizes the transportation policies, laws, and regulations that would apply to the Calaveras County 2035 General Plan. This information provides context for the impact discussion related to the 2035 General Plan's consistency with applicable regulatory conditions.

### FEDERAL

No federal laws, policies, plans, or programs apply directly to the Proposed Project.

The federal Clean Air Act, the Moving Ahead for Progress in the 21st Century Act (MAP-21), and Americans with Disabilities Act (ADA) may have some relevance or influence for individual projects or actions as part of subsequent Draft General Plan implementation.

### STATE

#### Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) and started a process intended to fundamentally change transportation impact analysis as part of California Environmental Quality Act (CEQA) compliance. These changes include the elimination of auto delay, level of service, and other similar measures of vehicle capacity or traffic congestion as a basis for determining significant impacts. The Governor's Office of Planning and Research (OPR) has issued final guidance entitled, Proposed Updates to the CEQA Guidelines (November 2017), covering the specific changes to the CEQA guidelines. The final

guidance recommends elimination of auto delay and level of service for CEQA purposes and the use of Vehicle Miles Traveled, or VMT, as the preferred CEQA transportation metric. SB 743 goes into effect after the new rules are adopted by the Natural Resources Agency.

The updated CEQA Guidelines will apply prospectively only, and would not affect projects that have already commenced environmental review. Statewide application of the new section would not be required until January 1, 2020. Although, public agencies could immediately apply the new Guidelines once adopted.

OPR developed technical advisory that contains recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures. However, lead agencies have the discretion to set or apply their own thresholds of significance. The technical advisory acknowledges that rural areas of noon-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and that significance thresholds may be best determined on a case-by-case basis.

The Calaveras County General Plan Update has not established significance thresholds for CEQA analysis of future projects.

### California Complete Streets Act, AB 1358 (Statutes of 2008)

The California Complete Streets Act requires the legislative body of a city or county, upon revision of the circulation element of their general plan (after January 1, 2011), to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway (i.e., complete streets) including motorists, pedestrians, bicyclists, individuals with disabilities, seniors, and users of public transportation.

### Guides and Plans for Operating Conditions of Caltrans Facilities

For Caltrans facilities, acceptable operating conditions are defined by the *Caltrans Guide for the Preparation of Traffic Impact Studies* (December 2002), the *State Route 4 Transportation Concept Report* (January 2014), the *SR 12 Transportation Concept Report* (January 2012), the *SR 26 Transportation Concept Report* (June 2003), and the *State Route 49 Transportation Corridor Concept Report* (July 2013).

## REGIONAL

### 2017 Calaveras Regional Transportation Plan

The 2017 Regional Transportation Plan serves as the planning blueprint to guide transportation investments in Calaveras County involving local, state, and federal funding.

### 1996 Calaveras County General Plan

The 1996 General Plan includes goals and policies that influence transportation facilities planning, design, and operation. Policy III-7C is the current basis for determining significant roadway impacts in the Calaveras County

- Policy III-7C – Ensure monies are collected to upgrade county roads to the standards of their respective functional service classification.
    - Implementation Measure III-7C-1: Require developers seeking discretionary approval of a project or construction of new multi-family residential, commercial, or industrial development on parcels served by regional county roads at level of service A, B or C to contribute as needed to the road improvement mitigation fund for both the road region and the road serving the subject property.
    - Implementation Measure III-7C-2: When a project is proposed to be located in a road region which includes county roads at level of service D, E, or F on which traffic generated by the project will logically travel, allow the developer the following road improvement options:
        - Defer project consideration until the county road is upgraded to level of service A, B, or C.
        - Construct at developer expense all onsite and offsite improvements necessary to upgrade all county roads impacted by the project to service level A, B, or C.
        - For an improvement district with other property owners in the area to share the cost of upgrading impacted county roads to service level A, B, or C.
    - Implementation Measure III-7C-3: If a developer funds the cost of upgrading a county road to service level A, B, or C, permit execution of an agreement to reimburse the developer for expenses beyond the required proportional share of improvement. Reimbursement may come from fees collected from future developers or future building permits issued in the road region.

The 1996 General Plan also contains goals, policies, and implementation measures addressing other modes but they have not been established as significance thresholds for environmental impact purposes.

### The 2015 Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan

The Calaveras County Regional Bicycle, Pedestrian and Safe Routes to School Master Plan identifies existing and planned bicycle facilities and is used in the assessment of significant bicycle impacts related to whether projects disrupt existing, or interfere with planned, facilities.

## LOCAL

### Angels Camp 2020 General Plan

Policy 3.A.e identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways. Therefore, LOS D was used as the significance threshold for arterial roadways in the City of Angels Camp.

## SIGNIFICANCE CRITERIA

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in significant adverse impact on the environment. The criteria used to determine the significance of an impact to transportation and traffic are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines. Accordingly, transportation and traffic impacts resulting from the proposed project are considered significant through application of the following thresholds of significance.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- For Calaveras County roadways, acceptable LOS is defined by Policy C 2.2 of the General Plan Update as outlined below.

  Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas, except as specified below, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

  - SR26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.

- For Caltrans roadways, acceptable LOS is defined by the applicable State Highway System Transportation Concept Report. For SR 4, SR 12, and SR 49, LOS C is considered acceptable. For SR 26, LOS D is considered acceptable.

- For the City of Angels, Policy 3.A.e identifies LOS D as the minimum acceptable LOS for the intersections of local roadways with arterial roadways. Therefore, LOS D was used as the significance threshold for arterial roadways in the City of Angels Camp.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

With a population less than 50,000, Calaveras County does not meet the minimum population threshold for an urbanized area that would be required to County to establish a Congestion Management Agency and to prepare a Congestion Management Program. Therefore, no roadway

segments in Calaveras County are subject to standards of a Congestion Management Program. This issue is not discussed further in this document.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

# CHAPTER 2. EXISTING CONDITIONS

This chapter describes the existing travel characteristics and the condition of the roadway, transit, bicycle and pedestrian systems, goods movement, and aviation in the study area. This study uses the existing conditions as the baseline to measure the potential impacts of proposed project.

## TRAVEL CHARACTERISTICS

The automobile is the most widely used mode of transportation in Calaveras County. According to the US Census Bureau, 2014 American Community Survey, about 90 percent of Calaveras County residents work commute by car, truck, or van.[1] The share of commuters that walk or bike to work in the Calaveras County is about three percent. Less than one percent (0.3%) of commuters use public transportation to get to work. Additionally, about seven percent of Calaveras County workers worked at home.

Calaveras County is a net exporter of workers, with about 6,200 workers traveling outside of the county for work. The top three work destinations are San Joaquin County, Amador County, and Tuolumne County, representing the destinations for about 70 percent of workers. The top three origins of workers traveling to Calaveras County for work are Tuolumne County, San Joaquin County, and Amador County, which represents about 80 percent of workers that travel from outside of Calaveras County to work in Calaveras County.

**Table 2** compares home-based work VMT per capita based from the California Household Travel Survey for Calaveras County to neighboring Counties, including Alpine, Amador, El Dorado, Sacramento, San Joaquin, Stanislaus, and Tuolumne. As shown, Calaveras County has the highest HBW VMT per capita of these counties. This is a result of three primary factors, including the number of Jobs in the County, to proximity of households to jobs in the County, and the distance to regional jobs centers (e.g., Sacramento).

**TABLE 2:**
**CALAVERAS COUNTY HOME-BASED WORK (HBW) VMT**

| County | HBW VMT Per Capita |
|---|---|
| Alpine | 3.1 |
| Amador | 6.6 |
| **Calaveras** | **11.1** |
| El Dorado | 6.0 |
| Sacramento | 4.2 |
| San Joaquin | 5.7 |
| Stanislaus | 6.0 |
| Tuolumne | 5.1 |

Notes:
[1] California Household Travel Survey
Source: Fehr & Peers, 2017

[1] U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

# ROADWAY NETWORK

**Figure 1** shows the existing study roadway system. There are about 1,100 miles of maintained roadway in Calaveras County, which includes State Route (SR) 4, SR 12, SR 26, and SR 49. The State Highway System represent about 14 percent of the maintained roadway system, but serve 60 percent of vehicle travel (2015 Highway Performance Monitoring System, FHWA). The following describes the roadway classification used for the General Plan analysis.

- Arterials – Provide mobility of high traffic volumes between various parts of the County. They typically link collectors and local roads to external destinations, and generally have higher speeds and more access control than collectors and local streets. They generally have two travel lanes, periodic passing, climbing lanes, and two-way left-turn lanes, and at-grade intersections.

- Collectors – Provide for relatively short distance travel between arterials, generally have lower speeds and volumes than arterials. Driveway access to collectors is limited less than on arterials. Collectors in the County are two travel lanes.

- Local Roads – Provide direct roadway access to adjacent land uses and serve short distance trips within communities and neighborhoods. Traffic volumes and speeds and local streets are low. Local roadways in the County have two travel lanes.

### State Highways

The State Highways in Calaveras County, operated and maintained by Caltrans, are described below.

State Route 4 is an east/west 2-lane conventional highway that travels between from Stanislaus County (west of Copperopolis) to Alpine County, with an overall length of about 65 miles. SR 4 connects Copperopolis, City of Angels, Vallecito, Murphys, Arnold, and Dorrington.

State Route 12 is an east/west 2-lane conventional highway that travels between from San Joaquin County (near Wallace) to SR 49 in San Andreas, with an overall length of about 20 miles. SR 12 connects Wallace, Valley Springs, and San Andreas.

State Route 26 is an east/west 2-lane conventional highway that travels between from San Joaquin County (west of Valley Springs near Ospital Road) to Amador County (north of West Point), with an overall length of about 45 miles. SR 26 connects Valley Springs, Mokelumne Hill, and West Point.

State Route 49 is a north/south 2-lane conventional highway that travels from Amador County to Tuolumne County, with an overall length of about 30 miles. SR 49 connects Mokelumne Hill, San Andreas, and City of Angels.

# ROADWAY OPERATIONS

The analysis of traffic operations was conducted based on roadway segments representative of the County's overall transportation network. Traffic volumes on the selected roadway segments are used to determine the overall usage. Note that the roadway segment analysis is based on traffic counts taken at a single location or link, which was intended to be representative of the entire segment or series of roadway segments with similar physical and operational characteristics.

Most of the traffic counts for analysis were collected for the Calaveras County 2012 RTP and represent conditions consistent with the 2012 base year travel forecasting model and were collected between 2010 and 2012. More recent counts were used where available from recent transportation analysis studies. Most of the traffic counts were from 24-hour roadway counts and representative of midweek (Tuesday, Wednesday, and Thursday) during non-holiday periods, with schools in session. Other traffic counts were passed on peak period intersection traffic counts that were taken during both the morning (7:00 – 9:00 am) and evening (4:00 – 6:00 pm) peak periods. While these counts were taken over the course of a little more than a two-year period between 2010 and 2012, a review of traffic volumes published on Caltrans' Traffic Census Program[2] shows that traffic volumes between 2011 and 2015 have roughly remained the same or slightly decreased during this time period.

The LOS was calculated for each study roadway segment in the County to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for selected roadway segments with peak hour LOS capacity thresholds from **Table 1**.

The transportation analysis is based on the PM peak hour because it typically represents the highest hourly volume during a typical weekday. This volume is used to design future roadways because of its regular weekday occurrence. Using a higher or lower volume hour could lead to inadequate designs or designs that are underused.

**Figure 2** shows existing PM peak hour traffic LOS on study roadways. As shown, most study roadway operate acceptably, at LOS C or better, except for the following:

- **Murphys Grade Road** – SR 4 to SR 49 – LOS D
- **SR 4** – Allen Lane to Broadview Lane – LOS D
- **SR 4** – Broadview Lane to Lakemont Drive – LOS D
- **SR 12** – Burson Road to SR 26 – LOS D
- **SR 26** – Silver Rapids Road to SR 12 – LOS D
- **SR 49** – North of Pool Station Road to North of Gold Oak Road – LOS D

[2] http://www.dot.ca.gov/trafficops/census/



**Figure 2 Existing Conditions – PM Peak Hour Level of Service**

## TRAFFIC SAFETY

**Table 3** shows recorded automobile collisions for the period between 2010 and 2014 based on Statewide Integrated Traffic Records System (SWITERS) data. For that period, there were about 1,151 collisions. Of the 1,151 collisions, about 63 percent occurred on the State Highway System, which is consistent with the higher use of these facilities discussed above.

**TABLE 3:**
**CALAVERAS COUNTY COLLISION SUMMARY – 2010 THROUGH 2014**

| Collision Summary | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| Total | 275 | 233 | 238 | 188 | 217 |
| Collisions on State Highways | 180 | 151 | 140 | 115 | 134 |
| Fatalities | 11 | 8 | 9 | 7 | 8 |
| **Most Common Primary Collision Factors** | | | | | |
| Unsafe Speed | 78 | 59 | 65 | 46 | 49 |
| Improper Turning | 58 | 40 | 43 | 36 | 65 |
| DUI | 38 | 38 | 43 | 35 | 41 |
| Right-of-Way | 37 | 17 | 20 | 12 | 22 |
| Wrong Side of Road | 36 | 50 | 44 | 43 | 12 |
| **Vehicle Involvement** | | | | | |
| Pedestrian Collision | 5 | 7 | 4 | 3 | 3 |
| Bicycle Collision | 5 | 2 | 3 | 3 | 2 |
| Motorcycle Collision | 60 | 36 | 33 | 29 | 33 |
| Truck Collision | 6 | 2 | 6 | 9 | 6 |

Source: Statewide Integrated Traffic Records System

## PUBLIC TRANSPORTATION

Calaveras Transit provides transit service in Calaveras County and operates the following six routes:

- **Red Line** – The Red Line serves Vista del Lago and Columbia College with stops in Valley Springs, San Andreas, and Angels Camp. Service hours are 5:50 AM to 7:35 PM with 10 daily round trips.
- **Blue Line** – The Blue Line serves Angels Camp, Murphys and Arnold. Service hours are 5:10 AM to 7:52 PM with 5 daily round trips.
- **Green Line** – The Green Line serves West Point, Glencoe, Mokelumne Hill, and San Andreas. Service is provided on Monday and Wednesday from 8:00 AM to 4:25 PM with 3 round trips each day.
- **Purple Line** – The Purple Line serves Mountain Ranch and the City of Jackson (i.e., in Amador County) with a stop in San Andreas. Service hours are 8:02 AM to 6:35 PM with 4 daily round trips. On-Demand service is available at three additional stops on this line.
- **Copper Line** – The Copper Line serves Angels Camp and Copperopolis. Service hours are 6:40 AM to 7:35 PM with 4 daily round trips. On-Demand service is available at the O'Byrnes Ferry Road/Main Street stop.



- **Brown Line** – The Brown Line serves San Andreas, West Point, Mountain Ranch, Rail Road Flat, and Glencoe and is an On-Demand Service. Service hours are 6:35 PM to 8:20 PM

The Saturday Hopper provides service on Saturdays with one round-trip service Valley Springs, San Andreas, Angels Camp, Murphys, and Arnold with 90 minute headways. In addition, the Delta Gold Line provides service serves San Andreas, Valley Springs, La Contenta Plaza, and Stockton with stops at Kaiser Permanente or St. Joseph's Medical Center. Service hours are 7:00 AM and 6:00 PM.

In 2016 (Fiscal Year), Calaveras Transit served about 44,500 passenger trips with about 11,100 vehicle service hours, and 303,600 vehicle service hours.

## BICYCLE AND PEDESTRIAN CIRCULATION

### Bicycle Facilities

Calaveras County has about 22 miles of bikeways and trails, including the City of Angels Camp. The majority of bicycle infrastructure is trails and Class I bike paths. The bicycling facilities are broken down into three classifications, which are each identified below.

- **Class I Bike Paths** are off-street bike paths that are physically separated from roadways.
- **Class II Bike Lanes** are on street facilities marked by pavement striping and typically at least five feet in width.
- **Class III Bike Routes** are on street facilities that share the road with motorized vehicles designated by signs and markings.

### Pedestrian Facilities

Consistent with the rural character of Calaveras County, dedicated pedestrian facilities are limited to developed communities with sidewalks and crossing treatments.

## GOODS MOVEMENT

Trucks provide goods movement in Calaveras County with the State Highway System serving as designated truck routes. All of the State Routes can accommodate California Legal trucks (with some advisory sections). STAA truck, which operate on the National Network, include the following segments:

- **SR 4** – Copperopolis to Stanislaus County.
- **SR 4** – Between SR 49 and Alpine County.
- **SR 49** – Between San Andreas and Vallecito Road (south).
- **SR 12** – Between SR 49 and San Joaquin County.

## AVIATION

The Calaveras County Airport is located on SR 49 between San Andreas and Angels Camp (i.e., about four miles south of San Andreas). Known as Mary Rasmussen Field, this general aviation airport is the only airport in Calaveras County. The airport supports about 32,000 annual flights, or 87 flights per day.

# CHAPTER 3. IMPACT ANALYSIS

This chapter summarizes the potentially significant cumulative impacts of the proposed project on the transportation system. Each impact is followed by a recommended mitigation measure to reduce the significance of identified impacts.

**Impact 1:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System by Resulting in Unacceptable Levels of Service on County-maintained Roadways.** Implementation of the Proposed Project could cause unacceptable LOS conditions on some roadway segments, depending on the analysis scenario. This impact is considered **less than significant** for both the Market-Level and the Proposed General Plan Buildout scenarios.

The Proposed Project includes land use and transportation network changes that would increase future traffic volumes on County roadways. The California Department of Finance, Demographic Research Unit forecasts a total county population of 55,541 persons by 2035, which represents an additional 4,353 dwelling units. The transportation analysis evaluated the following two growth scenarios that include more growth than forecast by the Department of Finance:

- The Market-Level Year 2035 – assumes a growth of 6,374 dwelling units and 1,560 employees.
- General Plan Buildout (Growth Beyond 2035) – assumes a growth of 19,979 dwelling units and 4,889 employees.

**Figures 3** shows the Proposed Project circulation system and **Figure 4** shows the planned roadway expansion to serve forecasted growth through 2035, based on the Market-Level Year 2035 growth scenario. **Table 4** compares existing VMT per day to year 2035 VMT per day for the two growth scenarios when analyzed with the transportation improvements displayed on **Figure 4**.

**TABLE 4:**
**CALAVERAS COUNTY DAILY VMT FORECASTS**

| Scenario | VMT[1] | Population[2] | Employment[3] | VMT/Capita[4] | VMT/Service Population[5] |
|---|---|---|---|---|---|
| Existing | 1,942,500 | 45,578 | 10,020 | 42.6 | 34.9 |
| Market-Level Year 2035 | 2,778,500 | 60,413 | 11,577 | 46.0 | 38.6 |
| General Plan Buildout (Growth Beyond 2035) | 4,027,100 | 117,045 | 14,917 | 34.4 | 30.5 |

Notes:
1 Includes travel from all vehicles. The allocation of VMT includes 100 percent responsibility for all trips with both trip ends in Calaveras County and 50 percent responsibility for trips with only one trip in the County.
2 Population based on project description for the Existing and General Plan Buildout (Growth Beyond 2035) scenarios. The Market-Level Year 2035 population is based on the household growth estimate from UPlan and applying the household population density (i.e., 2.41) from the Existing and General Plan Buildout (Growth Beyond 2035) scenarios.
3 Employment estimates and forecasts based on Calaveras County travel forecasting model land use inputs.
4 VMT Per Capita is calculated by dividing total daily VMT by population. Since the VMT includes VMT generated by commercial vehicles, visitors, and workers/students that live outside Calaveras County, it is not an estimate of the VMT 'generated' per capita for Calaveras residents.

[5] VMT Per Service Population is calculated by dividing total daily VMT by population plus employment. Similar to the VMT per capita metric, this form of VMT include VMT generated by commercial vehicles, visitors, and students that live outside Calaveras County. As such, it is not an estimate of the VMT 'generated' per service population for Calaveras residents and workers.
Source: Fehr & Peers, 2017

As shown in **Table 4**, VMT per capita and VMT per service population will increase compared to existing conditions. Of the two growth scenarios, the General Plan Buildout (Beyond 2035) scenario will result in slightly lower VMT per capita and VMT per service population than the Market-Level Year 2035 scenario. This result is due to placing more population and employment together, which places people closer to jobs, goods, and services.

Roadway LOS results for the Market-Level and General Plan Buildout scenarios are summarized on **Figures 5 and 6**, respectively. The roadway segment analysis results are included in the technical appendix.

Policy C 2.2 of the proposed project has a higher LOS threshold than the 1996 General Plan. For this impact, the Proposed Project LOS results were evaluated to identify locations where the Policy C 2.2 threshold would be exceeded on County-maintained roadways. These locations are listed below for both analysis scenarios.

Market-Level Year 2035

All County-maintained roadways will operate acceptably at LOS C or better under the Market-Level analysis scenario.

General Plan Buildout (Growth Beyond 2035)

All County-maintained roadways outside of Community Areas will operate acceptably at LOS C or better under the General Plan Buildout analysis scenario. **Table 5** compares PM peak hour roadway segment level of service under General Plan Buildout conditions to existing conditions for County-maintained roadways that are forecast to operate at LOS D.

**TABLE 5:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – GENERAL PLAN BUILDOUT (COUNTY-MAINTAINED)**

| | | Existing | | | | Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| Big Trees Road | SR 4 to Main Street | 198 | 0.15 | C | - | 390 | 0.29 | D | 110 |
| O'Byrnes Ferry Road | Reed's Turnpike to County Line | 177 | 0.13 | C | - | 450 | 0.29 | D | 20 |
| Vista del Lago | SR 26 to Hogan Dam Road | 186 | 0.14 | C | - | 350 | 0.26 | D | 70 |

Notes:
Source: Fehr & Peers, 2017

As shown, the following County-maintained roadways in Community Areas will operate at LOS D.

- **Big Trees Road** from SR 4 to Main Street (Murphys) – This segment is forecast to serve 390 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 110 vehicles.
- **O'Byrnes Ferry Road** from Reed's Turnpike to Tuolumne County Line – This segment is forecast to serve 450 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 20 vehicles.
- **Vista del Lago** from SR 26 to Hogan Dam Road – This segment is forecast to serve 350 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 280 vehicles) by 70 vehicles.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impact associated with the Proposed Project.

- **Goal C-1** – A balanced circulation system that provides for the safe and efficient movement of people and goods while maintaining the county's rural and historic character.
- **Policy C 1.1** – Incorporate the concept of complete streets for planning transportation and development, including operations and maintenance, where feasible and suitable to the rural nature of the county and its topography. (IM C-1A, C-1C and COS-7B)

**Figure 3 General Plan Circulation System**

**Figure 4 Roadway Expansion to Serve Market-Level Growth Through 2035**

**Figure 5 Market Level Year 2035 – PM Peak Hour Level of Service**

**Figure 6 General Plan Buildout (Growth Beyond 2035) – PM Peak Hour Level of Service**

- **Policy C 1.3** – Prioritize funding and construction of projects that reduce vehicle miles traveled. (IM C-1A, C-1B, C-1D and COS-5C)

- **Policy C 1.6** – Encourage development that reduces vehicle miles traveled, consistent with the policies of the Land Use Element. (IM C-1A)

- **Goal C-2** – A roadway system that provides safe and efficient access and mobility for Calaveras residents, visitors and businesses and adequately serves existing and planned land uses.

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas, except as specified below, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

    - SR26 from the San Joaquin County line to Silver Rapids Road – LOS D is acceptable to the County.

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

    - Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;

    - Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or

    - Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

- **Goal C-5** – A safe, convenient transportation network for pedestrians, cyclists, and users of other non-motorized modes of transportation that is suitable for the rural nature of the county and its topography.

- **Policy C 5.1 –** Incorporate safe and convenient bicycle and pedestrian access, where feasible, in all transportation improvement projects. (IM C-1A, C-1B and COS-7B)

- **Implementation Measure C-1A (Complete Streets)** – Review the County Municipal Code and Public Works Department Development Manual and incorporate, as appropriate, complete streets design principles such as the following:

    - Balanced design to accommodate walking, cycling, transit, driving, parking, accessibility, drainage, storm water management, emergency vehicle access, snow removal, and deliveries.

- Safe access to public transportation and other non-motorized uses through construction of dedicated paths where appropriate and where right-of-way is available.
- Safe road crossings at major intersections.
- Interconnect roadway networks to expand travel route options and allow short trips to be completed off of arterial roadways.
- Pedestrian and bicycling facilities where appropriate to promote safety and maximize access, including construction of bicycle parking facilities where feasible.

► **Implementation Measure C-1B (Greenhouse Gases)** – When preparing capital improvement plans and reviewing development proposals, the County shall favorably consider projects which minimize greenhouse gas impacts and are appropriate to the rural nature of Calaveras County, including, but not limited to, transit programs, ridesharing programs, bicycle and pedestrian improvements, and maintenance of existing roadways to reduce vehicle emissions.

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity, which would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions.

Market-Level Year 2035

With the implementation of the Proposed Project, this impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

General Plan Buildout (Growth Beyond 2035)

With the implementation of the Proposed Project, this impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 2:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System by Resulting in Unacceptable Levels of Service on Caltrans-Maintained Roadways.** Implementation of the Proposed Project would increase travel and traffic volumes that would result in unacceptable LOS D conditions on SR 4, SR 12, and SR 49. This impact is considered **significant** for both the Market-Level and Proposed General Plan Buildout scenarios.

The Proposed Project includes land use and transportation network changes that would increase future regional traffic volume on SR 4, SR 12, SR 26, and SR 49 under the Market-Level and General Plan Buildout analysis scenarios.

Market-Level Year 2035

**Table 6** compares PM peak hour roadway segment level of service under General Plan Market-Level Year 2035 conditions to existing conditions for Caltrans-maintained roadways that currently operate at LOS D or are forecast to operate at LOS D.

**TABLE 6:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – MARKET-LEVEL YEAR 2035 (CALTRANS-MAINTAINED)**

| | | Existing | | | | Market-Level Year 2035 | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| SR 4 | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,140 | 0.31 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 680 | 0.43 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **650** | **0.49** | **D** | **10** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 730 | 0.46 | C | - |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 490 | 0.32 | D | 60 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,090 | 0.30 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | 620 | 0.47 | C | - |
| | SR 4(W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |

Notes:
**Bold** indicates project impact.
Source: Fehr & Peers, 2017

The increase in traffic is sufficient to result in LOS D operations on the following segments of SR 4, SR 26, and SR 49, listed below for both analysis scenario:

- **SR 4** from Lakemont Drive to Henry Drive – This segment is forecast to serve 650 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 10 vehicles.
- **SR 49** from SR 4 (W) to Murphy's Grade Road – This segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles.

- **SR 49** from Stanislaus Avenue to Mark Twain Road – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 49** from Mark Twain Road to Bret Harte Road – This segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles.

General Plan Buildout (Growth Beyond 2035)

**Table 7** compares PM peak hour roadway segment level of service under General Plan Buildout conditions to existing conditions for County-maintained roadways that are forecast to operate worse than LOS D.

**TABLE 7:**
**PM PEAK HOUR ROADWAY SEGMENT CAPACITY – GENERAL PLAN BUILDOUT (COUNTY-MAINTAINED)**

| | | Existing | | | | Buildout | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Roadway** | **Segment** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** | **Vol** | **V/C** | **LOS** | **Vol > LOS C Capacity** |
| SR 4 | Vallecito Road to Kurt Drive | 337 | 0.22 | C | - | **510** | **0.33** | **D** | **80** |
| | Allen Lane to Broadview Lane | 822 | 0.53 | D | 292 | 1,190 | 0.33 | C | - |
| | Broadview Lane to Lakemont Drive | 505 | 0.32 | D | 75 | 820 | 0.52 | C | - |
| | Lakemont Drive to Henry Drive | 520 | 0.39 | C | - | **790** | **0.59** | **D** | **150** |
| | Henry drive to Sierra Parkway | 421 | 0.27 | C | - | **470** | **0.30** | **D** | **40** |
| SR 12 | Burson Road to SR 26 | 524 | 0.34 | D | 94 | 950 | 0.60 | C | - |
| | SR 26 to SR 49 | 584 | 0.37 | C | - | **1,210** | **0.77** | **D** | **70** |
| SR 26 | County Line to Silver Rapids Road | 409 | 0.26 | C | - | 650 | 0.42 | D | 220 |
| | Silver Rapids Road to SR 12 | 657 | 0.42 | D | 227 | 1,280 | 0.35 | C | - |
| SR 49 | Pool Station Road to Gold Oak Road | 522 | 0.34 | D | 92 | **690** | **0.52** | **D** | **50** |
| | Gold Oak Road to Mountain Ranch Road | 522 | 0.39 | C | - | **690** | **0.52** | **D** | **50** |
| | Dogtown Road to SR 4 (W) | 570 | 0.43 | C | - | **700** | **0.53** | **D** | **60** |
| | SR 4 (W) to Murphys Grade Road | 664 | 0.50 | D | 24 | **760** | **0.57** | **D** | **120** |
| | Stanislaus Avenue to Mark Twain Road | 787 | 0.59 | D | 147 | **790** | **0.59** | **D** | **150** |
| | Mark Twain Road to Bret Harte Road | 666 | 0.50 | D | 26 | **670** | **0.50** | **D** | **30** |
| | Bret Harte Road to Vallecito Road | 616 | 0.46 | C | - | **730** | **0.55** | **D** | **90** |
| | SR 4 (S) to County Line | 322 | 0.21 | C | - | **600** | **0.39** | **D** | **70** |

Notes:
**Bold** indicates project impact.
Source: Fehr & Peers, 2017

The increase in traffic is sufficient to result in LOS D operations on the following segments of SR 4, SR 26, and SR 49, listed below for both analysis scenario:

- **SR 4** from Vallecito Road to Kurt Drive – This segment is forecast to serve 510 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 80 vehicles.

- **SR 4** from Lakemont Drive to Henry Drive – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 4** from Henry Drive to Sierra Parkway (Arnold to Dorrington) – This segment is forecast to serve 470 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 430 vehicles) by 40 vehicles.

- **SR 12** from SR 26 to SR 49 – This segment is forecast to serve 1,210 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 1,140 vehicles) by 70 vehicles.

- **SR 49** from Pool Station Road to Gold Oak Road – This segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles.

- **SR 49** from Gold Oak Road to Mountain Ranch Road – This segment is forecast to serve 690 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 50 vehicles.

- **SR 49** from Dog Town Road to SR 4 (W) – This segment is forecast to serve 700 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 60 vehicles.

- **SR 49** from SR 4 (W) to Murphy's Grade Road – This segment is forecast to serve 760 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 120 vehicles.

- **SR 49** from Stanislaus Avenue to Mark Twain Road – This segment is forecast to serve 790 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 150 vehicles.

- **SR 49** from Mark Twain Road to Bret Harte Road – This segment is forecast to serve 670 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 30 vehicles.

- **SR 49** from Bret Harte Road to SR 4 (S) Vallecito Road– This segment is forecast to serve 730 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 640 vehicles) by 90 vehicles.

- **SR 49** from SR 4 (S) Vallecito Road to Tuolumne County Line – This segment is forecast to serve 600 vehicles during the PM peak hour (in the peak direction). This volume would exceed the LOS C volume capacity (i.e., 530 vehicles) by 70 vehicles.

The Draft General Plan includes goals, policies, and implementation programs related to LOS, which are discussed under Impact 1. In addition, the following policies and implementation programs related to Caltrans and the State Highway System:

- **Policy C 1.4 –** Coordinate with the Calaveras Council of Governments and Caltrans on the development and maintenance of the regional transportation system. (IM C-1D)

- **Policy C 1.9 –** Consider context sensitive designs, i.e., designs appropriate for the unique characteristics of the community in which it is located, for planned circulation improvements, which are intended to preserve the rural character and historic resources of communities in the County. Alternative designs shall be in accordance with standards adopted or accepted by Caltrans or the County intended to provide a safe and efficient transportation system. (IM C-1A)

- **Implementation Measure C-1D (Circulation and Access Plans)** – Work with CCOG and Caltrans to secure funding for and implementation of comprehensive circulation and access plans for the state highways (i.e., arterial) corridors to ensure that planned development is compatible with current facilities and transportation concept designations.

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity, which would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions. However, LOS D would exceed Caltrans' LOS threshold for SR 4, SR 12, and SR 49. Therefore, this impact is **significant**.

**Mitigation Measure**

Modify Policy C 2.2 as follows for the Market-Level and General Plan Buildout analysis scenarios to allow LOS D on SR 4, SR 12, and SR 49, based on the analysis results outlined above.

<u>The Market-Level Year 2035</u>

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas. Allow the following exceptions on County-maintained roadways outside of Community Areas and on Caltrans-maintained roadways, assuming that roadway safety is addressed consistent with Policy CIR 2.1.

    - **SR 4** from Lakemont Drive to Henry Drive – LOS D
    - **SR 49** from SR 4 (W) to Murphy's Grade Road – LOS D
    - **SR 49** from Stanislaus Avenue to Mark Twain Road – LOS D
    - **SR 49** from Mark Twain Road to Bret Harte Road – LOS D

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:

- Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;
- Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or
- Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

General Plan Buildout (Growth Beyond 2035)

- **Policy C 2.2** – Road impacts created by new development shall not reduce the minimum level of service (LOS) below D for roadways and intersections in Community Areas (as indicated on the General Plan Land Use Diagram – Figure LU-1) or below LOS C on County-maintained roadway outside of Community Areas. Allow the following exceptions on County-maintained roadways outside of Community Areas and on Caltrans-maintained roadways, assuming that roadway safety is addressed consistent with Policy CIR 2.1.
  - **SR 4** from Vallecito Road to Kurt Drive – LOS D
  - **SR 4** from Lakemont Drive to Henry Drive – LOS D
  - **SR 4** from Henry Drive to Sierra Parkway (Arnold to Dorrington) – LOS D
  - **SR 12** from SR 26 to SR 49 – LOS D
  - **SR 49** from North of Pool Station Road to North of Gold Oak Road – LOS D
  - **SR 49** from North of Gold Oak Road to Mountain Ranch Road – LOS D
  - **SR 49** from Dog Town Road to SR 4 (W) – LOS D
  - **SR 49** from SR 4 (W) to Murphy's Grade Road – LOS D
  - **SR 49** from Stanislaus Avenue to Mark Twain Road – LOS D
  - **SR 49** from Mark Twain Road to Bret Harte Road – LOS D
  - **SR 49** from Bret Harte Road to SR 4 (S) Vallecito Road– LOS D
  - **SR 49** from SR 4 (S) Vallecito Road to Tuolumne County Line – LOS D

  Additional exceptions to this policy may be allowed by the Board of Supervisors on a case-by-case basis, where reducing the level of service would result in a clear public benefit in furtherance of public health, safety, and welfare. Exceptions to the LOS standards may include, but are not limited to, the following circumstances:
  - Improvements necessary to achieve the LOS standard result in significant impacts to a unique historical resource;

- Improvements necessary to achieve the LOS standard result in impacts to a sensitive environmental area; or
- Improvements necessary to achieve the LOS standard would prohibit or significantly impair the County's implementation of bicycle and pedestrian facilities or adversely impact areas of historic significance. (IM C-2A and C-2B).

The Proposed Project would result in a transportation system that allows greater utilization of the roadway system during peak hours, which would minimize the need to expand existing capacity and would also support building complete streets, improving walking and bicycling as viable travel choices, and making transit more effective and to preserve the rural and historic character of the County. These goals are directly connected to the County's desires to provide a safe and efficient transportation system for all users. A key part of these changes is embedded in Policy C 2.2 of the Draft General Plan that changes the Countywide LOS from C to D in Community Areas and allows other exceptions. Modification of Policy C 2.2, as outlined above, for either the Market-Level or General Plan Buildout scenarios would further support the County's commitment of providing a safe and efficient transportation system for all users. With these modifications, this impact would be less than significant based on County policy. However, LOS D would still exceed Caltrans' LOS threshold for SR 4, SR 12, and SR 49. Therefore, the County must conservatively acknowledge that this impact would remain **significant and unavoidable**.

**Impact 3:** **Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System Taking into Account All Modes of Transportation.** Implementation of the Proposed Project would not result in conflicts with applicable plans, ordinances ore polices that have not already be discussed in Impacts 1 and 2. This impact is considered **less than significant**.

The Proposed Project addresses competition for space that often occurs between driving, walking, and bicycling by endorsing complete streets.

The Proposed Project changes performance expectations for Calaveras County roadways through Policy C 2.2. This impact was disclosed and addressed under Impact 1. In addition, the Proposed Project would affect performance of the State Highway System. That impact was disclosed under Impacts 2.

For other transportation system components including the bicycle, pedestrian, and transit systems, the Proposed Project does not conflict with existing plans, ordinances, or policies. As explained above, population and employment growth will increase demand for transit, bicycling, and walking in Calaveras County and the Proposed Project's goals and policies are designed to accommodate the increased demand within a complete streets context.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impacts associated with the Proposed Project.

- **Goal C-3** – A safe, effective, and efficient public transportation service that meets the reasonable needs of Calaveras residents.
- **Policy C 3.1 –** Maintain a County transit system and strive to increase service efficiency, availability, and convenience for all residents, employees, and visitors to the degree feasible with available resources. (IM C-3B)

- **Policy C 3.2 –** Encourage the expansion of public transit services to nearby urban areas in order to reduce automotive dependency, access intercity transportation services, and improve mobility for County residents. (IM C-3A, C-3B)
- **Policy C 3.3 –** Strive to develop new attractive, well-maintained, and pedestrian-friendly bus stops, with benches and shelters where warranted, located in high-visibility and heavily used areas. (IM C-3C)
- **Policy C 3.4 –** Encourage the use of public transit, as well as ridesharing, and vanpools. (IM C-3A and C-3C)
- **Policy C 3.5 –** Ensure that new developments incorporate measures into project design that promote the use of alternative modes of transportation. (IM C-3C)
- **Policy C 3.6 –** Coordinate with the City of Angels Camp and adjacent counties to develop the most cost-effective transit program. (IM C-3B)
- **Goal C-5** – A safe, convenient transportation network for pedestrians, cyclists, and users of other non-motorized modes of transportation that is suitable for the rural nature of the county and its topography.
- **Policy C 5.1 –** Incorporate safe and convenient bicycle and pedestrian access, where feasible, in all transportation improvement projects. (IM C-1A, C-1B and COS-7B)
- **Policy C 5.2 –** Bicycle and pedestrian access and circulation shall be designed into new development projects where applicable to enhance internal circulation and interconnectivity with surrounding land uses and to implement any adopted bicycle and/or pedestrian plan. (IM C-1A and COS-7B)
- **Policy C 5.3 –** Safe routes to schools shall be incorporated into new residential projects where appropriate. (IM C-1A and COS 7B)
- **Implementation Measure C-1A (Complete Streets)** – Review the County Municipal Code and Public Works Department Development Manual and incorporate, as appropriate, complete streets design principles such as the following:
    - Balanced design to accommodate walking, cycling, transit, driving, parking, accessibility, drainage, storm water management, emergency vehicle access, snow removal, and deliveries.
    - Safe access to public transportation and other non-motorized uses through construction of dedicated paths where appropriate and where right-of-way is available.
    - Safe road crossings at major intersections.
    - Interconnect roadway networks to expand travel route options and allow short trips to be completed off of arterial roadways.
    - Pedestrian and bicycling facilities where appropriate to promote safety and maximize access, including construction of bicycle parking facilities where feasible.



- **Implementation Measure C-1C (Transportation Alternatives in Impact Fees)** – Consider transit capital improvements and non-auto travel improvements necessary to serve new development in impact fee programs to fund public transportation infrastructure, park-and-ride lots, and bicycle and pedestrian facilities associated with the new development.

- **Implementation Measure C-2B (Transportation Impact Study Guidelines)** – Develop and adopt transportation impact study (TIS) guidelines that consider all modes of travel and define, at a minimum, the need for transportation impact studies, analysis methodology and CEQA significance criteria.

- **Implementation Measure C-3A (Park-and-Ride Facilities)** – As funding allows, designate and implement appropriate "Park and Ride" facilities, and promote ridesharing programs.

- **Implementation Measure C-3B (Transit Planning)** – Work with the Calaveras County Council of Governments and City of Angels Camp to update the annual Unmet Transit Needs Report and to periodically review and update the short-range transit plan.

- **Implementation Measure C-3C (Transit Stops)** – Coordinate with Calaveras Transit when reviewing development projects to determine if transit stops or other public transit facilities should be incorporated into the design of the project.

- **Implementation Measure C-5A (Bicycle and Pedestrian Plans)** – Update the bicycle and pedestrian master plan and implement the priority projects in those documents as funding allows. The County shall pursue available federal, state, and local funding for construction and maintenance of non-motorized transportation facilities.

The Draft General Plan contains numerous goals, policies, implementation programs, strategies, and actions that are largely taken directly or derived from these adopted plans with regards to transit, bicycling, and walking. Further, this update to the General Plan complies with Assembly Bill (AB) 1358 requiring cities and counties to include a complete streets policy in their general plans, which stresses balance and compatibility across modes. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 4:** **Result in Changes to Air Traffic Patterns.** Implementation of the Proposed Project includes land use changes that would have only a limited influence on air traffic patterns. This impact is considered **less than significant**.

The Proposed Project will change land use patterns but not to a degree that would affect existing air traffic patterns or that would allow future air traffic patterns to conflict with the County's planned growth, so and would not be incompatible with aviation the County's aviation facilities and their operation.

The following Draft General Plan goals, policies, and implementation programs reduce any potential impacts associated with the Proposed Project.

- **Goal C 4 –** A safe and efficient aviation system that enhances safety to the public, minimizes the adverse effects of operations on people, and promotes economic health.

- **Policy C 4.1 –** Prevent new land uses and zoning surrounding the Calaveras County Airport that would create future land use conflicts. (IM C-4B)
- **Policy C 4.2 –** Private airports and airstrips may be permitted by Conditional Use Permit when safe and compatible with neighboring land uses and the Airport Land Use Compatibility Plan. (IM C-4A)
- **Policy C 4.3 –** Enhance the Calaveras County Airport operations to increase economic benefits of airport operations and maximize use of airport property consistent with the Airport Land Use Compatibility Plan. (IM C-4C)
- **Implementation Measure C-4A (Private Airstrip Standards)** – Amend the zoning ordinance to provide following criteria for private airstrips:
    - Within a rural area of the county;
    - Not within an existing residential subdivision;
    - Compatible with adjoining existing and potential land uses;
    - Compliant with the Calaveras County Airport Land Use Compatibility Plan;
    - Compliant with County noise and safety policies; and
    - Compliant with the standards of the Airport Overflight and Noise Impact Area Zone and Airport Height Limitation Zone.
- **Implementation Measure C-4B (Airport Land Use Compatibility Plan)** – Implement the Airport Land Use Compatibility Plan when reviewing land use proposals within the airport influence area.
- **Implementation Measure C-4C (Use of Airport Land)** – Promote the use of airport land to attract and retain airport-appropriate land uses consistent with the Airport Land Use Compatibility Plan.

The Proposed Project includes policies intended to avoid or minimize any compatibility issues between urban development within the County and airport facilities including air traffic flight patterns. Draft General Plan Implementation Measure C-4B identifies the need to implement the Airport Land Use Compatibility Plan when reviewing land use proposals within the airport influence area. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 5:** **Substantially Increase Hazards Due to Design Features.** Implementation of the Proposed Project will modify the existing transportation network to accommodate existing and future users that could change existing travel patterns or traveler expectations. This impact is considered **less than significant**.

The Proposed Project will modify the existing transportation network generally to expand existing facilities or to construct new facilities to accommodate planned population and employment growth.

Calaveras County already requires the modification of existing public facilities or the construction of new facilities to comply with applicable design standards, which have been developed to minimize the potential for conflicts or collisions. This standard practice would minimize this impact.

The Proposed Project would not increase hazards due to design features of transportation facilities. All existing facility modifications and new facilities resulting from the circulation diagram proposed improvements would be constructed to applicable design standards that have been developed to minimize the potential for conflicts or collisions. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 6:** **Result in Inadequate Emergency Access.** Implementation of the Proposed Project will alter land use patterns and increase travel demand on the transportation network that may influence emergency access. This impact is considered **less than significant**.

The Proposed Project will modify the existing transportation network generally to expand existing facilities or to construct new facilities to accommodate planned population and employment growth.

The Draft General Plan includes goals, policies, and implementation programs related to the performance of roadways, which are discussed under Impact 1. In addition, the Draft General Plan includes the following goals and policies that would reduce the impact of new development on emergency access.

- **Policy C 1.8 –** Safety shall be the primary factor in prioritizing circulation system improvements and evaluating the ability of the County-maintained roadway system to accommodate traffic growth from new development. (IM C-1A and C-1E)
- **Policy C 2.14 –** New development above 3,000 feet in elevation shall be designed to accommodate snow conditions, including but not limited to maximum grade, and snow removal and storage requirements. (IM C-1F)
- **Implementation Measure C-1F (Design for Snow)** – Review and amend the Public Works Department Development Manual to address snow-area development standards. Standards shall address snow storage, maximum road grade, and surfacing requirements to accommodate snow removal.

The Proposed Project contains policies that are designed to ensure adequate facilities and services are provided for under daily and emergency response conditions. Responsibility for building and maintaining adequate facilities extends to development projects through these policies to ensure that changes to facilities and services are planned in accordance with growth over time. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

**Impact 7:** **Result in Potential Conflicts with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of Such Facilities**. Implementation of the Proposed Project would not result in



conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. The impact is considered **less than significant.**

The Proposed Project does not conflict with adopted policies, plans, or programs for transit, bicycle, or pedestrian facilities nor would it adversely affect performance or safety of such facilities. The Proposed Project contains provisions that will enhance these modes to encourage greater use of transit and more walking and bicycling in the future. All new facilities contained in the circulation diagram would be constructed to applicable design standards that have been created to minimize the potential for conflicts or collisions.

The Draft General Plan includes goals, policies, and implementation programs related to improving the bike, pedestrian, and transit networks, which are discussed under Impacts 1, 2, and 3.

The Proposed Project goals and policies are designed to accommodate the new travel demand by providing adequate facilities and services including complete streets. Implementation of the Proposed Project would not disrupt any existing, or interfere with any planned, transit, bicycle, or pedestrian facilities or services. This impact is **less than significant**.

**Mitigation Measure**

No mitigation is required.

***** PRESS RELEASE *****

# CALAVERAS COUNTY RELEASES DRAFT ENVIRONMENTAL IMPACT REPORT FOR GENERAL PLAN UPDATE

San Andreas, June 28, 2018

The Calaveras County Planning Department has released the Draft Environmental Impact Report (DEIR) for the general plan update. The DEIR has been over a year in the making and addresses potential environmental impacts of development under the draft general plan recommended for approval by the Planning Commission in 2016 and mitigation measures that could reduce those impacts. The plan will guide growth in the County over the next several decades.

The potentially significant impacts identified in the DEIR include impact to aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, noise, and transportation.

A 45-day public comment period begins on June 29, 2018 and ends on August 13, 2018. A public comment meeting is scheduled for July 31, 2018 at 6:00 p.m. in the Board of Supervisors Chambers at 891 Mountain Ranch Road in San Andreas. Written comments may be submitted to the Planning Department at 891 Mountain Ranch Road. The DEIR will be available for review on the Planning Department's website, at the County office, and at local libraries. Printed copies or CDs will be available for purchase at the Planning Department.

Planning Director Peter Maurer said release of the DEIR is a major milestone in the general plan process and moves the County a big step closer to final adoption. After the comment period ends the County and its consultants will need to prepare written responses to each comment and incorporate the comments and responses and any changes to the report in a Final EIR. When that is completed adoption hearings will begin before the Planning Commission who will make a recommendation to the Board of Supervisors.

## Notice of Completion & Environmental Document Transmittal

*Mail to:* State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
*For Hand Delivery/Street Address:* 1400 Tenth Street, Sacramento, CA 95814

**SCH #** 2017012043

### Project Title: Calaveras County Draft General Plan

Lead Agency: Calaveras County
Contact Person: Peter Maurer, Planning Director
Street Address: 891 Mountain Ranch Road
Phone: (209) 754-6394
City: San Andreas Zip: 95249
County: Calaveras

**Project Location:** County: Calaveras
City/Nearest Community: N/A
Cross Streets: N/A
Zip Code: 95249
Lat./Long/: 38 ° 12 ' 38.0 " N / 120 ° 33 ' 33.9 " W
Total Acres: 658,252
Assessor's Parcel No.: Multiple
Section: 9 Twp: 4N Range: 13E Base: MDBM
Within 2 miles: State Hwy#: State Route (SR) 4, SR 12, SR 26, SR 49
Waterways: Mokelumne River, Calaveras River, North Fork Stanislaus River, and various other waterways
Schools: Multiple
Railways: None
Airports: Calaveras County Airport, Eagle Ridge Ranch Airport

**Document Type:**

**CEQA:** ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.)_____ ☐ Other:_____

**NEPA:** ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

**Other:** ☐ Joint Document ☐ Final Document ☐ Other:_____

Governor's Office of Planning & Research
JUN 28 2018
After 12 pm
STATE CLEARINGHOUSE

**Local Action Type:**

☒ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other:

**Development Type:**

☐ Residential: *Units* _____ *Acres* _____
☐ Office: *Sq.ft.* _____ *Acres* _____ *Employees* _____
☐ Commercial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
☐ Industrial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
☐ Educational _____
☐ Recreational _____

☐ Water Facilities: *Type* _____ *MGD* _____
☐ Transportation: *Type* _____
☐ Mining: *Mineral* _____
☐ Power: *Type* _____ *MW* _____
☐ Waste Treatment: *Type* _____ *MGD* _____
☐ Hazardous Waste: *Type* _____
☒ Other: Various development types (Draft General Plan)

**Project Issues That May Have A Significant Or Potentially Significant Impact:**

☒ Aesthetic/Visual
☒ Agricultural Land/Forest
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Greenhouse Gas Emissions
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☐ Other:_____

**Present Land Use/Zoning/General Plan Designation:** The Calaveras County Draft General Plan (proposed project) addresses the entirety of Calaveras County. As such, all existing land use, zoning, and General Plan designations apply to the project.

**Project Description:** The proposed project is a Draft General Plan for Calaveras County. The proposed project is intended to guide growth and development within the County through the year 2035. The project is consistent with State law requirements and includes eight elements, a General Plan land use map, and buildout projections for the County.

## Reviewing Agencies Checklist

*Appendix C*

*continued*

*Lead Agencies may recommend State Clearinghouse distribution by marking agencies below.*

| | | | |
|---|---|---|---|
| X | Air Resources Board | X | Office of Emergency Services |
| | Boating & Waterways, Department of | X | Office of Historic Preservation |
| X | California Highway Patrol | | Office of Public School Construction |
| X | Caltrans District # 10 | X | Parks & Recreation |
| | Caltrans Division of Aeronautics | | Pesticide Regulation, Department of |
| | Caltrans Planning (Headquarters) | X | Public Utilities Commission |
| | Coachella Valley Mountains Conservancy | | Reclamation Board |
| | Coastal Commission | X | Regional WQCB # 5 |
| | Colorado River Board Commission | | Resources Agency |
| X | Conservation, Department of | | S.F. Bay Conservation & Development |
| | Corrections, Department of | | San Gabriel & Lower Los Angeles Rivers & Mountains Conservancy |
| | Delta Protection Commission | | San Joaquin River Conservancy |
| | Education, Department of | | Santa Monica Mountains Conservancy |
| | Office of Public School Construction | | State Lands Commission |
| | Energy Commission | | SWRCB: Clean Water Grants |
| X | CDFW Region # 2 | X | SWRCB: Water Quality |
| | Food & Agriculture, Department of | | SWRCB: Water Rights |
| X | Cal Fire | | Tahoe Regional Planning Agency |
| | General Services, Department of | X | Toxic Substances Control, Department of |
| X | Health Services, Department of | X | Water Resources, Department of |
| X | Housing & Community Development | | Other: |
| X | Integrated Waste Management Board | | Other: |
| X | Native American Heritage Commission | | |

### Local Public Review Period

Starting Date June 29, 2018 Ending Date August 13, 2018

**Lead Agency**
(Complete if applicable): Calaveras County
Consulting Firm: Raney Planning & Management, Inc.
Address: 1501 Sports Drive, Suite A
City/State/Zip: Sacramento, CA 95834
Contact: Cindy Gnos
Phone: (916) 372-6100

**Applicant:** Peter Maurer, Planning Director
Calaveras County
Address: 891 Mountain Ranch Road
City/State/Zip: San Andreas, CA 95249
Phone: (209) 754-6394

**Signature of Lead Agency Representative:** _____ Date: _____

Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Section 21161, Public Resources Code.

# County of Calaveras
# Department of Planning

**Peter N. Maurer ~ Planning Director**
*Phone (209) 754-6394 Fax (209) 754-6540*
***Website:*** **www.co.calaveras.ca.us**


***** PRESS RELEASE *****
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