# 4.0 Environmental Setting, Impacts, and Mitigation Measures

The following is an introduction to the environmental analysis project-specific and cumulative impacts and general assumptions used in the analysis. The reader is referred to the individual technical sections of the Draft EIR regarding specific assumptions and methodology used in the analysis.

## ANALYSIS ASSUMPTIONS GENERALLY USED TO EVALUATE THE IMPACTS OF THE MARTIS VALLEY COMMUNITY PLAN UPDATE

### TREATMENT OF THE THREE LAND USE MAP SCENARIOS

As described in Section 3.0 (Project Description) the proposed Martis Valley Community Plan Update consists of a Proposed Land Use Diagram (PP) and 3 land use map alternatives (see **Figures 3.0-5** through **3.0-8**) to go with the policy document and are specifically identified below:

- Existing Martis Valley General Plan Land Use Map (noted as "AA" throughout the EIR)
- Alternative 1 Land Use Map (noted as "AB" throughout the EIR)
- Alternative 2 Land Use Map (noted as "AC" throughout the EIR)

The environmental effects of the Proposed Land Use Diagram and these three land use map alternatives are analyzed at an equal level of detail throughout the EIR, with a summary comparison of the environmental effects of each provided in Section 6.0 (Alternatives). Separate impact statements and analyses are provided for each land use map option under each environmental issue area. The following is an example of the format of the impact statements:

**Impact 4.7.1 Construction Water Quality Impacts**

**PP** Slope and soil disturbance associated with construction activities for the Proposed Land Use Diagram could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AA** Slope and soil disturbance associated with construction activities for the Existing Martis Valley General Plan Land Use Map could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map would result in the same project design as the Existing Martis Valley General Plan Land Use Map and would involve on-site construction activities. This alternative would have the same impacts as Alternative AA on accelerated soil erosion and sedimentation, as well as the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map would result in a similar project design as Alternative AA. This alternative would have the similar impacts as Alternative AA on accelerated soil erosion and sedimentation, as well as the release of other pollutants to adjacent waterways as a result of onsite construction. This would be a **significant** impact.

*(analysis of impacts)*

***PP Proposed Land Use Diagram***

Construction would consist of substantial grading and vegetation removal.

***AA Existing Martis Valley General Plan Land Use Map***

Construction would consist of substantial grading and vegetation removal.

***AB Alternative 1 Land Use Map***

The Alternative 1 Land Use Map would have nearly the same amount of required infrastructure as the Existing Martis Valley General Plan Land Use Map…..

***AC Alternative 2 Land Use Map***

The Alternative 2 Land Use Map would have…..

This approach will allow the County to choose among the three land use maps without resulting in the need for additional environmental review.

BUILDOUT ASSUMPTIONS

**Tables 3.0-2** through **3.0-5** identify land use acreages and estimated number of residential dwelling units to occur under each of the land use map options. The environmental analysis provided in the Draft EIR generally assumes that 20 percent of the residential units identified in **Tables 3.0-2** through **3.0-5** would be permanent residents, while the remaining 80 percent would be second/vacation homes. This assumption is based on resort/tourist nature of the region and demographic data obtained from available Census data (complete 2000 Census data was not available at the time of preparation of this EIR), consultation with local agencies (Placer County, Town of Truckee) and other available sources.

GENERAL LAND DISTURBANCE ASSUMPTIONS FOR THE THREE LAND USE MAP SCENARIOS

**Figures 3.0-5** through **3.0-8** identify areas anticipated to be developed that would be disturbed as a result of implementation of the Martis Valley Community Plan Update. Anticipated impacts to vegetation communities in the Plan area under the Proposed Land Use Diagram and the 3 land use map alternatives is identified in Section 4.9 (Biological Resources). The analysis also takes into account proposed (under application) and conceptual golf courses within the Plan area in areas designated as Open Space or Forest. These specific areas include the proposed Hopkins Ranch project with an 18-hole golf course (see map section 24 [DMB/Highlands Group, LLC] of **Figure 3.0-2**), the proposed Eaglewood project with an 18-hole golf course (see map section 23 [Martis Valley Associates LLC] of **Figure 3.0-2**), conceptual consideration of an 18-hole golf course at Waddle Ranch (see map sections 20 and 21 [Waddle Ranch LLC] of **Figure 3.0-2**), and conceptual consideration of an 18-hole and 9-hole golf courses at Siller Ranch (see map sections 26, 31, 35, and 36 [DMB/Highlands Group, LLC] of **Figure 3.0-2**). The proposed pattern of development illustrated in **Figures 3.0-5** through **3.0-8** is the basis to evaluate project-specific and cumulative environmental effects of the proposed Martis Valley Community Plan Update in relation to all potential foreseeable development in the Plan area that could occur directly or indirectly from adoption of the Community Plan.

In addition to the above, the analysis takes into account concept plans for development and/or the expansion of existing developed areas that have been presented to the public (e.g., "Completing the Vision at Northstar" see **Figures 4.0-1** and **4.0-2**); roadway and trail extensions under consideration as part of the Community Plan; and land ownership (e.g., private versus public ownership [U.S. Forest Service]).

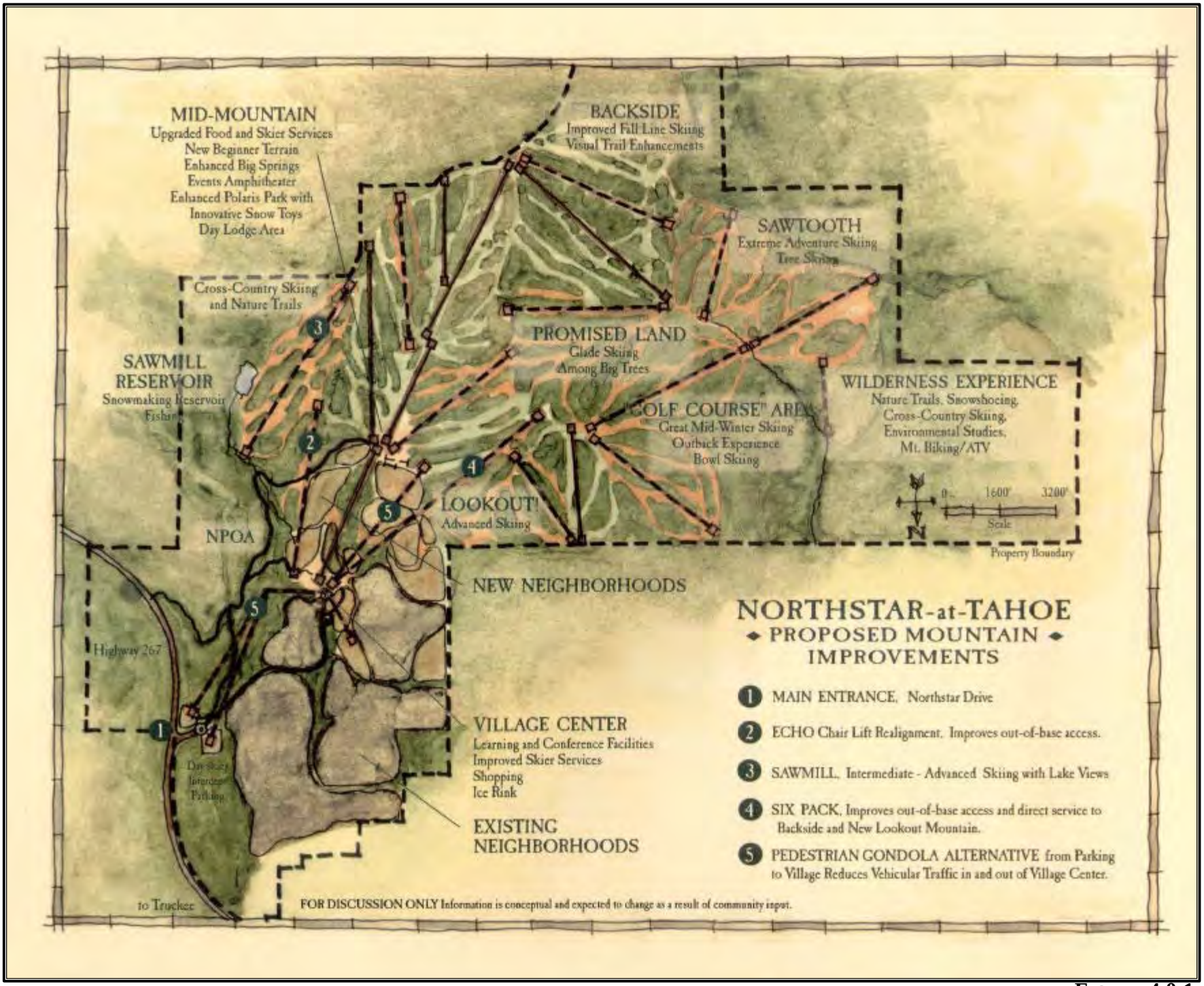


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**FIGURE 4.0-1**

NORTHSTAR-AT-TAHOE COMPLETING THE VISION OVERVIEW MAP

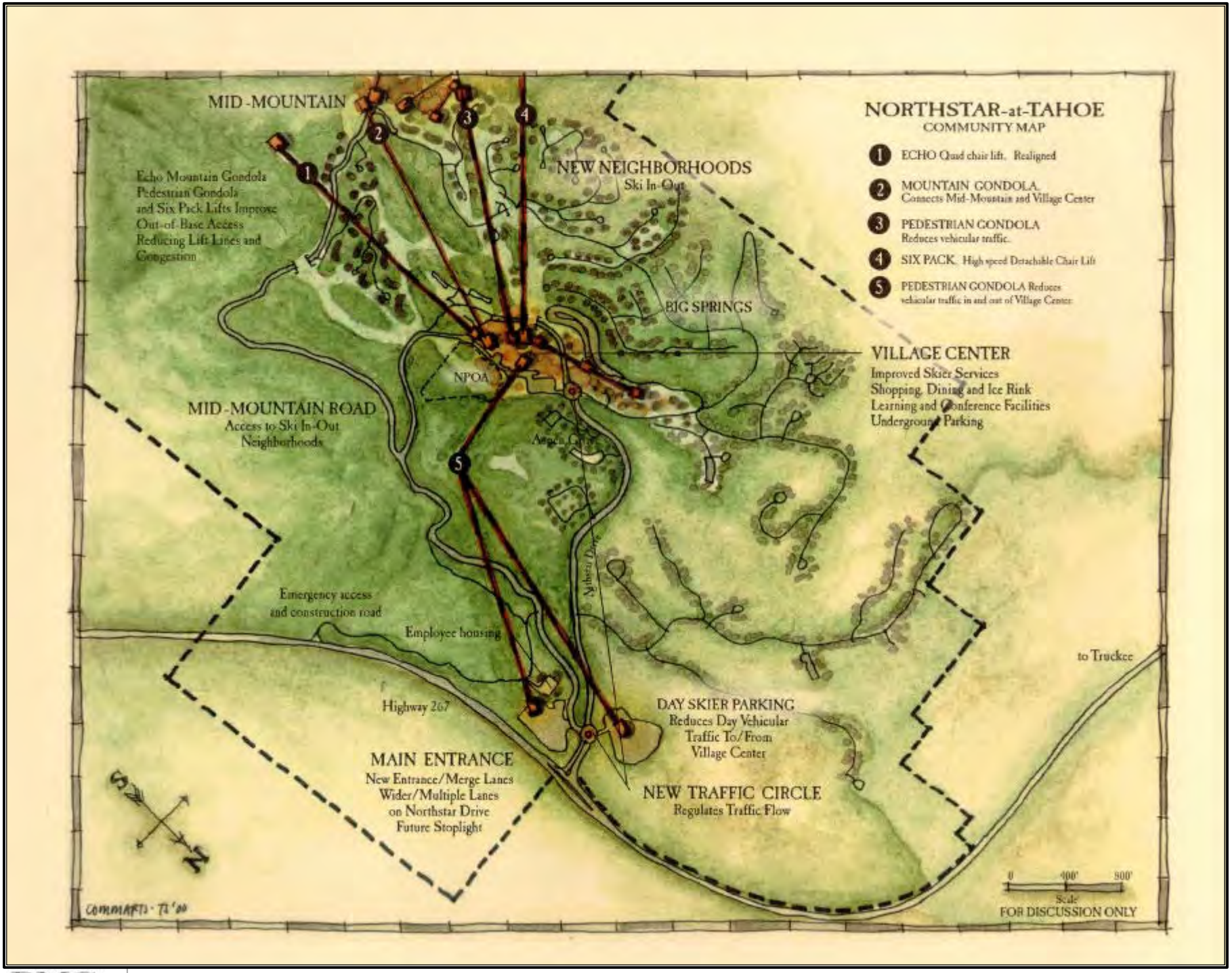


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**FIGURE 4.0-2**

NORTHSTAR-AT-TAHOE COMPLETING THE VISION CONCEPTUAL DEVELOPMENT MAP

While **Figures 3.0-5** through **3.0-8** identify land areas anticipated to experience substantial disturbance, land disturbance activities (e.g., rural residential development and timber production) in the remaining areas designated "Forest" would also occur. It should be noted that this information was generated to assist in qualitatively assessing overall environmental impacts to the Plan area and is not considered an exact description of future land disturbance in the Plan area. The exact extent of land area disturbance will be further defined as subsequent development projects are proposed.

### GENERAL ASSUMPTIONS UTILIZED FOR EVALUATING CONSTRUCTION, PHASING AND OPERATIONAL IMPACTS OF THE IMPLEMENTATION OF THE MARTIS VALLEY COMMUNITY PLAN

The environmental analysis in this Draft EIR does consider environmental effects associated with construction and operation of proposed land uses in the Plan area. The extent and rate of development of the Plan area is currently unknown, and no phasing plan of development is proposed as part of the Martis Valley Community Plan Update. It is anticipated that the rate of development will be driven by market conditions. However, it is generally assumed that the first "phase" of development would likely consist of projects currently being processed by the County. These projects include Eaglewood, Hopkins Ranch, Martis Creek Estates, Village-at-Northstar, Coyote Run, Northstar-at-Tahoe Employee Housing, Northstar-at-Tahoe Unit 7A, and Schaeffer's Camp Restaurant.

### APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

CEQA Guidelines Section 15130 requires that EIRs include an analysis of the cumulative impacts of a project when the project's effect is considered cumulatively considerable. In general, the cumulative analysis provided in this Draft EIR is based on the existing land use plans provided by Placer County (via the Placer County General Plan and the Zoning Ordinance), the Town of Truckee (Town of Truckee General Plan and Zoning Ordinance), Nevada County (Nevada County General Plan and Zoning Ordinance), and the U.S Forest Service (Sierra Nevada Framework for Conservation and Collaboration), as well as by consideration of large-scale proposed and approved development projects listed in **Table 3.0-1**. Each technical section of the Draft EIR includes a description and analysis of the cumulative setting and potential environmental cumulative impacts specific to the environmental issue area (e.g. traffic, biological resources, air quality) that the proposed Martis Valley Community Plan Update would contribute to. Section 5.0 (Cumulative Impacts Summary) provides a summary of the cumulative impacts associated with the project.

### TERMINOLOGY USED IN THE DRAFT EIR

This Draft EIR uses the following terminology to describe environmental effects of the proposed project:

***AA:*** Existing Martis Valley General Plan Land Use Map Alternative.

***AB:*** Alternative 1 Land Use Map.

***AC:*** Alternative 2 Land Use Map.

***Cumulative Significant Impact:*** A cumulative significant impact would result in a new substantial change in the environment from effects of the project when evaluated in the context of cumulative conditions in the surrounding area.

***Less Than Significant Impact:*** A less than significant impact would cause no substantial change in the environmental (no mitigation required).

***Martis Valley:*** The term Martis Valley refers to an area of land that is approximately 70 square miles (44,800 acres) in the central Sierra Nevada Mountains and is located within both Placer and Nevada Counties (see **Figure 3.0-1**).

***Plan Area:*** The proposed Martis Valley Community Plan area, which consists of portions of Martis Valley within Placer County.

***PP:*** *Proposed Land Use Diagram for the Martis Valley Community Plan.*

***Significant Impact:*** A significant impact would cause (or would potentially cause) a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance. Identified "significant" impacts are those where the project has resulted in an impact that can be measured or quantified, while identified "potentially significant" impacts are those impacts where an exact measurement of the project's effect cannot be made but substantial evidence indicates that the impact would exceed standards of significance. Mitigation measures and/or project alternatives are identified to reduce project effects to the environment.

***Significant Unavoidable Impact:*** A significant and unavoidable impact would result in a substantial change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.

***Standards of Significance:*** A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this EIR include the CEQA Guidelines; factual or scientific information; regulatory performance standards of local, State, and Federal agencies; and, County goals, objectives, and policies. Specified criteria are identified at the beginning of the impact analyses of each technical section of the EIR.

***Subsequent Projects:*** Anticipated development projects (e.g., residential, commercial, park, recreational) that would occur under the Martis Valley Community Plan. This would include public and utility extension projects including, but not limited to, roadway widenings and extensions, intersection improvements, water distribution improvements and trail extensions.

# SECTION 4.1
# LAND USE

This section of the Draft EIR describes the existing land uses in the Martis Valley Community Plan area, characterizes surrounding land uses, and discusses the Martis Valley Community Plan area in the context of the Placer County General Plan and other adopted plans and policies pertinent to the area.

### 4.1.1. EXISTING SETTING

REGIONAL SETTING

The Truckee-Tahoe region is composed of areas of Nevada and Placer Counties, the Town of Truckee, and part of the State of Nevada's Washoe County. Land use in the region is primarily associated with leisure, tourism, and outdoor recreational activities. The region is dominated by National Forests, Lake Tahoe, and several large state parks, although regional attractions also include the Town of Truckee, the Truckee River, the Truckee-Tahoe Airport, Donner Lake, Squaw Valley, and Alpine Meadows. The Town of Truckee, with the highest density of historic sites in California, initially developed around the emigrant trail, served soon after as a station for the Transcontinental Railroad, and was later known for logging and winter sports (Town of Truckee 1996).

Lake Tahoe, often referred to as the Jewel of the Sierra, attracts visitors from around the world. World-class ski resorts in the area, including Northstar-at-Tahoe, Heavenly Valley, Boreal Ridge, Squaw Valley, and Alpine Meadows, offer a variety of winter recreational activities. In addition, a wide variety of summer activities can be found in the region, including world-class golf, water sports, hiking, fishing, and mountain biking.

The region also contains many residential developments, a large concentration of secondary or recreational homes, public and private recreational areas and facilities, and commercial and industrial areas. See Section 4.2 (Population/Housing) for demographic information.

LOCAL SETTING

Martis Valley is located in both Nevada and Placer Counties, encompassing approximately 44,800 total acres. Within Placer County, however, Martis Valley consists of approximately 25,570 acres, or roughly 57 percent of the total acreage of the valley. Land use patterns consist of a wide range of urban and commercial areas, forest lands, public and private recreational areas and facilities, as well as areas designated for airport use. The Placer County portion of Martis Valley utilizes land use designations contained in the 1975 Martis Valley General Plan (see **Figure 3.0-6).**

**Existing Land Use**

A wide range of existing land uses characterize the Martis Valley Community Plan area (Plan area), including residential developments, public and private recreational areas and facilities, and commercial and industrial uses. The downtown area of the Town of Truckee is adjacent to the Plan area, as are areas of Truckee that contain existing residential developments. Several noteworthy land areas in the Placer County portion of Martis Valley include Martis Reservoir and the Martis Lake Creek National Recreation Area, the Northstar-at-Tahoe Ski Resort and Community, the Lahontan residential community, and the Truckee-Tahoe Airport.

The 20,000 acre-foot capacity Martis Reservoir, located within the Martis Creek Lake National Recreation Area, was completed in 1971 by the U.S. Army Corps of Engineers to provide flood protection for the Reno-Sparks area. The recreation area extends up the Martis Creek corridor and consists of approximately 1,800 acres designated as Open Space under the existing General Plan. Both the reservoir and the recreation area are managed by the U.S. Army Corps of Engineers.

Martis Reservoir Area

The Lahontan residential community consists of approximately 732 acres. Recreational activities include cross-country skiing, hiking, mountain biking, and golf, and General Plan designations include Medium Density Residential, Rural Residential, Open Space, and Recreation areas. Lahontan is a private community approved for 464 residential dwelling units. Lahontan 2, adjacent the northern boundary of Lahontan, is residential community of 164 acres approved for 73 single-family units and a nine-hole golf course.

Additional urban residential development areas in Martis Valley are associated with and located in close proximity to the Town of Truckee. Ponderosa Palisades, Sierra Meadows, Ponderosa Ranchos, and Martiswood Estates subdivisions are located in the northwest portion of Martis Valley and are accessed by roadways from within the Town of Truckee. Although the Placer County/Nevada County line divides the development area, the subdivisions do not stop at County lines and instead form one continuous developed area. Containing approximately 468 parcels within Placer County, these subdivisions serve more as primary homes to year-round residents of the area, whereas the Lahontan and Northstar developments are characterized by a large percentage of vacation or secondary homes.

Existing Residential Areas

The Northstar-at-Tahoe resort community provides year-round recreational activities, including skiing, hiking, mountain biking, and golf. Existing accommodations at Northstar consist of approximately 1,424 private homes and condominiums, some of which serve as rental properties. The Northstar area currently consists of 1,673 acres. General Plan Land Use designations in Northstar include Medium Density Residential, High Density Residential, Ski-Base Commercial, and Forest areas.

The Truckee-Tahoe Airport is the primary airport serving the entire north Lake Tahoe region, the Truckee area and the Donner Summit area of Northern California. The airport encompasses approximately 931 acres and is located near the center of Martis Valley approximately two miles southeast of the Town of Truckee along State Route 267. Only a small portion of the airport is within the Plan area. Airport facilities currently consist of two runways, the airport administration building, aircraft storage and maintenance hangars, an aircraft parking area, and fueling facilities. As specified by the Airport Comprehensive Land Use Plan (CLUP), runway climb-out extensions are directed over Forest and Open Space areas to limit noise impacts and address safety concerns in Martis Valley.

The airport is utilized by a wide-range of general aviation aircraft from single and multi-engine piston-powered aircraft to turboprop and business jet aircraft. The airport is used extensively for glider rides in the summer months, which make up 45 percent of the airport's summer use. The airport is not currently served by scheduled airline service. However, the airport could

accommodate commercial flights if needed in the future, although a larger terminal would be needed. (Truckee-Tahoe Airport Master Plan dated 1998 and adopted in 2000).

The Martis Valley General Plan recognizes the significance of the role played by the Airport as the "hub" of recreational air traffic for the north Lake Tahoe Resort area, as well as its own right as a commercial facility. Airport funding is provided from the Placer County selective taxes for special districts.

**Timber/Forest**

In the Martis Valley Community Plan area, there are approximately 10,882 acres in the Timber Production Zone (TPZ). Timber harvesting occurs in the Plan area, with recent timber harvesting occurring in 2000 on Siller Ranch, Trimont (Northstar), and Eaglewood properties.

Total forest lands in Placer County totaled 421,000 acres in 1996. Ownership of these lands includes 244,000 acres in national forests, 15,000 acres in other public lands, 69,000 acres owned by forest industries, and other private owners have 87,000 acres.

There are 115,983 acres designated TPZ (Timber Production Zone) in Placer County. There are five site classes for TPZ with "I" indicated best potential timber production and "V" indicating worst potential timber production. Of TPZ land, 4,130 acres are in the "I" category, 25,490 acres are in class "II," 38,471 acres designated 'III", 13,506 acres classed as "IV," and the remaining 34,386 acres are ranked "V" (CDF, 2001).

**Land Ownership**

Sierra Pacific is the largest single landowner within the Placer County portion of Martis Valley, with approximately 7,343 acres (29 percent). The 1975 Martis Valley General Plan designated the majority of land use in these areas as Forest, although some sections were designated as Low Density Residential and Commercial. However, a subsequent zoning designation of Timberland Production (TPZ) was applied to the area owned by Sierra Pacific.

Booth Creek Holdings owns and operates the Northstar-at-Tahoe Ski Resort and development area. According to Placer County, the Northstar area currently consists of approximately 1,673 acres (6.5 percent). The 1975 Martis Valley General Plan designates land use in the Northstar area as Medium Density Residential, High Density Residential, Ski-Base Commercial, Forest, and Open Space.

The Trimont Land Company holdings in the Placer County portion of Martis Valley consist of approximately 5,955 acres (23 percent) adjacent to Northstar. The 1975 Martis Valley General Plan designates these lands as Forest, Open Space, and Residential areas.

The United States Forest Service presently manages approximately 3,093 acres (12 percent) within the Placer County portion of Martis Valley. These areas consist of several small divided land parcels of various sizes, all of which lie within the Tahoe National Forest. These areas are designated as Open Space, Forest, and Recreation areas by the existing Martis Valley General Plan.

Siller Brothers (Siller Ranch) holdings within the Placer County portion of Martis Valley consist of approximately 2,328 acres (9 percent). The existing Martis Valley General Plan designates these lands as Commercial, Open Space, and Low, Medium, and Rural Residential.

The Lahontan residential community consists of approximately 896 acres, including Lahontan 2, (3.5 percent) within the Placer County portion of Martis Valley. The existing Martis Valley General Plan designates a variety of uses for Lahontan, including Open Space, Resort/Recreation, and Low, Medium, and Rural Residential. This development, originally known as Gooseneck Ranch and later as Lahontan, has a total potential development capacity of 464 D.U., of which 349 D.U. currently exist. Lahontan 2 has development capacity for 73 D.U. and a 9-hole golf course, which has been recently completed.

The Waddle Ranch holdings consist of approximately 598 acres (2 percent) within the Placer County portion of Martis Valley. The 1975 Martis Valley General Plan designates these areas as Commercial, Open Space, and medium and Low Density Residential.

Martis Valley Associates, L.L.C., (Eaglewood) holdings with the Placer County portion of Martis Valley consist of approximately 475 acres (2 percent), often referred to as Joerger Ranch. The 1975 Martis Valley General Plan designates the area as Commercial, Open Space, and Low, Medium, and Rural Residential.

Hopkins Ranch consists of approximately 285 acres (1.1 percent) within the Placer County portion of Martis Valley. The 1975 Martis Valley General Plan designates the area as Open Space and Low and Medium Density Residential.

As previously noted, the Truckee-Tahoe Airport encompasses 931 acres within Martis Valley. However, only 351 (1.3 percent) acres are within Placer County. The existing Martis Valley General Plan designates Commercial, Industrial, and Open Space areas adjacent to the airport, while the current Truckee-Tahoe Airport Comprehensive Land Use Plan suggests that planning around the airport should be done in a manner that is consistent with airport noise and safety concerns.

Approximately 2,930 additional acres (11 percent) exist within the Placer County portion of Martis Valley. These areas are predominantly characterized by existing residential developments adjacent to the Town of Truckee, as well as undeveloped holdings under various ownership. The residential development areas are designated as Low, Medium, and Rural Residential under the 1975 Martis Valley General Plan while other private holdings are designated as Forest areas.

**Figure 4.1-1** depicts land ownership and existing subdivisions in Martis Valley.

### 4.1.2 REGULATORY FRAMEWORK

FEDERAL

#### U. S. Forest Service

Divisions of the United States Forest Service that operate in the Truckee-Tahoe Region include the Tahoe National Forest, the El Dorado National Forest, and the Lake Tahoe Basin Management Unit. Although individual activities consistent with the National Forest Management Act of 1976 exist in each district, long-range comprehensive management plans were developed for the Sierra Nevada National Forests in 1998. This management plan, encompassing 10 Sierra Nevada U.S. Forest Service districts and the Lake Tahoe Basin Management Unit, is known as the Sierra Nevada Framework for Conservation and Collaboration. The plan incorporates the latest scientific information into national forest management through broad public and intergovernmental participation in natural resource planning (USFS, 2000). The U.S. Forest Service is responsible for managing its land holdings within the Plan area.

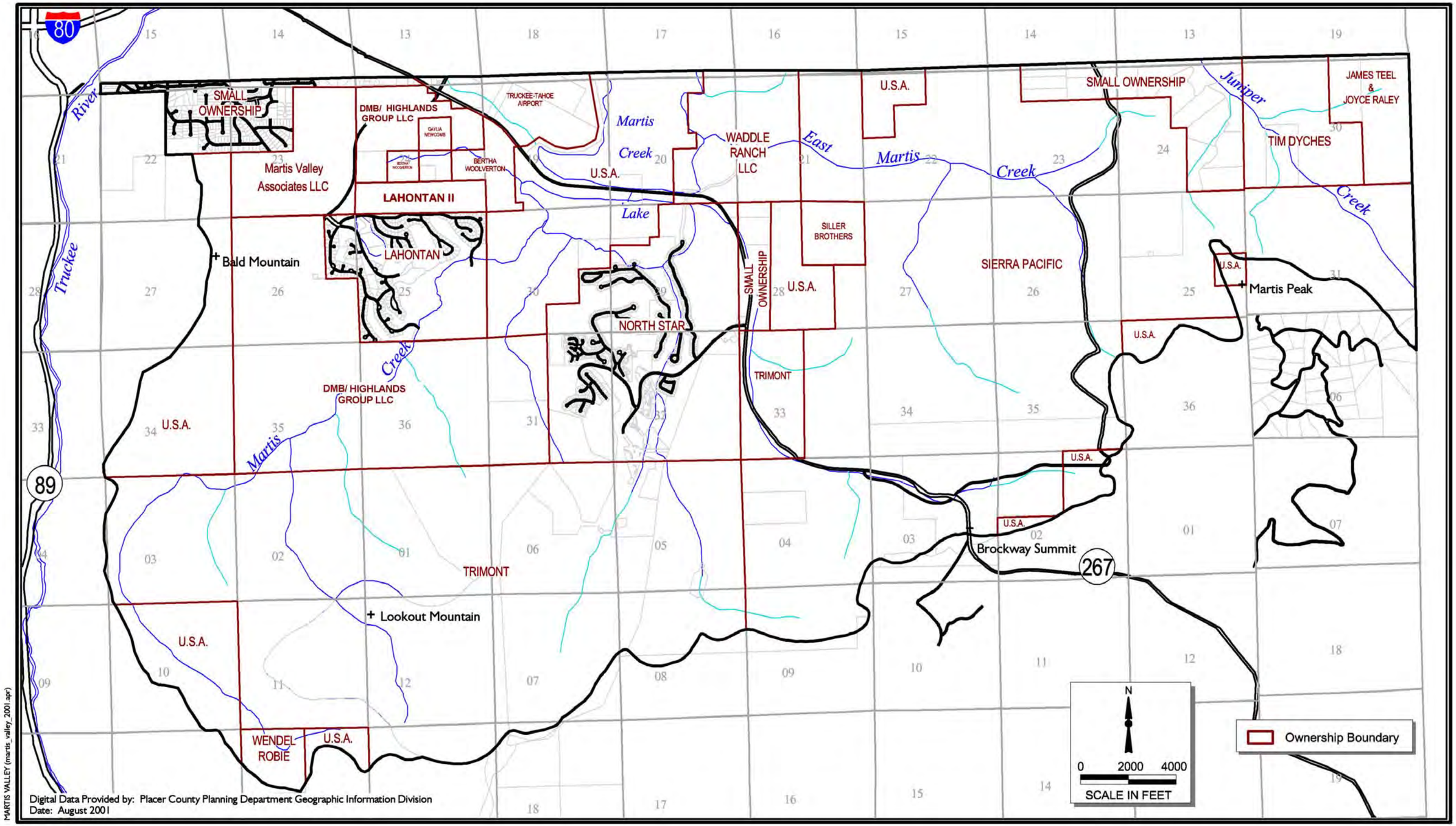


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**FIGURE 4.1-1**
MARTIS VALLEY OWNERSHIP

**Federal Aviation Administration**

Federal law sets forth standards contained in Federal Aviation Regulations (F.A.R.) Part 77, "Objects Affecting Navigable Airspace". This regulation requires FAA notification of any construction or alteration located within a series of imaginary surfaces established in FAR Part 77. The law was established for use by local authorities to control the height of objects near airports. The Part 77 Airspace drawing included in the 1998 Truckee Tahoe Airport Master Plan is a graphic depiction of this regulatory criterion. Encroachment of a structure into the imaginary surfaces constitutes an obstruction. Not all obstructions are a hazard to air navigation. The FAA presumes it to be a hazard, until a FAA aeronautical study determines that it does not have a substantial adverse effect on the safe and efficient use of navigable airspace.

The FAA cannot prohibit the construction of any structure determined to be a hazard. However, State law goes further and prohibits the construction of any structure that would penetrate any of a series of imaginary surfaces defined in FAR Part 77 unless the State Division of Aeronautics has issued a permit allowing its construction. As further discussed in Section 4.3 (Human Health/Risk of Upset), the Part 77 Airspace drawing for the Truckee-Tahoe Airport includes land area within the Plan area that would be subject to the associated standards.

STATE

**California Department of Forestry**

The California Forest Practice Act was adopted in 1973, resulting in a comprehensive forest regulation process. The California Department of Forestry (CDF) oversees enforcement of California's forest practice regulations. Under the Forest Practice Act, Timber Harvesting Plans (THPs) are submitted to CDF for commercial timber harvesting on all non-federal timberlands. The plans are reviewed for compliance with the Forest Practice Act and rules adopted by the State Board of Forestry and Fire Protection as well as other state and federal laws that protect watersheds and wildlife. CDF foresters also do on-site inspections of proposed logging sites. CDF has jurisdiction over all timber and forestlands, regardless of whether the land is zoned TPZ. Future development within the Plan area in timber areas would be required to obtain a Timberland Conversion Permit from CDF.

LOCAL

**Martis Valley General Plan**

A task force composed of representatives of Federal, State, and Local agencies, small and large landowners, and other concerned parties developed the Martis Valley General Plan to address future land use in Martis Valley. The plan, adopted in 1975, used a set of physical constraints to identify lands with development potential within Martis Valley; these constraints included slopes in excess of 30 percent, slopes with low stability, areas difficult to access, and areas of ecological value, including important wildlife habitats and open space area (Placer County, 1975).

The 1975 Martis Valley General Plan identifies and encourages specific policies regarding Martis Valley and its future development. These policies reinforce goals and recommend ways to achieve objectives discussed in the Plan (Placer County, 1975). The following policies are relevant to land use:

Environmental Resource Policies

Policy 1 Timber croplands, watershed lands, and urban forest lands must be managed and harvested on a coordinated basis and according to the recommendations of professional foresters.

Policy 2 Riparian vegetation areas and timberlands must be spared from urban encroachment.

Policy 3 Martis Creek and Truckee River should be protected by retention of natural areas along the channels (stream environment zones) either by acquisition or zoning protection. Roads, bridges, or any type of man-made improvements in these zones should be kept at an absolute minimum. Only those necessary to serve development and designed to provide maximum protection of the stream and riparian vegetation may be built. Truckee River and its tributary water sources should be retained at or near present flows and not used for domestic water supplies in order to protect the ecology of the stream and its environment.

Policy 4 Maintain sufficient groundwater recharge areas to allow the groundwater source to be perpetually available for domestic use.

Policy 10 Development should occur in areas of non-extreme climatic conditions to ease cost burdens of construction and maintenance.

Community Development and Transportation Policies

Policy 1 The flexibility to adjust the location of residential development within the developable lands is an integral part of this plan.

Policy 5 Limit annexations and encourage detachments of public service agencies in areas not formally committed to development. (This policy may not apply in Nevada County.)

Policy 14 No land development can be allowed or urban services provided outside developable lands depicted on Plate 3.

Policy 15 A variety of cluster and condominium housing to be conveniently served by the transportation system and designed to best fit development into the landscape with minimum disturbance of the natural features must be encouraged.

Policy 16 More ski lifts and runs to realize the full potential of the ski slopes should be developed; ski lift development must be kept in balance with the base facilities. Aerial construction techniques must be used in developing ski lift facilities, whenever feasible, so that construction roads will be limited in number.

**Placer County General Plan**

The 1994 Placer County General Plan describes assumptions, goals, and planning principles that provide a framework for land use decisions throughout the County, and is based on the belief that Placer County will experience continued growth and economic development because of its desirable climate, physical setting, plentiful resources, and proximity to the Sacramento metropolitan area (Placer County 1994). The General Plan acknowledges that public services

and recreational facilities will need to be expanded to accommodate this growth, and offers four planning principles as guidelines:

- A balance should be encouraged between jobs and labor force.
- Residential densities should decrease as a function of distance from urban areas.
- Compact and diverse business areas should be established that are easily accessible from primary transportation routes.
- Industrial areas should be located on large tracts of land near transportation facilities, and insulated from conflicting uses.

Within the General Plan, individual community plans are prepared for use within several different unincorporated areas of the County. These community plans, which address unique characteristics, concerns, and issues relevant to their respective areas, contain specific goals, policies, and programs. In addition, these community plans address land use, circulation, housing, public services, and other issues specific to the community. Martis Valley is one of 22 community plan areas within Placer County.

Land use policies within the Placer County General Plan pertinent to Martis Valley include:

Policy 1.A.1 The County will promote the efficient use of land and natural resources.

Policy 1.A.2 The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.

Policy 1.A.3 The County shall distinguish among urban, suburban, and rural areas to identify where development will be accommodated and where public infrastructure and services will be provided. This pattern shall promote the maintenance of separate and distinct communities.

Policy 1.A.4 The County shall promote patterns of development that facilitate the efficient and timely provision of urban infrastructure and services.

Policy 1.B.2 The County shall encourage the concentration of multi-family housing in and near village centers, major commercial areas, and neighborhood commercial centers.

Policy 1.B.3 The County shall encourage the planning and design of new residential subdivisions to emulate the best characteristics (e.g., form, scale, and general character) of existing, nearby neighborhoods.

Policy 1.B.4 The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.

Policy 1.B.5 The County shall require residential project design to reflect and consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses.

Policy 1.B.6 The County shall require new subdivided lots to be adequate in size and appropriate in shape for the range of primary and accessory uses designated for the area.

Policy 1.B.7 The County shall require multi-family developments to include private, contiguous, open space for each dwelling.

Policy 1.B.8 The County shall require residential subdivisions to be designed to provide well-connected internal and external street and pedestrian systems.

Policy 1.B.9 The County shall discourage the development of isolated, remote, and/or walled residential projects that do not contribute to the sense of community desired for the area.

Policy 1.B.10 The County shall require that all residential development provide private and/or public open spaces in order to ensure that each parcel contributes to the adequate provision of light, air, and open space.

Policy 1.D.1 The County shall require that new commercial development be designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed primarily to serve vehicular circulation.

Policy 1.D.2 The County shall require new commercial development to be designed to minimize the visual impact of parking areas on public roadways.

Policy 1.D.3 The County shall require that new community commercial centers locate adjacent to major activity nodes and major transportation corridors. Community commercial centers should provide goods and services that residents have historically had to travel outside of the area to obtain.

Policy 1.D.5 The County shall encourage existing and new village centers to provide a variety of goods and services, both public and private.

Policy 1.D.6 The County shall promote use of first floor space in new buildings in village centers for retail, food service, financial institutions, and other high-volume commercial uses.

Policy 1.D.7 The County shall encourage new village centers and new commercial projects and areas to be designed to maintain a continuous retail facade on all street frontages, except for public plazas and pedestrian passages between the front and rear of buildings.

Policy 1.D.8 The County shall require minimal, or in some cases no, building setbacks for commercial and office uses in new village centers.

Policy 1.D.9 The County shall encourage parking in village centers to be consolidated in well-designed and landscaped lots or in well-located parking structures.

Policy 1.D.10 The County shall encourage the preservation of historic and attractive buildings in existing village centers, and encourage new development to enhance the character of village centers.

Policy 1.D.11 The County shall require that existing and new village centers and development within them be designed to integrate open spaces into the urban fabric where possible, especially taking advantage of any natural amenities such as creeks, hillsides, and scenic views.

Policy 1.F.1 The County will encourage the concentration of public and quasi-public facilities. New and expanded government offices and other professional offices should be encouraged to locate on land near existing government offices.

Policy 1.F.2 The County shall seek to locate new public facilities necessary for emergency response, health care, and other critical functions outside areas subject to natural or built environment hazards.

Policy 1.F.3 The County shall require public facilities, such as wells, pumps, tanks, and yards, to be located and designed so that noise, light, odors, and appearance do not adversely affect nearby land uses.

Policy 1.G.1 The County will support the expansion of existing winter ski and snow play areas and development of new areas where circulation and transportation system capacity can accommodate such expansions or new uses and where environmental impacts can be adequately mitigated.

Policy 1.G.2 The County shall strive to have new recreation areas located and designed to encourage and accommodate non-auto mobile access.

Policy 1.G.3 The County shall continue to require the development of new recreational facilities as new residential development occurs.

Policy 1.I.1 The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design. The Planned Development and Commercial Planned Development provisions of the Zoning Ordinance can be used to allow flexibility for this integration with valuable site features.

Policy 1.I.2 The County shall require that development be planned and designed to avoid areas rich in wildlife or of a fragile ecological nature (e.g., areas of rare or endangered plant species, riparian areas). Alternatively, where avoidance is infeasible or where equal or greater ecological benefits can be obtained through off-site mitigation, the County shall allow project proponents to contribute to off-site mitigation efforts in lieu of on-site mitigation.

Policy 1.K.1 The County shall require that new development in scenic areas (e.g., river canyons, lake watersheds, scenic highway corridors, ridgelines and steep slopes) is planned and designed in a manner which employs design, construction, and maintenance techniques that:

a. Avoids locating structures along ridgelines and steep slopes;

b. Incorporates design and screening measures to minimize the visibility of structures and graded areas; and

c. Maintains the character and visual quality of the area.

Policy 1.K.3 The County shall require that new development in rural areas incorporates landscaping that provides a transition between the vegetation in developed areas and adjacent open space or undeveloped areas.

The proposed Martis Valley Community Plan policy document contains includes goals, policies and implementation programs that are consistent with the policy provisions of the Placer County General Plan.

### Placer County Zoning Ordinance

The Placer County Zoning Ordinance, Chapter 30 of the Placer County Code was adopted by the Placer County Board of Supervisors in July of 1995 and was amended in 2001. The Zoning Ordinance, which is consistent with the General Plan and applicable community plans, regulates the use of land, buildings and structures, and establishes minimum regulations and standards for the development of land within Placer County. **Figures 4.1-2** through **4.1-2c** depicts zoning classifications in Martis Valley.

The zoning ordinance establishes 22 zones and 13 combining districts that are applied Countywide, with the exception of areas covered by the Squaw Valley Land Use Ordinance, the Tahoe City Community Plan, and the Tahoe City Area General Plan. **Table 4.1-1** lists the zoning classifications and combining districts applicable to Placer County and Martis Valley.

**TABLE 4.1-1**
**ZONING CLASSIFICATIONS IN PLACER COUNTY**

| Zone | Map Code |
|---|---|
| *Resource and Open Space Districts* | |
| Forestry | F |
| Open Space | O |
| Timberland Production Zone | TPZ |
| Water Influence | W |
| *Commercial and Industrial Districts* | |
| Airport | AP |
| Commercial Planned Development | CPD |
| General Commercial | C2 |
| Highway Services | HS |
| Neighborhood Commercial | C1 |
| Office and Professional | OP |
| *Residential Districts* | |
| Residential Forest | RF |
| Residential Multi-Family | RM |
| Residential Single-Family | RS |
| *Combining Districts* | |
| Agricultural | -AG |
| Building Site | -B |
| Conditional Use Permit Required | -UP |
| Design Review | -Dc, -Dh, -Ds |
| Development Reserve | -DR |
| Planned Residential Development | -PD |

**Town of Truckee General Plan**

Land use planning activities in and around the Town of Truckee are governed by the 1995 General Plan, which is designed to accommodate projected growth through 2014. Guiding principles in the General Plan propose locating significant new development around existing developed areas, designating an adequate amount of land as Commercial to meet projected demand, limiting the locations of freeway oriented commercial development, discouraging future subdivision of estate type parcels within Town boundaries outside existing subdivisions, increasing infill development around Tahoe Donner, preventing "commercial sprawl," prohibiting mass parking areas and large single building forms, and allowing a mix of uses within commercial areas. To achieve these principles, the Town has identified specific areas for development, including the Downtown Study Area, the Donner Lake Community Area, the Tahoe-Donner Planned Community, three future planned communities, and one Special Study area.

Adjacent the Plan area, designated land uses in the Town of Truckee include Special Study Area, Planned Community-1, Public, Residential (1-2 D.U./acre), Residential Cluster-5, High Density Residential, Commercial, and Industrial.

**Truckee-Tahoe Airport**

Development of the Plan area is subject to height restrictions of Federal Aviation Regulations (FAR) Part 77 and the Tahoe Truckee Airport Comprehensive Land Use Plan (CLUP). The CLUP is adopted and administered by the Foothill Aviation Land Use Commission (ALUC). ALUC reviews development applications and determines the compatibility of the project to the height, noise and safety guidelines of the CLUP.

Truckee-Tahoe Airport Master Plan

Coffman Associates was retained by the Truckee-Tahoe Airport District to prepare an updated Airport Master Plan. The Truckee Tahoe Airport Master Plan, dated June 1998, was adopted in 2000 by the Truckee Tahoe Airport District. Under the 1998 Truckee Tahoe Airport Master Plan a third runway, new terminal building, parking, hangers and warehouses are identified. The plan predicts that aircraft operations at the Truckee-Tahoe Airport would consist of single and multi-engine business, charter and personal aircraft.

The 1998 Airport Master Plan illustrates that the operations characteristics of the airport have changed dramatically from what was presented in the earlier master plan. For instance the current flight paths of the airport are not consistent with flight paths projections. Also, the number of airport operations today is only around 75 percent of that projected by the earlier Master Plans and the mix of aircraft using the airport is also different.

Truckee Tahoe Airport Comprehensive Land Use Plan

The Foothill Airport Land Use Commission (ALUC) adopted a Comprehensive Land Use Plan (CLUP) in 1986. The Foothill Airport Land Use Commission prepared an update in 1990 to include revised noise contours. The CLUP suggests that land use policies and regulations in Martis Valley should be consistent with concerns to minimize public exposure to noise and safety hazards, provide for safe aircraft operations, and protect the airport as a public resource (CLUP, 1990). The plan established areas of influence within which airport operations are likely to affect other land uses, and proposes restraints to minimize conflicts within those boundaries (see **Figure 4.3-2**). The 1990 CLUP does not reflect the current actual airport operations and misidentifies the radius

at the end of runway 28 and the main runway (Truckee Tahoe Airport District, Janna Caughron, personal communication, July 2001).

**Nevada County General Plan**

The 1995 Nevada County General Plan indicates that the extent of public land located within Nevada County is a primary factor in determining the composition of the County's land use pattern. The County encompasses approximately 943 square miles; of that, the U.S. Forest Service, the Bureau of Land Management, and the Spenceville Wildlife and Recreation Area consist of approximately 314 square miles. In regards to the Truckee-Tahoe area, land uses in eastern Nevada County are concentrated around Donner Lake and subdivisions north of the Town of Truckee, with relatively few residential land uses outside of these established areas.

Rural-20, Planned Development (anticipated to include Estate, Forest-40, Forest-160, Residential, and Open Space uses), Open Space, Public, and Industrial are the land use designations in the portion of Nevada County adjacent the Plan area. These designations are shown on **Figure 3.0-3**.

### 4.1.3. IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

A land use impact is considered significant if implementation of the project would result in any of the following:

1) Conflict with adopted land use general plan/community plan/specific plan designation(s) or zoning, or policies contained within such plans (e.g., Placer County General Plan, Martis Valley General Plan, Northstar at Tahoe Master Plan, Truckee Tahoe Airport Comprehensive Land Use Plan) that would result in a physical impact on the environment;

2) Be incompatible with existing land uses in the vicinity;

3) Affect timber resources or operations (e.g., conversion of designated timberland production areas, or impacts from incompatible land uses); or

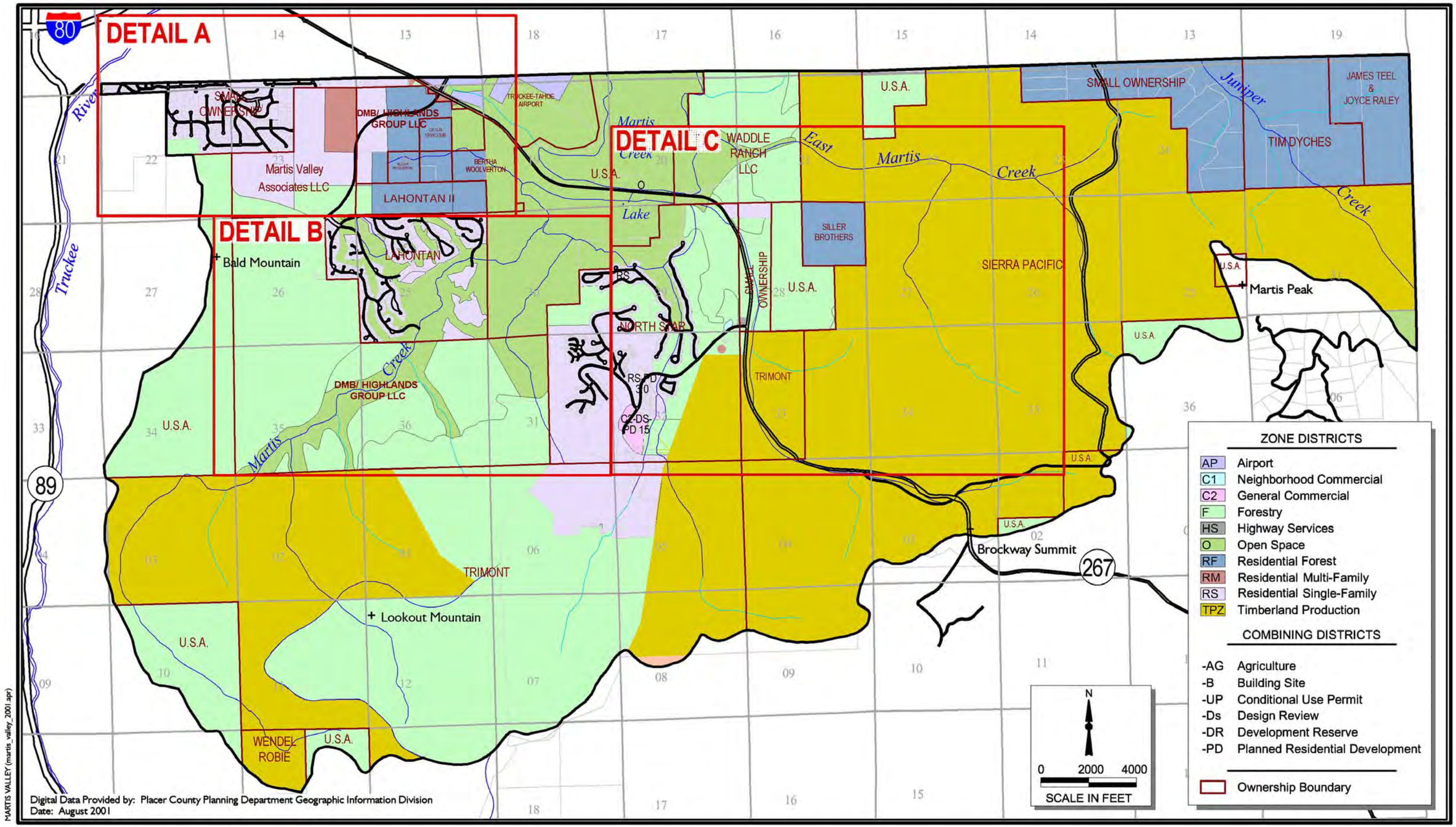
4) Result in a substantial alteration of the present and/or planned land use of an area.

The Notice of Preparation for this EIR indicated that the project would not disrupt or divide the physical arrangement of an established community. Thus, this issue is not discussed in this EIR.

METHODOLOGY

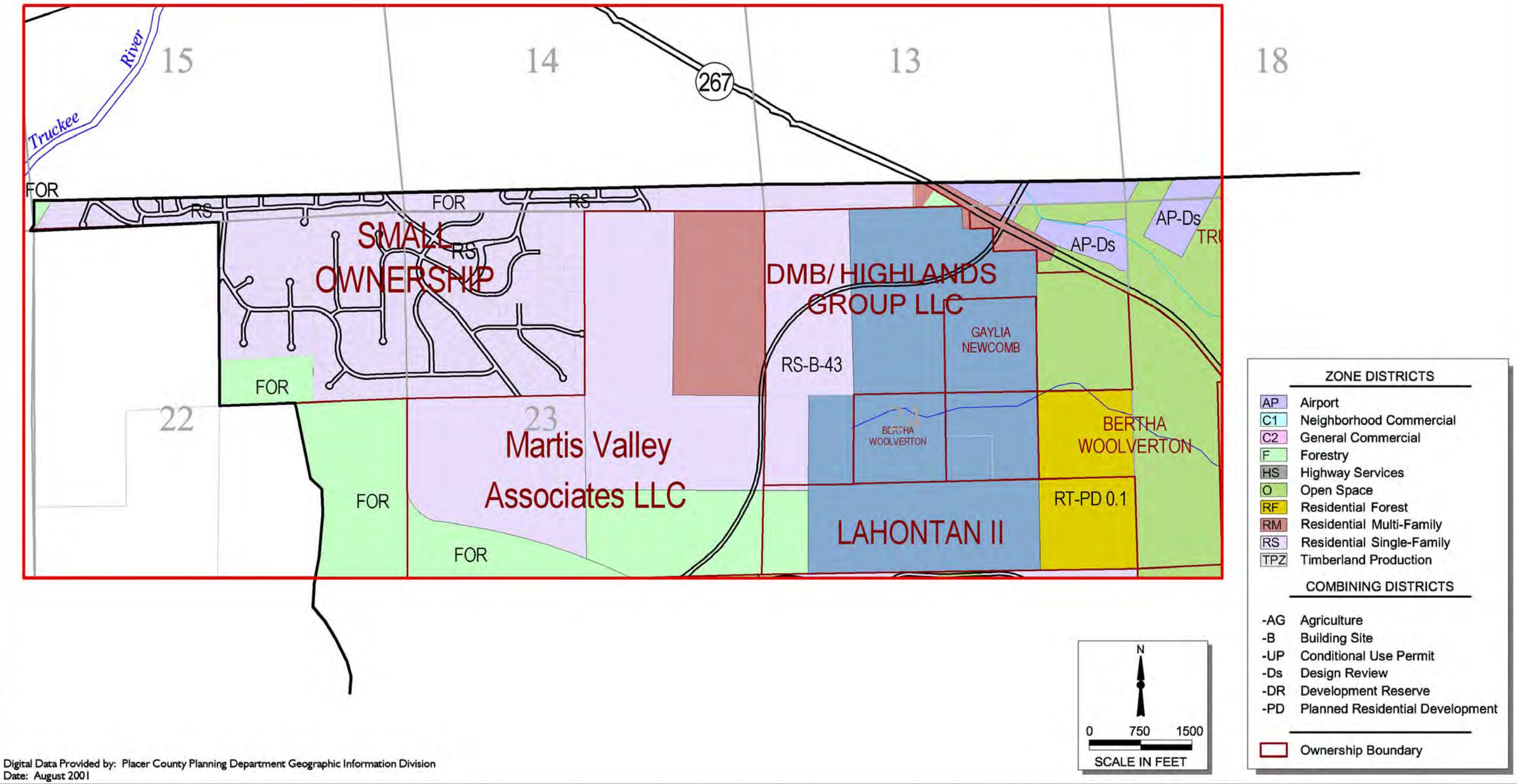
Evaluation of potential land use impacts of the proposed Martis Valley Community Plan, Proposed Land Use Diagram and the three land use map alternatives (AA, AB, AC) was based on review of planning documents pertaining to the Plan area, including the Placer County General Plan, Placer County Zoning Code, Martis Valley General Plan, Truckee General Plan, Truckee-Tahoe Airport Comprehensive Land Use Plan, Truckee-Tahoe Airport Master Plan, and Nevada County General Plan; consultation with appropriate agencies; and field review of the Plan area and surroundings.

The analysis contained herein is based on buildout conditions for Martis Valley as set forth in the planning documents of Placer County, Town of Truckee, and Nevada County. This analysis does not assess impacts associated with the phasing of projects or interim improvements.




PMC
PACIFIC MUNICIPAL CONSULTANTS

FIGURE 4.1-2
MARTIS VALLEY ZONING DESIGNATIONS




Digital Data Provided by: Placer County Planning Department Geographic Information Division
Date: August 2001

PMC
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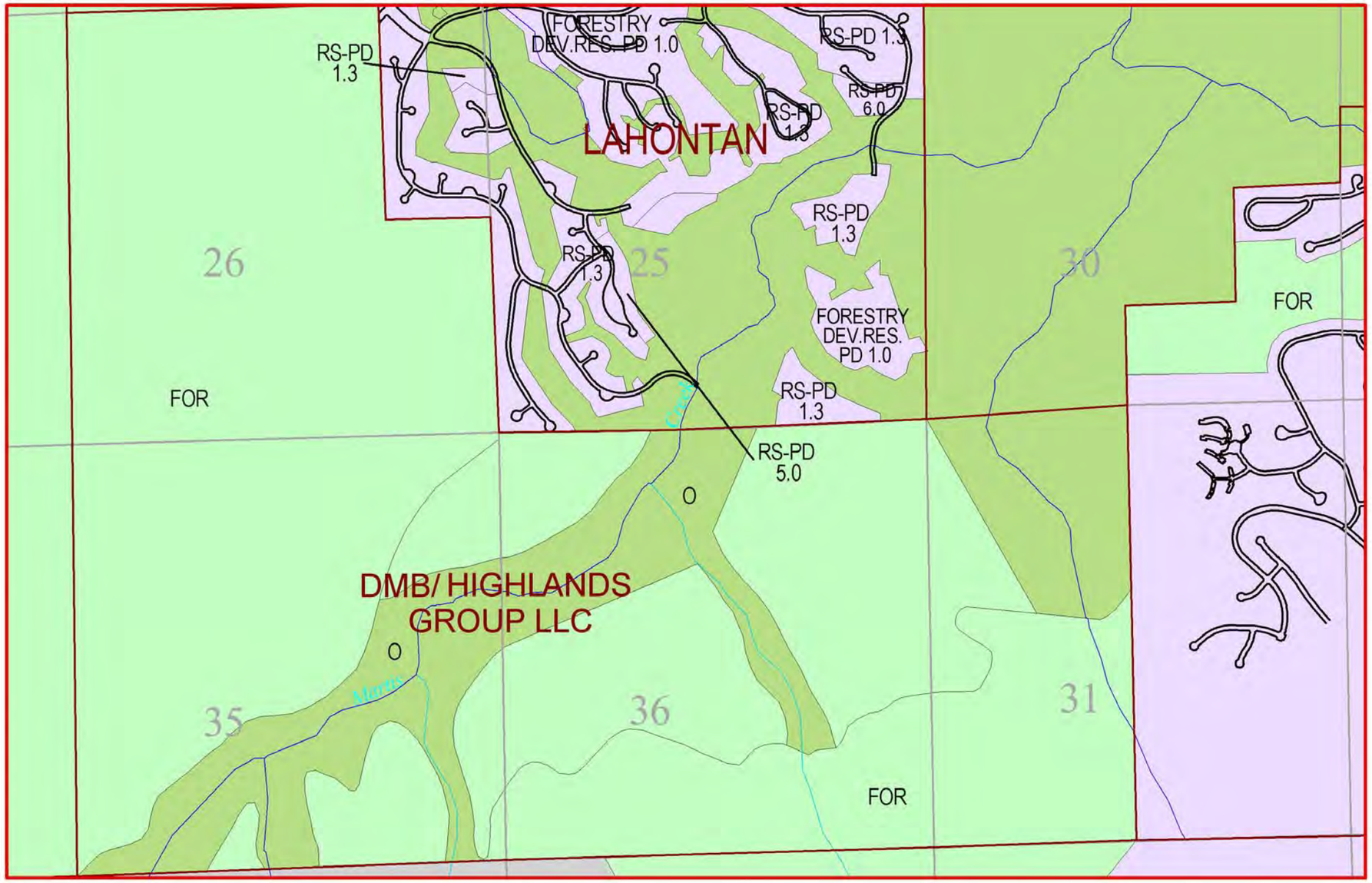
FIGURE 4.1-2A
MARTIS VALLEY ZONING DESIGNATIONS




ZONE DISTRICTS

- AP Airport
- C1 Neighborhood Commercial
- C2 General Commercial
- F Forestry
- HS Highway Services
- O Open Space
- RF Residential Forest
- RM Residential Multi-Family
- RS Single-Family Residential
- TPZ Timberland Production

COMBINING DISTRICTS

- -AG Agriculture
- -B Building Site
- -UP Conditional Use Permit
- -Ds Design Review
- -DR Development Reserve
- -PD Planned Residential Development

Ownership Boundary

N

0 750 1500

SCALE IN FEET

Digital Data Provided by: Placer County Planning Department Geographic Information Division
Date: August 2001

MARTIS VALLEY (martis_valley_2001.apr)

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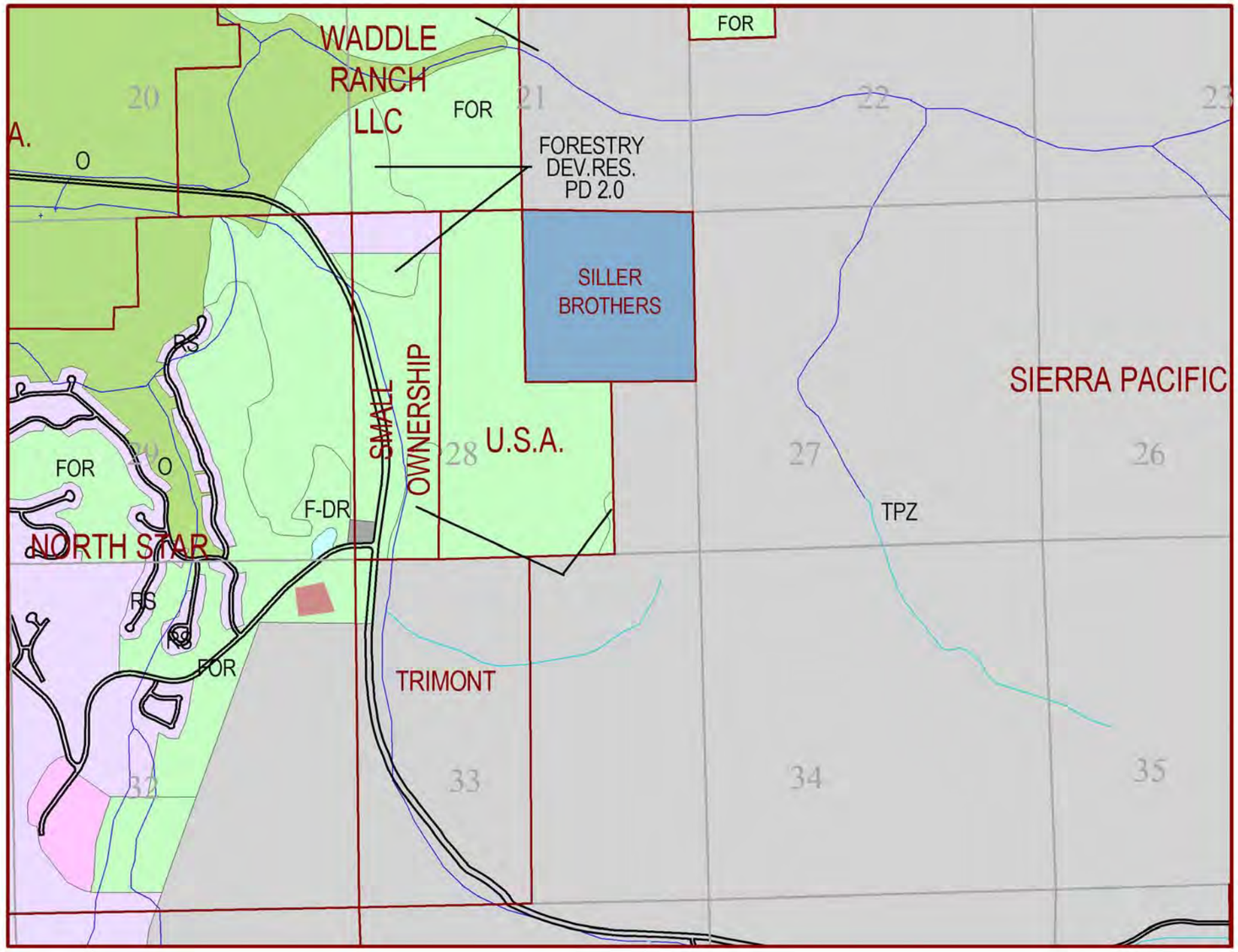
FIGURE 4.1-2B
MARTIS VALLEY ZONING DESTINATIONS




ZONE DISTRICTS

| | |
|---|---|
| AP | Airport |
| C1 | Neighborhood Commercial |
| C2 | General Commercial |
| F | Forestry |
| HS | Highway Services |
| O | Open Space |
| RF | Residential Forest |
| RM | Residential Multi-Family |
| RS | Residential Single-Family |
| TPZ | Timberland Production |

COMBINING DISTRICTS

| | |
|---|---|
| -AG | Agriculture |
| -B | Building Site |
| -UP | Conditional Use Permit |
| -Ds | Design Review |
| -DR | Development Reserve |
| -PD | Planned Residential Development |

Ownership Boundary

N

0 750 1500

SCALE IN FEET

Digital Data Provided by: Placer County Planning Department Geographic Information Division
Date: August 2001

MARTIS VALLEY (martis_valley_2001.apr)

PMC

FIGURE 4.1-2C
MARTIS VALLEY ZONING DESIGNATIONS

The focus of this land use analysis is on land use impacts that would result from the new community plan policy document and land use map. Specific impacts and issues associated with biological resources, visual resources, noise, traffic, public services/utilities, hydrology, geology and other environmental issue areas are addressed in each technical section and the reader is referred to other EIR sections for detailed analysis of other relevant environmental effects as a result of Plan development.

PROJECT IMPACTS AND MITIGATION MEASURES

**Impact 4.1.1 Consistency with Relevant Land Use Planning Documents**

**PP** The Proposed Land Use Diagram would potentially conflict with land use planning documents relevant to the Plan area. This is a **significant** impact.

**AA** The proposed Existing Martis Valley General Plan Land Use Map Alternative would potentially conflict with land use planning documents relevant to the Plan area. This is a **significant** impact.

**AB** The proposed Alternative 1 Land Use Map would potentially conflict with land use planning documents relevant to the Plan area. This is a **significant** impact.

**AC** The proposed Alternative 2 Land Use Map would potentially conflict with land use planning documents relevant to the Plan area. This is a **significant** impact.

Placer County General Plan

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Land use designations within the proposed Martis Valley Community Plan policy document are Forest, Open Space, Water, Forest Residential, Rural Residential, Low Density Residential, Medium Density Residential, High Density Residential, General Commercial, Tourist/Resort Commercial, Professional Office and Public/Quasi Public. These designations are consistent with the 13 designations delineated within the County General Plan for the purpose of updating community plans. The proposed Martis Valley Community Plan policy document also includes goals, policies and implementation programs that are consistent with the policy provisions of the Placer County General Plan and further refine the previous provisions in the 1975 Martis Valley General Plan (see discussion below).

The Proposed Land Use Diagram and land use map Alternatives AA, AB, and AC would be consistent with applicable Placer County General Plan and existing Martis Valley General Plan policies pertaining to the type and location of proposed land uses. The Placer County General Plan defers to the Martis Valley General Plan Land Use Diagram to provide the specific land use designations. The Proposed Land Use Diagram and Alternatives AA through AC would generally result in minor modifications to the existing Martis Valley General Plan land use designations shown in **Figure 3.0-6**, and would not result in an increased intensification of land uses beyond what is currently allowed (see **Tables 3.0-2** through **3.0-6**).

In addition to the General Plan land use designations, the Placer County General Plan includes a Generalized Land Use Map that contains 5 general land use categories, Agriculture, Resource Protection, Rural Residential, Timberland, and Urban, that each correlate to 1 or more of the proposed Community Plan land use designations. The uses in Alternative AA are consistent with the Generalized Land Use Map. However, the Proposed Land Use Diagram and alternatives AB and AC deviate slightly from this map. Alternatives AB and AC designate Forest as a land use in

areas designated as Urban in the General Plan Generalized Land Use Map. Specifically, these areas are located in properties under the ownership of Sierra Pacific and Trimont. Alternative AC and the Proposed Land Use Diagram also proposes Rural Residential, Open Space, Tourist/Resort Commercial, and Professional Office uses in an area designated as Timberland in the Generalized Land Use Map; the loss of timberland is discussed in this section under Impact 4.1.3 Conversion of Timber/Forest Lands. This area is located in the Siller Ranch property which is adjacent to the Lahontan property on the south and west. Since the proposed Community Plan update includes a General Plan Amendment that will bring the community plan into consistency with the General Plan, impacts related to the Generalized Land Use Map resulting from Alternatives AB and AC are considered **less than significant**.

Existing Martis Valley General Plan

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

The existing Martis Valley General Plan policies directly applicable to land use include Environmental Resource Policies (ERP) 1, 2, 3, 10, and 11 and Community Development and Transportation Policies (CDTP) 1, 14, 15, and 16 which are listed under 4.2 Regulatory Framework. Policies 1 and 2 are discussed under Impact 4.1.3 Conversion of Timber/Forest Lands. Policies associated with traffic, air quality, noise, hydrology, geology, public services, utilities, parks and recreation, population and housing, and visual resources are discussed in their respective sections within this EIR. While these policies are not specifically stated in the proposed Martis Valley Community Plan, the proposed Community Plan policy document and PP and Alternatives AA, AB, and AC are consistent with, and expand upon, these land use policies.

The Proposed Land Use Diagram and Alternatives AA, AB, and AC designate the area surrounding Martis Creek and Martis Creek as well as areas designated for retention in the Martis Valley General Plan Open Space and Forest, consistent with ERP 3 and 11. PP and Alternatives AA through AC do not designate lands for development in areas of extreme climatic conditions, (i.e., it does not place residential uses on summits, with the exception of allowing ski-oriented commercial uses in areas with extreme climates, consistent with ERP 10). The Proposed Land Use Diagram and Alternatives AA, AB, and AC designate general areas for residential development within developable lands, as indicated on the Existing Martis Valley General Plan plates depicting the Summary of Environmental Sensitivity and Lands Having Development Potential; this is consistent with CDTP 1 and 14. Residential designations that would allow high density development and condominiums have been situated in areas that would be served by the transportation network within Martis Valley and where disturbance of natural features would be minimized in accordance with CDTP 15. The Proposed Land Use Diagram and alternatives would allow additional ski-based commercial development including runs and trails on the Siller Ranch property, thus accommodating additional ski facilities consistent with CDTP 16.

The Proposed Land Use Diagram and Alternatives AA through AC would continue environmental protection measures related to land use within the existing Martis Valley General Plan. The Martis Valley Community Plan policies and implementation programs listed below would serve to further reduce land use impacts associated with revising land use designations and adopting a new policy document for Martis Valley. Therefore, land use impacts regarding consistency with the existing Martis Valley General Plan are **less than significant** for PP and Alternatives AA, AB, and AC.

Town of Truckee General Plan

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Land uses in Truckee adjacent the Plan area include Special Study Area (adjacent Truckee River), Planned Community-1, Public, Residential (1-2 D.U./acre), Residential Cluster-5, High Density Residential, Commercial, and Industrial. The western portion of the Plan area has existing residential development bordering the Special Study Area, Residential Cluster-5, and Residential 1-2 uses in Truckee. Development proposed under the Proposed Land Use Diagram and Alternatives AA through AC would place land uses that would be compatible with existing and planned land uses in Truckee adjacent the Plan area. Therefore, this impact is **less than significant**.

Nevada County General Plan

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Development under the Proposed Land Use Diagram and Alternatives AA, AB, and AC would place Open Space east of the Truckee-Tahoe Airport surrounding Martis Creek Lake, adjacent to the Open Space designated in Nevada County to the north. The Existing Martis Valley General Plan Land Use Map designates Waddle Ranch, adjacent Nevada County, as Medium Density Residential and Forest while the Proposed Land Use Diagram and alternatives AB and AC propose Low Density Residential and Forest in this location that is adjacent a Planned Development designation that would allow Estate, Residential, Forest-40, and Open Space uses. The eastern portion of the Plan area is designated Forest, with 40 to 640 acre minimum parcel sizes under the Proposed Land Use Diagram and the 3 alternatives; this area borders Forest-160, Rural-20, Forest-40, and a Planned Development in Nevada County. Uses designated on the Proposed Land Use Diagram and the three land use map alternatives would be compatible with the Nevada County land uses bordering the Plan area, resulting in a **less than significant** impact.

Truckee-Tahoe Airport Comprehensive Land Use Plan and Airport Master Plan

***PP Proposed Land Use Diagram***

Development projects within the Plan area are subject to the review of the Foothill Airport Land Use Commission and the Airport's Comprehensive Land Use Plan. The policies and guidelines contained in the CLUP are intended to protect the safety and general welfare of people in the vicinity of the airport and assure the safety of air navigation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to reduce the number of people exposed to airport-related hazards and to ensure that the height of structures will not affect navigable airspace.

The policies included in the CLUP for land use planning are directly related to noise and safety issues associated with development in the vicinity of the airport. Consistency with these policies is addressed in Sections 4.3 (Human Health/Risk of Upset) and 4.5 (Noise).

As proposed, the Community Plan document does not require consistency with policies included in the CLUP. Lack of consistency with the CLUP and Airport Master Plan is a potentially **significant** impact.

***AA Existing Martis Valley General Plan Land Use Map Alternative***

As discussed under PP, the Community Plan document does not require consistency with policies

included in the CLUP. Lack of consistency with the CLUP and Airport Master Plan is a potentially **significant** impact.

***AB Alternative 1 Land Use Map***

As discussed under Alternative AA, the Community Plan document does not require consistency with policies included in the CLUP. Lack of consistency with the CLUP and Airport Master Plan is a potentially **significant** impact.

***AC Alternative 2 Land Use Map***

As discussed under Alternative AA, the Community Plan document does not require consistency with policies included in the CLUP. Lack of consistency with the CLUP and Airport Master Plan is a potentially **significant** impact.

Policies and Implementation Programs

The following Martis Valley Community Plan policies and implementation programs would reduce potential impacts discussed regarding consistency of the project with planning documents applicable to the Plan area.

*Policy 1.A.1* *The County will promote the efficient use of land and natural resources.*

*Policy 1.A.2* *The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.*

*Policy 1.B.3* *The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports and sewage treatment plants.*

*Policy 1.B.4* *The County shall require residential project design to reflect and consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses.*

*Policy 1.B.6* *The County shall require multi-family developments to include private, contiguous, open space for each dwelling.*

*Policy 1.B.7* *The County shall require residential subdivisions to be designed to provide well-connected internal and external street and pedestrian systems.*

*Policy 1.B.9* *The County shall require that all residential development provide private and/or public open spaces in order to ensure that each parcel contributes to the adequate provision of light, air, and open space.*

*Policy 1.B.10* *The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design. The Planned Development and Commercial Planned Development provisions of the Zoning Ordinance can be used to allow flexibility for this integration with valuable site features.*

*Policy 1.C.1* *The County shall require that new commercial development be designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed primarily to serve vehicular circulation.*

*Policy 1.C.3* *The County shall identify any available opportunities for small commercial centers where some of the adjoining residents needs can be met without necessitating a trip outside the area.*

*Policy 1.E.1* *The County will support the expansion of existing winter ski and snow play areas and development of new areas where circulation and transportation system capacity can accommodate such expansions or new uses and where environmental impacts can be adequately mitigated.*

*Policy 1.F.1* *The County shall encourage the sustained productive use of forestland as a means of providing open space and conserving other natural resources.*

*Policy 1.F.2* *The County shall recognize and acknowledge the multi-use management strategy adopted by the United States Forest Service for the Martis Valley/Tahoe National Forest area.*

*Policy 1.F.3* *The County shall discourage development that conflicts with timberland management.*

*Policy 1.F.4* *The County shall review development plans for all lands adjoining USFS lands for compatibility with the long-term maintenance and use of the forestlands.*

*Policy 1.F.5* *The County shall work closely and coordinate with agencies involved in the regulation of timber harvest operations to ensure that County conservation goals area achieved.*

*Policy 1.F.6* *The County shall support the continued use of Timberland Production zoning and its related tax benefits as a means of encouraging on-going private forest resource production efforts and management plans. The County shall also consider approval of all reasonable compatible uses of such lands as long as they meet the intent of maintaining such areas for the long-term production of timber.*

*Policy 1.G.1* *The County shall support the preservation and enhancement of natural landforms, native vegetation, and natural resources as open space. The County shall permanently protect, as open space, areas of natural resource value, including open meadows, mixed conifer forests, high montane meadows, riparian corridors, and floodplains.*

*Policy 1.G.2* *The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design. The Planned Residential Developments (PD) provisions of the Zoning Ordinance can be used to allow flexibility for this integration with valuable site features.*

*Policy 1.G.3* *The County shall require that development be planned and designed to avoid areas rich in wildlife or of a fragile ecological nature (e.g., areas of rare or endangered plant species, riparian areas).*

*Policy 1.G.4* *The County shall support the maintenance of open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement, and sustain ecosystems.*

*Policy 1.G.5* *The County shall review development projects and ensure that areas of development are subordinate to the creation of interconnected greenbelts and open spaces, and areas, which tie together the large expanses of undeveloped lands in Martis Valley.*

*Policy 1.G.6* *The County shall require that new development be designed and constructed to protect, enhance, rehabilitate, and restore the following types of areas and features as open space to the maximum extent feasible:*

*a. High erosion hazard areas;*

*b. Scenic and trail corridors;*

*c. Streams, streamside vegetation;*

*d. Wetlands;*

*e. Other significant stands of vegetation; and,*

*f. Wildlife corridors*

*Policy 1.G.7* *The County shall prohibit the extraction of natural resources, except for water, from areas of dedicated open space except as meets resource management planning that protects, rehabilitates, and maintains and enhances the natural characteristics of such resources (i.e. fire protection, flood prevention, etc.)*

*Policy 1.J.1* *The County shall encourage the preservation of timber producing lands as regional open space, and protect these areas from urban encroachments.*

*Policy 5.E.1* *The County shall support the continued use of the Truckee-Tahoe Airport as a general purpose airport.*

*Policy 5.E.2* *The County shall work with the Airport Land Use Commission in the planning of land uses around the Truckee-Tahoe Airport to ensure protection of airport operations from urban encroachment and establishment of compatible uses within the over-flight zones.*

*Implementation Programs*

1. *Review all development projects for compliance with the Environmental Review Ordinance and to determine that all feasible mitigation measures have been identified.*

   *Responsible Agency/Department: Land Development Departments*

*Time frame: Ongoing*
*Funding: Application fees*

2. *Review all development projects for compliance with the goals, policies and specific discussions contained in the Land Use section and throughout the Plan.*

   *Responsible Agency/Department: Land Development Departments/Planning Commission/Board of Supervisors*
   *Time frame: Ongoing*
   *Funding: Application fees*

3. *Provide appropriate land use designations and consistent zone districts to meet the intent of the Plan's goals, policies and specific discussions. The following chart (**Table 1.1**) "General Rules for Determining Zoning Consistency" shall be used in the implementation of the Plan.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: As a part of the MVCP update*
   *Funding: Application fees*

4. *Encourage PDs, where appropriate, as a tool to promote environmentally sensitive land use which maximizes the creation of open space areas.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: On-going*
   *Funding: Permit Fees*

5. *Use specific zoning classification to implement appropriate land use development criteria including minimum parcel size, setbacks, height restrictions, maximum lot coverage and limitations on the use of land.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: As a part of the MVCP update*
   *Funding: General Fund*

6. *Require dedication of open space easements where appropriate within development projects to preserve and protect open space resources.*

   *Responsible Agency/Department: Development Review Committee*
   *Time frame: Ongoing*
   *Funding: Permit Fees*

Mitigation Measure

The following mitigation measures would apply to Alternatives AA, AB, and AC. Mitigation Measure MM 4.1.1a would be added as a land use policy under Goal 1.A. of the Community Plan document and Mitigation Measure MM 4.1.1b would be added as an implementation program under land use in the Land Use Section of the Community Plan.

**MM 4.1.1a** All development projects shall conform to the provisions of the Tahoe Truckee Airport District Comprehensive Land Use Plan to include, but not be limited to, land use and height restrictions of the CLUP.

**MM 4.1.1b** Review all development projects for consistency compliance with the goals, policies and specific requirements contained within the Comprehensive Land Use Plan and Airport Master Plan for the Truckee-Tahoe Airport.

Responsible Agency/Department: Planning Department
Time frame: Ongoing
Funding: Application fees

Implementation of the above mitigation measures would reduce impacts relating to consistency between Proposed Land Use Diagram and Alternatives AA, AB, and AC and Truckee-Tahoe Airport planning documents to **less than significant**.

**Impact 4.1.2 Land Use Conflicts**

**PP** Development under the Proposed Land Use Diagram would result in substantial change in land use in the Plan area. This is a **potentially significant** impact.

**AA** Development under the Existing Martis Valley Community Plan Land Use Map Alternative would result in substantial change in land use in the Plan area. This is a **potentially significant** impact.

**AB** Development under the Alternative 1 Land Use Map would result in substantial change in land use in the Plan area. This is a **potentially significant** impact.

**AC** Development under the Alternative 2 Land Use Map would result in substantial change in land use in the Plan area. This is a **potentially significant** impact.

Internal

***PP Proposed Land Use Diagram***

Development conditions under the Proposed Land Use Diagram would result in a substantial change in land use in the Plan area resulting from the removal of open space and wooded areas. In some cases, development would occur adjacent to existing residential, commercial, or timber harvest areas. Existing development on Northstar, Lahontan, Lahontan II, and the small ownership properties in the northwest area of the plan would be bordered by a similar level of residential development, or open space, as shown on **Figure 3.0-5** that depict the land use designations for the Proposed Land Use Diagram.

Environmental impacts, such as effects on biological resources, visual resources, traffic, noise, and air quality, resulting from changes to land use are discussed in their respective sections of this EIR.

This change from a rural area to a more suburban character is planned for and supported by the Placer County General Plan and the 1975 Martis Valley General Plan. In addition, the proposed Community Plan policy document includes general land use goals and policies regarding the wise, efficient, and environmentally sensitive use of lands in Martis Valley. However, implementation of the Proposed Land Use Diagram would result in conversion of land areas currently in open space and may result in conflicts with activities in areas designated Forest.

***AA Existing Martis Valley General Plan Land Use Map Alternative***

Development conditions under the Existing Martis Valley General Plan Land Use Map would result in a substantial change in land use in the Plan area resulting from the removal of open space and wooded areas, similar to the Proposed Land Use Diagram. In some cases, development would occur adjacent to existing residential, commercial, or timber harvest areas. Existing development on Northstar, Lahontan, Lahontan II, and the small ownership properties in the northwest area of the plan would be bordered by a similar level of residential development, or open space, as shown on **Figure 3.0-6** that depict the land use designations for the Existing Martis Valley General Plan Land Use Map.

Environmental impacts, such as effects on biological resources, visual resources, traffic, noise, and air quality, resulting from changes to land use are discussed in their respective sections of this EIR.

This change from a rural area to a more suburban character is planned for and supported by the Placer County General Plan and the 1975 Martis Valley General Plan. In addition, the proposed Community Plan policy document includes general land use goals and policies regarding the wise, efficient, and environmentally sensitive use of lands in Martis Valley. However, implementation of the Existing Martis Valley General Plan Land Use Map would result in conversion of land areas currently in open space and may result in conflicts with activities in areas designated Forest.

### *AB Alternative 1 Land Use Map*

Development conditions under the Alternative 1 Land Use Map would result in a substantial change in land use in the Plan area resulting from the removal of open space and wooded areas, similar to the Proposed Land Use Diagram. However, this alternative would avoid conflicts associated with the elimination of residential development east of SR 267 associated with the Sierra Pacific property as compared to the Proposed Land Use Diagram. In some cases, development would occur adjacent to existing residential, commercial, or timber harvest areas. Existing development on Northstar, Lahontan, Lahontan II, and the small ownership properties in the northwest area of the plan would be bordered by a similar level of residential development, or open space, as shown on **Figure 3.0-7** that depict the land use designations for the Alternative 1 Land Use Map.

Environmental impacts, such as effects on biological resources, visual resources, traffic, noise, and air quality, resulting from changes to land use are discussed in their respective sections of this EIR.

This change from a rural area to a more suburban character is planned for and supported by the Placer County General Plan and the 1975 Martis Valley General Plan. In addition, the proposed Community Plan policy document includes general land use goals and policies regarding the wise, efficient, and environmentally sensitive use of lands in Martis Valley. However, implementation of the Alternative 1 Land Use Map would result in conversion of land areas currently in open space and may result in conflicts with activities in areas designated Forest.

### *AC Alternative 2 Land Use Map*

Development conditions under the Alternative 2 Land Use Map would result in a substantial change in land use in the Plan area resulting from the removal of open space and wooded areas, similar to the Proposed Land Use Diagram. However, this alternative would avoid conflicts associated with the elimination of residential development east of SR 267 associated with the

Sierra Pacific property as compared to the Proposed Land Use Diagram. In some cases, development would occur adjacent to existing residential, commercial, or timber harvest areas. Existing development on Northstar, Lahontan, Lahontan II, and the small ownership properties in the northwest area of the plan would be bordered by a similar level of residential development, or open space, as shown on **Figure 3.0-8** that depict the land use designations for the Alternative 2 Land Use Map.

Environmental impacts, such as effects on biological resources, visual resources, traffic, noise, and air quality, resulting from changes to land use are discussed in their respective sections of this EIR.

This change from a rural area to a more suburban character is planned for and supported by the Placer County General Plan and the 1975 Martis Valley General Plan. In addition, the proposed Community Plan policy document includes general land use goals and policies regarding the wise, efficient, and environmentally sensitive use of lands in Martis Valley. However, implementation of the Alternative 2 Land Use Map would result in conversion of land areas currently in open space and may result in conflicts with activities in areas designated Forest.

*Policies and Implementation Programs*

The following Martis Valley Community Plan policies and implementation programs would reduce potential impacts discussed regarding land use conflicts.

*Policy 1.A.5* *The County shall view development in the northwest portion of the plan area as a part of the Truckee community and make every attempt to integrate such development with development in the Town of Truckee. Development elsewhere in the plan area, including at Northstar-at-Tahoe, Waddle Ranch, Siller Ranch, and Lahontan, shall recognize that Truckee is a hub of the region where many of the necessary services and support facilities will continue to be located.*

*Policy 1.B.2* *The County shall encourage the planning and design of new residential subdivisions to emulate the best characteristics (e.g., form, scale, and general character) of existing, nearby neighborhoods.*

*Policy 1.B.3* *The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.*

*Policy 1.B.4* *The County shall require residential project design to reflect and consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses.*

*Policy 1.B.5* *The County shall require new subdivided lots to be adequate in size and appropriate in shape for the range of primary and accessory uses designated for the area.*

*Policy 1.B.8* *The County shall discourage the development of isolated, remote, and/or walled residential projects that do not contribute to the sense of community desired for the area.*

*Policy 1.C.2* *The County shall require new commercial development to be designed to minimize the visual impact of parking areas on public roadways.*

*Policy 1.C.5* *The County shall encourage compatible and complementary uses in the few remaining vacant commercial properties in and around the airport.*

*Policy 1.C.6* *Large, single use commercial facilities (greater than 35,000 sq. ft. shall not be considered appropriate for the Martis Valley Community Plan area due to parcel sizes and location of suitable commercial land.*

*Policy 1.C.13* *The County shall encourage new development to enhance the character of existing village centers such as at Northstar-at-Tahoe.*

*Policy 1.C.14* *The County shall require that existing and new village centers and development within them be designed to integrate open spaces into the urban fabric where possible, especially taking advantage of any natural amenities such as creeks, hillsides, and scenic views and/or developing integrated outdoor recreational amenities.*

*Policy 1.D.3* *The County shall require public facilities, such as wells, pumps, tanks, and storage yards, to be located and designed so that noise, light, odors, and appearance do not adversely affect nearby land uses.*

*Policy 1.F.3* *The County shall discourage development that conflicts with timberland management.*

*Policy 1.F.4* *The County shall review development plans for all lands adjoining USFS lands for compatibility with the long-term maintenance and use of the forestlands.*

*Policy 1.F.5* *The County shall work closely and coordinate with agencies involved in the regulation of timber harvest operations to ensure that County conservation goals area achieved.*

*Policy 1.F.6* *The County shall support the continued use of Timberland Production zoning and its related tax benefits as a means of encouraging on-going private forest resource production efforts and management plans. The County shall also consider approval of all reasonable compatible uses of such lands as long as they meet the intent of maintaining such areas for the long-term production of timber. (It is acknowledged that 705 acres of TPZ lands are designated for residential purposes with single-family residential-development reserve zoning, with such zoning fully effective after the removal of the TPZ designation.)*

*Policy 1.J.1* *The County shall encourage the preservation of timber producing lands as regional open space, and protect these areas from urban encroachments.*

*Policy 1.J.2* *The County shall assure that removal of economic mineral resources does not conflict with surrounding land uses or the stated desire for maintaining the natural environment.*

*Implementation Programs*

2. *Review all development projects for consistency with the goals, policies and specific discussions contained in the Land Use section and throughout the Plan.*

   *Responsible Agency/Department: Land Development Departments/Planning Commission/Board of Supervisors*
   *Time frame: Ongoing*
   *Funding: Application fees*

3. *Provide appropriate land use designations and consistent zone districts to meet the intent of the Plan's goals, policies and specific discussions. The following chart (Table 1.1) "General Rules for Determining Zoning Consistency" shall be used in the implementation of the Plan.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: As a part of the MVCP update*
   *Funding: Application fees*

5. *Use specific zoning classifications to implement appropriate land use development criteria including minimum parcel size, setbacks, height restrictions, maximum lot coverage and limitations on the use of land.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: As a part of the MVCP update (2002)*
   *Funding: General Fund*

Town of Truckee/Nevada County

As discussed under Impact 4.1.1, the land uses proposed under PP and Alternatives AA, AB, and AC would be compatible with adjacent land uses in the Town of Truckee and Nevada County. While development under each of the alternatives would change the character of the area by increasing urbanization, the type and level of development allowed under each alternative would not conflict with land uses in neighboring jurisdictions. This is a less than significant impact.

Truckee-Tahoe Airport

Development within the vicinity of the Truckee-Tahoe Airport clear, approach/departure, and overflight zones, depicted on **Figure 4.3-2,** as well as development within the airport noise contours, depicted on **Figure 4.5-2**, could experience land use conflicts with airport uses. The CLUP contains guidelines for land uses developed within these zones. Airport land use conflicts would be related to safety and noise issues and are discussed within Sections 4.3 (Human Health/Risk of Upset) and 4.5 (Noise) of this document. Implementation of mitigation measures MM 4.1.1a and b, MM 4.3.3a through c and MM 4.5.4a and b would reduce land use conflicts associated with the airport to less than significant.

Mitigation Measures

Implementation of the Proposed Land Use Diagram and Alternatives AA through AC and mitigation measures MM 4.1.1a and b, MM 4.3.3a through c and MM 4.5.4a and b would reduce potential land use conflicts to the Town of Truckee/Nevada County and the Truckee-Tahoe Airport to less than significant. However, implementation of the proposed Community Plan policies and implementation programs would not completely eliminate potential land use conflicts with Open Space and Forest designated areas and residential/commercial development. This would be a **significant and unavoidable** impact.

**Impact 4.1.3 Loss of Forest and Timber Lands**

**PP** Development under the Proposed Land Use Diagram could result in the loss of forestland. However, given the amount, location, and use of impacted forestland under the Proposed Land Use Diagram, this is a **significant** impact.

**AA** Development under the Existing Martis Valley General Plan Land Use Map Alternative does not change the impact to forest or timberland. This is a **significant** impact.

**AB** The Alternative 1 Land Use Map would reduce the allowed development of forestland and timber resources. This is a **significant** impact.

**AC** The Alternative 2 Land Use Map would allow development that could result in the loss of forestland. However, given the location, use, and no net loss of impacted forestland under this alternative, this is a **significant** impact.

***PP Proposed Land Use Diagram***

As shown in **Table 3.0-2**, the Proposed Land Use Diagram proposes to maintain 17,065 acres of the Plan Area as Forest, a portion of this area is currently zoned Timber Production (TPZ). However, the Proposed Land Use Diagram would result in loss of land area designated TPZ as well as additional areas that are forested but not zoned TPZ. Section 4.8 (Geology and Soils) identifies that soil capability for timber production. The environmental effects of this land conversion are addressed in the various environmental issue areas of Section 4.0 of this EIR.

In order to develop Plan areas zoned TPZ, a permit to convert timberland to a different use would need to be approved by the California Department of Forestry (CDF). Prior to issuance of a "permit to convert", a Timber Harvest Plan (THP) must be approved by the California Department of Forestry because the trees would be removed and sold. A Timber Harvest Plan (THP) must be prepared consistent with the rules and regulations of the Board of Forestry pursuant to the provisions of the Z'Berg-Nejedly Forest Practice Act of 1973.

CDF does not require mitigation for the loss of timberland at this time. If CDF requests that a portion of the site be left for timber production, it has been CDF's experience that homeowners will protest the removal of the timber on site in the future. Therefore, saving a portion of the timber is not a viable mitigation measure. Once the timber resource is lost it cannot be replaced and no viable mitigation measure is available (Dan Scatina, CDF, personal communication August 24, 2001).

Implementation of the Proposed Land Use Diagram would result in the conversion of timberland and forest resources and would affect future timber harvest operations. This is considered a significant impact.

### *AA Existing Martis Valley Community Plan Land Use Map Alternative*

As shown in **Table 3.0-3**, the Existing Martis Valley General Plan Land Use Map proposes to maintain 13,692 acres of the Plan Area as Forest, a portion of this area is currently zoned Timber Production (TPZ). In addition, this alternative designates 6,439 acres as Open Space, which also includes some land area designated TPZ. However, the Existing Martis Valley General Plan Land Use Map would result in loss of land area designated TPZ as well as additional areas that are forested but not zoned TPZ. Section 4.8 (Geology and Soils) identifies that soil capability for timber production. The environmental effects of this land conversion are addressed in the various environmental issue areas of Section 4.0 of this EIR.

Implementation of the Existing Martis Valley General Plan Land Use Map would result in the conversion of timber land and forest resources and would affect future timber harvest operations. This is considered a significant impact.

### *AB Alternative 1 Land Use Map*

As shown in **Table 3.0-4**, the Alternative 1 Land Use Map proposes to maintain 14,704 acres of the Plan Area as Forest, a portion of this area is currently zoned Timber Production (TPZ). In addition, this alternative designates 6,584 acres as Open Space, which also includes some land area designated TPZ. However, the Alternative 1 Land Use Map may result in loss of land area designated TPZ as well as additional areas designated Forest but not zoned TPZ. Section 4.8 (Geology and Soils) identifies that soil capability for timber production. The environmental effects of this land conversion are addressed in the various environmental issue areas of Section 4.0 of this EIR.

Implementation of the Alternative 1 Land Use Map would result in the conversion of timberland and forest resources and would affect future timber harvest operations. This is considered a significant impact.

### *AC Alternative 2 Land Use Map*

As shown in **Table 3.0-5**, the Alternative 2 Land Use Map proposes to maintain 17,789 acres of the Plan Area as Forest, a portion of this area is currently zoned Timber Production (TPZ). However, the Alternative 2 Land Use Map may result in loss of land area designated TPZ as well as additional areas designated Forest but not zoned TPZ. Section 4.8 (Geology and Soils) identifies that soil capability for timber production. The environmental effects of this land conversion are addressed in the various environmental issue areas of Section 4.0 of this EIR.

Implementation of the Alternative 2 Land Use Map would result in the conversion of timberland and forest resources and would affect future timber harvest operations. This is considered a significant impact.

Policies and Implementation Measures

The following proposed Martis Valley Community Plan policies and implementation programs are intended to conserve Placer County's forest resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, and encourage a sustained yield of forest products.

*Policy 1.F.1* *The County shall encourage the sustained productive use of forestland as a means of providing open space, maintaining the quality of Martis Valley's scenic vistas, and to conserve other natural resources.*

*Policy 1.F.2* *The County shall recognize and acknowledge the multi-use management strategy adopted by the United States Forest Service for the Martis Valley/Tahoe National Forest area.*

*Policy 1.F.3* *The County shall discourage development that conflicts with timberland management.*

*Policy 1.F.4* *The County shall review development plans for all lands adjoining USFS lands for compatibility with the long-term maintenance and use of the forestlands.*

*Policy 1.F.5* *The County shall work closely and coordinate with agencies involved in the regulation of timber harvest operations to ensure that County conservation goals area achieved.*

*Policy 1.F.6* *The County shall support the continued use of Timberland Production zoning and its related tax benefits as a means of encouraging on-going private forest resource production efforts and management plans. The County shall also consider approval of all reasonable compatible uses of such lands as long as they meet the intent of maintaining such areas for the long-term production of timber.*

*Policy 1.J.1* *The County shall encourage the preservation of timber producing lands as regional open space, and protect these areas from urban encroachments.*

*Policy 9.E.3* *The County shall support the conservation of a healthy forest including outstanding areas of native vegetation, including, but not limited to, open meadows, riparian areas, Great Basin Safe Scrub, Mixed Coniferous Forest, Montane Chaparral, Montane Meadow, and Red Fir Forest.*

*Policy 9.E.4* *The County shall ensure that landmark trees and major groves of native trees are preserved and protected. In order to maintain these areas in perpetuity, protected areas shall also include younger vegetation with suitable space for growth and reproduction.*

*Policy 9.E.6* *The County shall ensure the conservation of sufficiently large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife.*

*Policy 9.E.7* *The County shall support the management of wetland and riparian plant communities and forested lands for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored to a healthy forest environment or expanded, where possible.*

*Policy 9.E.8* *The County shall require that new development protect, restore, rehabilitate, and manage the native vegetative communities to the maximum extent possible.*

*Policy 9.E.9* *The County shall require that development on hillsides be limited to maintain valuable native forest vegetation and Great Basin Sage scrub communities and to control erosion.*

*Policy 9.E.12* *The County shall support the preservation of native trees and the use of native seed sources and seedlings and drought-tolerant plant materials in all revegetation/landscaping projects.*

*Policy 9.E.14* *The County shall encourage the continued use of commercially viable timberlands for timber production and other multiple use functions. Conversion of such lands to other uses is discouraged, unless no other viable options exist for those uses.*

*Policy 9.E.15* *The County shall support the on-going implementation of the Forest Practices Act at the State level to ensure that timber harvest operations are conducted in an environmentally sensitive manner.*

Mitigation Measure

While implementation of the above proposed policies would assist in minimizing impacts to timber production in the Plan area, the impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA through AC.

### 4.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

SETTING

The proposed Martis Valley Community Plan is part of the Martis Valley, which includes portions of Placer and Nevada Counties along with the Town of Truckee. The Martis Valley as a whole must be considered for the purpose of evaluation land use impacts on a cumulative level. Development in Martis Valley, including the planned and approved projects discussed under Section 3.0, would change the intensity of land uses in the Martis Valley region. In particular, this cumulative development scenario would increase development in the northeastern portion of the County, and provide additional housing, employment, shopping, and recreational opportunities. For timberland issues, the cumulative setting includes Placer County, Nevada County, and El Dorado County.

SETTING, IMPACTS, AND MITIGATION MEASURES

**Impact 4.1.4 Consistency with Relevant Planning Documents**

**PP** The Proposed Land Use Diagram would potentially conflict with land use planning documents relevant to the Plan area. This is a **less than significant** impact.

**AA** The proposed Existing Martis Valley General Plan Land Use Map Alternative would potentially conflict with land use planning documents relevant to the Plan area. This is a **less than significant** impact.

**AB** The proposed Alternative 1 Land Use Map would potentially conflict with land use planning documents relevant to the Plan area. This is a **less than significant** impact.

**AC** The proposed Alternative 2 Land Use Map would potentially conflict with land use planning documents relevant to the Plan area. This is a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Placer County would review individual projects within the Martis Valley Community Plan area against County Development Standards and the Environmental Review Ordinance. In addition, all developments proposed and constructed within the City are reviewed for consistency with countywide land use controls and development standards during the course of the project review and approval process. Each project processed under the Community Plan would be assessed against County development and design guidelines which regulate permitted uses, development density, building height, site and building design, transportation demand and neighborhood protection. In addition, mitigation measures are identified in within this EIR would apply to each project approved under the Martis Valley Community Plan.

Given the land use controls and development standards presently in use within the Placer County, cumulative land use impacts of development within Martis Valley related to consistency with relevant planning documents would be minimized to a level that is considered to be **less than significant**.

Mitigation Measures

None required.

**Impact 4.1.5 Cumulative Land Use Conflicts**

**PP** Development under the Proposed Land Use Diagram would result in substantial change in land use in the Plan area. This is a **cumulative significant** impact.

**AA** Development under the Existing Martis Valley Community Plan Land Use Map Alternative would result in substantial change in land use in the Plan area. This is a **cumulative significant** impact.

**AB** Development under the Alternative 1 Land Use Map would result in substantial change in land use in the Plan area. This is a **cumulative significant** impact.

**AC** Development under the Alternative 2 Land Use Map would result in substantial change in land use in the Plan area. This is a **cumulative significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

As described under Impact 4.1.3, development under the Proposed Land Use Diagram and Alternatives AA through AC would result in unavoidable land use conflicts with forest land uses. Given the development pressures in the Town of Truckee and Nevada and El Dorado counties, development under the proposed Community Plan would contribute to this land use conflict.

Policies and Implementation Measures

The reader is referred to the discussion under Impact 4.1.2 regarding applicable policies and implementation programs.

Mitigation Measures

Implementation of the proposed Community Plan policies and implementation programs would not completely eliminate potential land use conflicts with Open Space and Forest designated areas and residential/commercial development. This would be a **significant and unavoidable** impact for the Proposed Land Use Diagram and Alternatives AA through AC.

**Impact 4.1.6 Cumulative Loss of Timber/Forest Resources**

**PP** Development under the Proposed Land Use Diagram could result in the loss of forestland. However, given the amount, location, and use of impacted forestland under the Proposed Land Use Diagram, this is a **cumulative significant** impact.

**AA** Development under the Existing Martis Valley General Plan Land Use Map Alternative does not change the impact to forest or timberland. This is a **cumulative significant** impact.

**AB** The Alternative 1 Land Use Map would reduce the allowed development of forestland and timber resources. This is a **cumulative significant** impact.

**AC** The Alternative 2 Land Use Map would allow development that could result in the loss of forestland. However, given the location, use, and no net loss of impacted forestland under this alternative, this is a **cumulative significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

As described under Impact 4.1.3, development under the Proposed Land Use Diagram and Alternatives AA through AC would result in unavoidable conversion of timberland areas. Given the development pressures in the Town of Truckee and Nevada and El Dorado counties, development under the proposed Community Plan would contribute to this loss.

Policies and Implementation Measures

The reader is referred to the discussion under Impact 4.1.3 regarding applicable policies and implementation programs.

Mitigation Measures

While implementation of the above proposed policies would assist in minimizing impacts to timber production in the Plan area, the impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternative AA through AC.

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# SECTION 4.2
# POPULATION/HOUSING/EMPLOYMENT

This section analyzes the socioeconomic conditions within the Martis Valley Community Plan area. Within this section are discussions on the population characteristics, housing, and employment opportunities within the planning region.

### 4.2.1 EXISTING SETTING

REGIONAL SETTING/LOCAL SETTING

The Plan area has remained relatively undeveloped aside from a few recreational and residential developments. The majority of the population within the Placer County portion of the Martis Valley is located in three primary development areas, including Northstar-at-Tahoe, Lahontan I, and the Ponderosa Palisades, Sierra Meadows, Ponderosa Ranchos, and Martiswood Estates subdivisions located adjacent to the Town of Truckee. Other than these three development areas, the majority of growth has occurred within Nevada County and the Town of Truckee.

Housing and development restrictions within the Lake Tahoe Basin as well as area housing costs, have created an affordable housing shortage within the area. Restrictions within the Lake Tahoe Basin were set up to manage the land use and resources of the Lake Tahoe region, based upon environmental protection and the encouragement of recreation-oriented land uses. Because of the restrictive nature of potential development within the Tahoe Basin, surrounding areas are absorbing the growth pressures. Housing projects in the area tend to be second home in nature (i.e., seasonal use) and are generally not considered affordable. Affordable housing developments are generally not proposed because of the high land values and the recreational oriented land use of the area.

Within the Tahoe Basin, a development right of one residential unit is given for each of the 16,000 parcels in the basin, unless otherwise restricted. This means that multi-family projects must obtain development rights for each additional unit proposed and further land subdivisions are prohibited. Because of the Tahoe Basin land restrictions and the high land values of the Martis Valley Community Plan area, affordable housing will continue to be limited (Placer County, 1994).

POPULATION

Population and growth projections for the Plan area are difficult to pinpoint based upon the recreational nature of the area and the use of the properties as secondary residences. Buildout figures from the 1975 Martis Valley General Plan, the 1994 Placer County General Plan, and recent development approvals have provided a varied array of population and housing figures for the area.

The 1975 Martis Valley General Plan was prepared for an area within both Placer and Nevada Counties. This planning document provided growth projections based upon demographic information at the time. Most of the population figures have not been met. The permanent resident population in the Martis Valley Community Plan area was estimated to be approximately 1,200 persons in 1975, with a relatively high percentage of second homes at approximately 80 percent. The average year round population was estimated based on three factors; 1) the seasonal nature of the job market associated with ski areas and construction work; 2) the tourist use and occasional rentals of condominiums; and 3) the intermittent occupancy of second homes (Placer County, 1975).

The permanent population projected to be within the Martis Valley Community Plan area for both Nevada and Placer Counties by 1990 was estimated to be 22,000 to 25,000 persons. This

estimate was based upon two methods for estimating permanent population. The first method was based upon the following assumptions 1) the primary homes of moderate cost and mobile homes will serve permanent residents of the area; 2) the rentals of moderate cost will serve transient employees of the area but would generate the equivalent of 80 percent occupancy by permanent residents, 3) there are 2,000 existing dwelling units which could serve a permanent population. This method of estimation results in a figure of 8,627 primary dwelling units or 25,881 permanent residents at 3.0 persons per dwelling unit. The second method for estimating permanent population was derived from the ratio of four secondary homes to three primary homes in the Tahoe Basin. The 1975 plan provided for 17,000 dwelling units of all types. Based on the Tahoe Basin ratio, the permanent population of the Martis Valley Community Plan area at complete buildout would approach 22,000 persons (Placer County, 1975).

The 1975 Martis Valley General Plan also projected the peak weekend population to be approximately 41,000 persons for the Martis Valley area within Nevada and Placer Counties based upon the continued demand for primary and second homes, a peak occupancy rate of 80 percent, and an average of 3.0 persons per dwelling unit (Placer County, 1975).

The rate and intensity of development expected within the Martis Valley portion of Placer County and analyzed within the 1975 Martis Valley General Plan has not taken place to date. The majority of growth since 1975 has occurred within the Nevada County portion of Martis Valley and the Town of Truckee, which was incorporated in 1993. The 1990 census identified census tract 220.01, containing Martis Valley, as having a permanent population of 4,013 persons. Developments within the Placer County portion of the Martis Valley Community Plan area since 1990 have not added an additional 5,000 permanent residents expected to occur in the Martis Valley Community Plan area.

**Holding Capacity**

Holding capacity is expressed as the total number of people that would be accommodated within a planning area if the land within that area were developed to the maximum potential allowed by land use designations in the general plan. Once potential buildout and dwelling units (D.U.) are projected, potential population can be determined.

Although residential development has occurred within the Placer County portion of Martis Valley adjacent to the Town of Truckee, the majority of the Martis Valley has remained relatively undeveloped. While holding capacity projections exist in both the 1975 Martis Valley General Plan and the 1994 Placer County General Plan, development in Martis Valley has not occurred in a manner consistent with these projections.

The 1975 Martis Valley General Plan was developed for the entire Martis Valley area, including land within both Nevada and Placer Counties, as well as lands that have since come under the jurisdiction of the Town of Truckee. Population for the entire Martis Valley area was projected between 22,000 and 25,000 persons; dwelling units were estimated between 8,627 primary D.U. and 17,100 D.U. of all types (Placer County). Buildout under the 1975 Martis Valley General Plan was anticipated to occur in 1990.

The 1994 Placer County General Plan identifies the holding capacity of Martis Valley Community Plan area at 25,262 persons, projecting 9,391 D.U. at buildout (Placer County does not differentiate between permanent and secondary residences within Martis Valley). The existing population, 1,000 persons, is calculated from the 1990 Census for unincorporated area within Placer County and the 1994 Department of Finance's estimates. The Martis Valley holding capacity is calculated as 80 percent of the maximum 1994 buildout capacity (Placer County, 1994), or 20,209 persons.

The Lahontan residential community, originally known as Gooseneck Ranch, was not included in the population or dwelling unit projections in the 1994 Placer County General Plan. According to GIS maps supplied by Placer County (May 2000), Lahontan consists of approximately 732 acres; the development has a total potential development capacity of 464 D.U., of which 349 D.U. currently exist. Construction activities currently continue, but it is important to note that development at Lahontan has occurred at a density below the maximum capacity identified in the approved development plan.

Placer County has identified other areas capable of substantial development within Martis Valley. These areas include:

- 5,955 acres owned by Trimont Land Company, adjacent to Northstar. Although potential development capacity has been identified at 2,636 D.U., no development is planned or anticipated at this time. Zoning includes Timberland Production (TPZ), Forestry (FOR), and Residential.

- 2,328 acres owned by Siller Ranch. Potential development capacity has been identified as 2,861 D.U., including 48 acres for commercial development.

- 598 acres of the Waddle Ranch property. Potential development capacity has been identified as 1,176 D.U., including 6.5 acres for commercial development. Although no development plans have been submitted, development on this site is anticipated in the future.

- 475 acres owned by Martis Valley Associates, L.L.C. Although potential development capacity has been identified as 1,250 D.U., this area is currently vacant and no development is planned or anticipated at this time. Zoning includes Open Space, Residential, and Commercial.

- 443 acres west of SR 267 and along both sides of Schaffer Mill Road, of which 164 acres is designated as part of the approved Lahontan II project and the remaining acreage is the Hopkins Ranch project. Potential development capacity has been identified as 361 D.U. for the entire area, and development on this property is expected to occur at a density below the maximum capacity.

DEMOGRAPHICS

**Geographic Area**

Demographical and employment data for the Martis Valley area is difficult to aggregate since Martis Valley is not a political entity nor a federally or regionally recognized area in terms of long-range planning or Census data collections. As such, very little data is available that is specific to Martis Valley.

In discussing demographics for the Martis Valley, data from five geographic areas in or relating to Martis Valley have been included. Not all data types (i.e., race, household income, or housing units) are available for each geographic area. The areas include:

Martis Valley

The Plan area does not have boundaries that are concurrent with any geographic or political area for which regional or Census data is aggregated. The only data available specifically for

the Placer County portion of Martis Valley is 1992 and 2000 population and 1992 housing unit estimates.

Martis Valley Census Tract and Block Group

The closest level of data aggregation to the Plan area is a Census block group; Census Tract 220.01, Block Group 5 (Martis Valley Block Group) does not fully coincide geographically with Martis Valley, but provides a close approximation for data purposes. Census Tract 220.01 (Martis Valley Census Tract) is a larger geographic unit, but fully encompasses Martis Valley.

The census tract and block group information for the Martis Valley Community Plan area does not portray an actual representation of the demographics for the area. The census information is completed by full-time residents and property owners of the area. A majority of the individuals that have property or houses in Martis Valley use the property for recreational/second houses. Census information includes housing unit data for seasonal use, but does not include any household size, income, employment, or other demographical data for seasonal residents.

Placer High Country Regional Analysis District

The Placer County portion of Plan area is within the Placer High Country Regional Analysis District (RAD). RADs are sub-County areas that the Sacramento Area Council of Governments (SACOG) estimates and projects population, household, housing unit, and employment data. The Placer High County RAD extends from east of the Colfax area to the northwestern border of Tahoe Basin, bordered to the north by Nevada County and to the south to the El Dorado County line. While the RAD is much larger than the Plan area, it includes data estimates that are more pertinent to the Plan area than Placer County data as a whole.

Placer County

1990 and 2000 Census data has been used to provide demographical information for Placer County.

Town of Truckee

Census data contained within the 1996 Town of Truckee General Plan and 2000 Census data have been used to provide demographics for the Town of Truckee.

**Population Trends**

As shown in **Table 4.2-1**, the permanent population in Martis Valley increased from 1,000 in 1992 to 1,185 in 2000, an increase of 18.5 percent. Persons in the RAD increased by 15.6 percent while the population of Truckee increased 55.6 percent.

**TABLE 4.2-1**
**POPULATION TRENDS**

| | Martis Valley Plan Area[1] | Martis Valley Block Group[2] | Martis Valley Census Tract[2] | Placer High Country RAD[3] | Placer County[4] | Town of Truckee[5] |
|---|---|---|---|---|---|---|
| **1990** | 1,000 | 701 | 4,013 | 5,211 | 172,796 | 8,912 |
| **2000** | 1,185 | 1,335 | 5,501 | 6,025 | 248,999 | 13,864 |
| ***Change*** | *185* | *634* | *1,488* | *814* | *76,203* | *4,952* |
| **Percent Change** | 18.5% | 90.4% | 37.1% | 15.6% | 44.1% | 55.6% |

*Source:[1]Placer County General Plan; Placer County aggregation of 2000 Census data*
*[2]1990 Census; 2000 Census*
*[3]SACOG Population Estimates and Housing Unit Inventory, 2000; SACOG Projections, 2001*
*[4]1990 Census SF3A; Profiles of General Demographic Characteristics, 2000*
*[5]Truckee General Plan, 1994; Profiles of General Demographic Characteristics, 2000*

**Household Trends and Demographics**

Households

During the decade from 1990 to 2000, households in the Martis Valley Census Tract increased by 39.8 percent, or 617 households, compared with increases of 69.2 percent and 57.4 percent in Martis Valley Block Group and the Town of Truckee, respectively. **Table 4.2-2** depicts household trends from 1990 to 2000.

**TABLE 4.2-2**
**HOUSEHOLD TRENDS**

| | Martis Valley Block Group[1] | Martis Valley Census Tract[2] | Placer High Country RAD[3] | Placer County[4] | Town of Truckee[5] |
|---|---|---|---|---|---|
| **1990** | 299 | 1,550 | 5,211 | 64,502 | 3,271 |
| **2000** | 506 | 2,167 | 5,803 | 93,382 | 5,149 |
| ***Change*** | 207 | 617 | *592* | *28,880* | *1,878* |
| **Percent Change** | 69.2% | 39.8% | 11.4% | 44.8% | 57.4% |

*Source: [1]1990 Census; PMC update based on SACOG RAD data*
*[2]SACOG Population Estimates and Housing Unit Inventory, 2000; SACOG Projections, 2001*
*[3]1990 Census SF3A; Profiles of General Demographic Characteristics, 2000*
*[4]Truckee General Plan, 1994; Profiles of General Demographic Characteristics, 2000*
*[5]1990 and 2000 Census tract 12.01, block groups 3, 4, 5, 6, and 7*

**Table 4.2-3** contains household size data. In the Martis Valley Block Group, the average persons per residence was 2.63. This rate is used throughout this section in determining the population based on number of units in the Plan area. In Truckee, the average persons per residence was 2.72, only 0.09 higher than the Plan area figure.

**TABLE 4.2-3**
**HOUSEHOLD TRENDS – 2000 CENSUS**

| Status | Martis Valley Block Group | | Martis Valley Census Tract | | Town of Truckee | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| 1 Person | 90 | 17.8% | 484 | 22.3% | 961 | 18.7% |
| 2 Person | 212 | 41.9% | 833 | 38.4% | 1,903 | 37.0% |
| 3 Person | 77 | 15.2% | 359 | 16.6% | 916 | 17.8% |
| 4 Person | 85 | 16.8% | 303 | 14.0% | 880 | 17.1% |
| 5 Person | 23 | 4.5% | 123 | 5.7% | 310 | 6.0% |
| 6 or More Persons | 19 | 3.8% | 65 | 3.0% | 101 | 2.0% |
| Total | 506 | 100.0% | 2,176 | 100.0% | 78 | 1.5% |
| Persons/Household | 2.63 | | 2.52 | | 2.68 | |

*Source: 1990 Census STF3A; 2000 Census STF1*
*[1]Occupied dwelling unit*

As shown in **Table 4.2-4**, the Martis Valley Block Group had a median income of $40,819 in 1990, $3,218 or 8.6 percent higher than the Placer County median income of $37,601. The median income in the Town of Truckee was $36,676 in 1990.

**TABLE 4.2-4**
**MEDIAN INCOME – 1990 CENSUS**

| Status | Martis Valley Census Block Group 220.01 5 | Martis Valley Census Tract 220.01 | Placer County | Town of Truckee |
|---|---|---|---|---|
| Median 1989 Household Income | $40,819 | $35,121 | $37,601 | $36,676 |

*Source: 1990 Census STF3A; Town of Truckee General Plan*

Tenure

Tenure describes the proportion of renters to owners; tenure rates for Martis Valley are in **Table 4.2-5**. In Martis Valley, the majority of households own their home, with 82.3 percent of households in the Martis Valley Block Group owning and 77.8 percent of households within the Census tract owning. Within the Martis Valley Block Group, renters only represent 17.7 percent of householders while in the Town of Truckee the renter rate is 47.5 percent higher at 26.1 percent.

**TABLE 4.2-5**
**TENURE – 2000 CENSUS**

| Status | Martis Valley Census Block Group | | Martis Valley Area Census Tract 220.01 | | Town of Truckee | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Owner | 424 | 83.8% | 1,675 | 77.3% | 3,805 | 73.9% |
| Renter | 82 | 16.2% | 492 | 22.7% | 1,344 | 26.1% |
| Total | 506 | 100.0% | 2,167 | 100.0% | 5,149 | 100.0% |

*Source: 2000 Census STF1*

Housing Units

The Plan area is estimated to have approximately 1,935 housing units in 2001. The Martis Valley Block Group had 1,545 housing units in 1990, which increased to 1,745 by 2000. Housing units in the Martis Valley Census Tract increased by 8.5 percent, 428 units, from 1990 to 2000 as depicted in **Table 4.2-6**. Placer County and the Town of Truckee both experienced high rates of development with respective increases of 37.8 and 40.8 percent.

**TABLE 4.2-6**
**HOUSING UNIT TRENDS**

| | Martis Valley – Block Group[1] | Martis Valley – Census Tract[1] | Placer High Country RAD[2] | Placer County[3] | Town of Truckee[4] |
|---|---|---|---|---|---|
| **1990** | 1,545 | 5,022 | 5,610 | 77,879 | 6,932 |
| **2000** | 1,756 | 5,450 | 6,489 | 107,302 | 9,757 |
| ***Change*** | *211* | *428* | *879* | *29,423* | *2,825* |
| **Percent Change** | 13.7% | 8.5% | 15.7% | 37.8% | 40.8% |

*Source:[1]1990 and 2000 Census*
*[2]SACOG Population Estimates and Housing Unit Inventory, 2000; SACOG Projections, 2001*
*[3]1990 Census SF3A; Profiles of General Demographic Characteristics, 2000*
*[4]Truckee General Plan, 1994; Profiles of General Demographic Characteristics, 2000*

Housing Unit Occupancy

**Table 4.2-7** contains occupancy data and further describes the type of occupancy or type of vacancy. Vacant homes in the Martis Valley area represent the majority of housing units, with 71.2 percent of homes in the Martis Valley Block Group vacant and 60.2 percent of homes in the Census tract vacant. In the Martis Valley Block Group there were 6 vacant homes for sale or rent during the 2000 Census. The vast majority of unoccupied homes were seasonal, recreational, or other types of vacancies. Only 59 vacant units, 1.8 percent, in the Census tract were available for sale or rent. Generally, a vacancy rate beneath 5 percent indicates a lack of choice in the housing market. In Truckee, year-round occupancy at 52.58 percent is higher than that of either the Martis Valley Census Tract or Block Group.

**TABLE 4.2-7**
**HOUSING UNIT OCCUPANCY AND TYPE OF OCCUPANCY OR VACANCY**

| Status | Martis Valley Block Group | | Martis Valley Census Tract | | Town of Truckee | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Occupied | 506 | 28.8% | 2,167 | 39.8% | 5,149 | 52.8% |
| *Owner* | *424* | *83.8%* | *1,675* | *77.3%* | *3,805* | *73.9%* |
| *Renter* | *82* | *16.2%* | *492* | *22.7%* | *1,344* | *26.1%* |
| Vacant | 1,250 | 71.2% | 3,283 | 60.2% | 4,608 | 47.2% |
| *Seasonal, Recreational* | *1,209* | *96.7%* | *3,133* | *95.4%* | *4,326* | *44.3%* |
| *For Sale or Rent* | *6* | *0.5%* | *59* | *1.8%* | *101* | *2.2%* |
| *Other Vacancy* | *35* | *2.8%* | *91* | *2.9%* | *181* | *3.9%* |
| Total | 1,756 | 100% | 5,450 | 100% | 9,757 | 100.0% |

*Source: 1990 Census STF3A; 2000 Census STF1; Town of Truckee General Plan, 1996*

Housing Price and Availability

The recent developments within the Martis Valley Community Plan area cater to a second home or recreational home market. These projects are not designed to meet permanent housing needs. The developments are intended to provide seasonal activities that are oriented toward winter or summer.

The residential lots in the Lahontan development are broken down into the following price ranges: forest homesites are from $210,000.00 to $485,000.00; view homesites are from $500,000.00 to $1,000,000; and golf course homesites are from $475,000.00 to $800,000.00. A completed house and lot range from $1,000,000.00 to $2,500,000.00.

The Northstar development contains homes, condominiums, and lots for sale. The following prices are from a listing of Northstar properties sold from 1999 through April 2000. The houses sold ranged in price from $355,000.00 to $1,924,500.00. The condominiums sold ranged in price from $115,000.00 to $425,000.00. The lots sold ranged in price from $174,500.00 to $410,000.00 (Brown-Sheridan, 2000).

Rental rates within Martis Valley for a seven night stay range from $945.00 for a one-bedroom condo to $5,000.00 for a seven-bedroom house. These rental rates reflect prices for the month of May, which is considered part of the slow rental season. These rental rates increase during the winter ski and summer vacation months (Martis Valley Vacation Rentals, 2000).

The 1990 census indicated that the median value of owner occupied housing in Truckee was $132,866.00 with the average home price in Ponderosa Palisades at $250,000.00. The rents for one-bedroom apartments in Truckee currently range from $600.00 to $800.00 per month. Currently, renters who seek to limit their expenditures on rent to one-third of their income would have to earn roughly $14.00 per hour, which is double what most recreational service jobs in the local area pay (Sacramento Bee, 1999).

Data provided by Placer County staff and used in the Lahontan I and II environmental documents show that the annual combined owner/renter occupancy rate between 1984 and 1990 ranged from a low of 32.5 percent in 1986 and a high of 43.6 percent in 1990. During this period, the highest occupancy rate was 76.6 percent.

A cursory review of the occupancy rates would indicate that residential units are available for rent within the Martis Valley Community Plan area. However, the occupancy figures do not take into account that many of the residences are secondary/recreational homes and that the property owners have no intention of occupying the residences on a full time basis. There is the potential that many of the residences are not available for rental purposes and that many residences that are offered for rent would not be available during the peak season (winter and summer months), when temporary or seasonal employees would need housing. The rental and housing prices within Martis Valley are also prohibitive for seasonal or temporary housing.

Using vacant residences for employee housing does not solve the problem of a lack of affordable housing in the Martis Valley Community Plan area. The high priced nature of the Martis Valley Community Plan area developments precludes employees generated by these projects from living in the area.

Most of the individuals that work and live full time in the Martis Valley area cannot afford to live in the Lahontan and Northstar developments. The property and housing prices in the Martis Valley Community Plan area would be prohibitive of most individuals that work in a vacation or resort industry.

The individuals or households that own property in Martis Valley can afford second residences that range from $400,000.00 to $2,000,000.00 in value. The census information that is currently available represents the labor force that serves the needs of the people that recreate in the Martis Valley Community Plan area.

EXISTING LAND USE

**Residential**

The 1975 Martis Valley General Plan identifies that the housing demand in the Lake Tahoe basin is not being met. The plan identifies that nearly all residential development consists of high-priced luxury homes oriented to the second home/residential home market. The trend of exclusive housing has continued with the Northstar and Lahontan projects.

The housing stock within the Northstar development consists of approximately 1,424 private homes and condominiums, some of which serve as rental properties. The Lahontan developments (I and II) consists of 537 residential parcels that surround an existing 18-hole golf course and a new 9-hole golf course that was recently constructed. The housing is designed to meet the recreational needs of second homebuyers. Lahontan was developed as a summer oriented golf community was not envisioned for permanent residences.

The Ponderosa Palisades, Sierra Meadows, Ponderosa Ranchos, and Martiswood Estates subdivisions are located in the northwest portion of Martis Valley and accessed by roadways from within the Town of Truckee. The Ponderosa Palisades, Sierra Meadows, Ponderosa Ranchos, and Martiswood Estates subdivisions contain approximately 468 parcels within Placer County. These subdivisions provide for permanent residences as well as recreational homes.

These developments have generally been designed to meet the demand for high-end vacation homes. These projects were not designed to meet the housing needs of low and middle-income families working in the area. These projects create a greater need for affordable housing than what is provided within the developments. These recreational developments create low to moderate paying seasonal jobs, while requiring high-income jobs to reside there.

**Approved and Proposed Housing Projects**

Current Affordable Housing Projects

New developments in Martis Valley and surrounding areas have left a void in affordable housing for employees of low and moderate income paying jobs created by these resort communities. The rise in rents and housing values has made it difficult to find housing. The Town of Truckee and Placer County take an active role in providing affordable housing in the area.

Placer County has created a Redevelopment Agency to coordinate Countywide affordable housing efforts. The Redevelopment Agency is responsible for the administration of the Community Development Block Grant (CDBG) Program. The Redevelopment Agency has currently secured approximately $1,80,000.00 in State funding for affordable housing projects in the unincorporated County. In the last two years, more than $800,000.00 has been committed for housing related projects located in the Tahoe area. The following affordable housing projects are being initiated for the Tahoe Basin region in Placer County.

- The Kings Beach Housing Rehabilitation Program, funded in 1998 and 2000 through CDBG and the Redevelopment Agency, was initiated to improve to improve affordable housing. The County contracted with Mercy Housing to administer and implement the

rehabilitation program. More than $400,000.00 has been committed to the efforts to package and receive loan approvals in the Tahoe area.

- Negotiation with developers of last significant multi-family zoned vacant property in Squaw Valley to include 80 units of affordable rental housing at or below 60 percent of median income; to include some large family units and a term of affordability of at least 30 years; this project is presently on hold.

- The County established an affordable housing in-lieu fee for certain projects within North Tahoe. The county has received $84,000.00 from one project and a commitment of up to $2,000,000.00 from another (Colwell, 2000).

- The Placer County Redevelopment Agency (RDA) entered into a Memorandum of Understanding with Affordable Housing Development Corporation (AHDC) in 2001 for the purpose of facilitating development of affordable housing. Once AHDC secures a site for development, the RDA provides financial assistance with the project.

- In the Dollar Hill area, the planned Nahas project would provide a project of market for-sale housing combined with 80 units of affordable senior housing.

- AHDC's Lake Forest project, provided through a Memorandum of Understanding with the County Redevelopment Agency would provide 12 to 20 units of affordable housing on 1.6 acres.

Some of the local ski resorts are also taking action. Sugar Bowl recently acquired Donner Summit Lodge to accommodate 80 of its employees, who will pay below-market rent. Northstar-at-Tahoe is leasing both the Hilltop Lodge and five houses in Truckee to accommodate 100 workers. Sawmill Heights, a mixed affordable/employee housing project, was approved at Northstar-at-Tahoe and will provide 96 units.

Within the Town of Truckee, there are several affordable housing projects that provide housing for low and medium income families. The Federally funded Truckee Pines development contains 104 units for low-income households. Riverview Homes consists of 39 detached rental units for low and medium income households. Sierra Village is a 72 unit complex and 57 of those units will be for low-income families.

The County of Placer requires new resorts in the Sierra Nevada and Lake Tahoe areas to provide for employee housing equal to 50 percent of the housing demand generated by the project. The Lahontan I and II projects were required to provide for 11 employees.

**Employment**

The Truckee-Tahoe economy is heavily dependent upon the vacation and resort industry. As a result of this emphasis, much of the ongoing development in the region is focused on the more affluent vacation and second home markets. In 1990, 436 employed persons resided in the Martis Valley Block Group and 2,082 lived in the Martis Valley Census Tract. **Table 4.2-8** contains the number of employed residents for the Placer High Country RAD, Placer County, and the Town of Truckee.

**TABLE 4.2-8**
**EMPLOYMENT FIGURES**

| | RAD, Placer High Country[3] | Placer County[4] | Town of Truckee[5] |
|---|---|---|---|
| **1990** | 368 | 82,920 | 4,961 |
| **2000** | 1,542 | 120,700 | N/A |
| ***Change*** | *1,174* | *37,800* | *N/A* |
| **Percent Change** | 319.0% | 45.6% | N/A |

*Source: [1]SACOG Population Estimates and Housing Unit Inventory, 2000; SACOG Projections, 2001*
*[2]1990 Census SF3A; Profiles of General Demographic Characteristics, 2000*
*[3]Truckee General Plan, 1994; Profiles of General Demographic Characteristics, 2000*

Employment by occupation is represented for the Martis Valley Block Group and Martis Valley Census Tract residents, as well as for Placer County residents, in **Table 4.2-9**. Ironically, most of the jobs created by the vacation and resort industry are seasonal and/or relatively low paying support or service positions that do not provide sufficient income to rent or purchase housing in the area. The lack of affordable housing has resulted in service workers finding housing outside of the region (e.g., Reno, Sparks, Auburn). However, information regarding place of residence that corresponds to place of employment is not readily available, so there is no quantification of the number of employees that reside outside of the Plan area or outside of Martis Valley.

**TABLE 4.2-9**
**EMPLOYMENT BY OCCUPATION**

| Occupation | Martis Valley – Block Group[1] | | Martis Valley – Census Tract[1] | | Placer County[1] | | Town of Truckee[1] | |
|---|---|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Managerial and Professional | 124 | 28.7% | 461 | 22.1% | 23,755 | 28.6% | 1,551 | 31.3% |
| Technical, Sales, and Administrative Support | 154 | 35.6% | 715 | 34.3% | 27,569 | 33.2% | 1,377 | 27.8% |
| Service | 66 | 15.3% | 360 | 17.3% | 9,823 | 11.8% | 781 | 15.7% |
| Farming, forestry, and fishing | 0 | 0.0% | 21 | 1.0% | 1,737 | 2.1% | 72 | 1.5% |
| Precision production, craft, and repair | 63 | 14.6% | 291 | 14.0% | 10,631 | 12.8% | 733 | 14.8% |
| Operators, fabricators, laborers | 29 | 6.7% | 134 | 6.4% | 9,405 | 11.3% | 447 | 9.0% |

*Source:[1]1990 Census*

### Area Employment

The environmental impact report for the original Gooseneck Ranch project (Lahontan) estimated a total of 32 full and part time jobs would be created by the project. The full time positions include a property administrator with three staff, a golf pro, a grounds/maintenance supervisor, a manager for the golf shop/clubhouse restaurant, and a manager for a recreation center management. There would also be approximately 24 part-time employees including 10

positions in building, grounds, and golf course maintenance, 10 positions as clerks and waiter/waitresses at the clubhouse restaurant/pro shop, and 4 positions at a recreation center. It was anticipated that the employees of this project would not reside within the actual development, but would seek less expensive homes in portions of the area that are not oriented toward the resort and second home market.

The Northstar-at-Tahoe development is a second home or recreational community that has winter and summer sport opportunities. This vacation resort primarily creates part time or seasonal jobs. These jobs include, cashiers, ski instructors, lift operators, food service, retail sales, golf course maintenance, and other recreational/vacation resort style jobs. These seasonal jobs do not provide a level of income that allows workers to rent or purchase the housing units within the Northstar development. Northstar-at-Tahoe, in its Issue Briefing: Employee Housing dated July 2001, identified that Northstar employs 350 to 400 people permanently, with an increase to 1,100 employees during the winter ski season.

The current employment trend in Martis Valley is developments that require a seasonal, low paying labor force and exclusive housing that they cannot afford. Developments within Martis Valley will continue to contribute to the regional problem of affordable housing.

### 4.2.2 REGULATORY FRAMEWORK

MARTIS VALLEY GENERAL PLAN

The 1975 Martis Valley General Plan provides a list of goals and objectives designed to meet the population and housing demands within the Plan area.

Community Development Policies

The following Martis Valley General Plan policies pertain to housing.

Policy 1 Provide for a complete and comprehensive range of housing types, recognizing the immediate demand for homes for low and medium income families and the strong demand for second homes adjacent to Lake Tahoe.

Policy 2 Provide for a flexible and readily available source of housing for both a seasonal and transient work force.

PLACER COUNTY GENERAL PLAN

The Placer County General Plan contains the goals and policies relative to the maintenance, improvement, and development of housing along with providing a wide wage of housing and employment opportunities.

Placer County General Plan Policies

The Placer County General Plan includes the following policies pertaining to population, housing, and employment:

Policy 1.M.2 The County shall encourage large residential projects to be phased or timed to occur simultaneously with development that will provide primary wage-earner jobs.

Policy 1.M.3 The County shall encourage the creation of primary wage-earner jobs, or housing which meets projected income levels, in those areas of Placer County where an imbalance between jobs and housing exist.

Policy 2.A.11 All new housing projects of 100 or more units on land has received an increase in allowable density through either a public or privately initiated general plan amendment, community plan amendment, rezoning, or specific plan shall be required to provide at least 10 percent of the units to be affordable to low income households. The low income units shall be available concurrently with the market-rate units. All such units shall remain affordable for ate least 20 years.

In cases where developers actually construct the low income units, the projects shall be eligible for a 10 percent density bonus. The Land Use Element and Zoning Ordinance will be amended to avoid potential conflicts with minimum lot size standards in cases where the density bonus option is exercised.

In cases where the County determines that is impractical for the developer to actually construct the units on site, the County may as an alternative allow the dedication of land sufficient to accommodate at least 10 percent of the units for low-income households and/or the payment of an in-lieu fee. In cases where land dedication is deemed suitable, such land shall be offered in fee to the County or to another public or nonprofit agency approved by the county. The amount of the in-lieu fee shall be determined on a case-by-case basis. The County may require the developer to fund an analysis showing how contributions of in-lieu fees could be best utilized to create the desired number of low-cost units.

Policy 2.A.13 Inclusionary housing provisions shall be incorporated in all new or updated community plans.

Policy 2.A.18 The County shall require new resorts in the Sierra Nevada and Lake Tahoe areas to provide for employee housing equal to 50 percent of the housing demand generated by the project. Employee housing shall be provided for in one of the following ways (in order of preference):

a. Construction of employee housing onsite.

b. Construction of employee housing offsite.

c. Dedication of land for needed units.

d. Payment of an in-lieu fee.

Policy 2.A.19 Owners of vacation houses in the Lake Tahoe area shall be encouraged to rent to resort workers, especially in the North Tahoe area.

Policy 2.B.1 The County encourages residential development of high architectural and physical quality, compatible with neighboring land uses.

Policy 2.G.1 All new dwelling units shall be required to meet current state requirements for energy efficiency. The retrofitting of existing units shall be encouraged.

Policy 2.G.2 New land use patterns should encourage energy efficiency, to the extent feasible.

These policies of the Placer County General Plan are incorporated into the policies provided in the Martis Valley Community Plan Update.

PLACER COUNTY AFFORDABLE HOUSING STRATEGY

The Placer County Affordable Housing Strategy (AHS) identifies three priorities for affordable housing County-wide. These three priorities include: the preservation of existing housing stock through the rehabilitation of substandard housing, assisting in the production of new rental housing within target communities, and the delivery of first-time home ownership programs which target low- and moderate- income families. A variety of programs and funding sources are identified in the AHS to assist the County in developing and maintaining housing consistent with its priorities. The AHS also discusses the three redevelopment areas, which do not include Martis Valley. The Martis Valley Community Plan Update is generally consistent with the objectives identified within the AHS and would not impede its implementation in the plan area.

### 4.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

A population and housing impact is considered significant if implementation of the project would result in any of the following:

1) Cumulatively exceed official regional or local population projections;

2) Induce substantial growth or concentration of population in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure);

3) Displace existing housing, especially affordable housing;

4) Displace a large number of people;

5) Inability (for new resorts) to provide for employee housing equal to 50 percent of the housing demand generated by the project (General Plan Policy 2.A.18); or

6) Indirect environmental effects associated with inability to provide for affordable and/or employee housing for employees generated by the project.

METHODOLOGY

PMC staff conducted research on demographic and housing conditions, utilizing existing documents and other information sources. Information was obtained from governmental agencies through their web sites. Among these agencies were the U.S. Bureau of the Census, the California Department of Finance, Sacramento Area Council of Governments, and the California Employment Development Department. The Housing Elements of Placer County and the Town of Truckee were additional sources of information on housing and socioeconomic conditions as well as housing policy. Staff contacted the Town of Truckee, Town of Mammoth Lakes, and Town of Vail to obtain employment generation factors and housing policy information for resort areas. Newspaper articles and contacts with local real estate agencies provided more current information on housing prices.

PROJECT IMPACTS AND MITIGATION MEASURES

### Impact 4.2.1 Holding Capacity

**PP** Development under the Proposed Land Use Diagram could potentially exceed the holding capacity of Martis Valley. This is considered a **less than significant** impact.

**AA** Development under the Existing Martis Valley General Plan Land Use Map could potentially exceed the holding capacity of Martis Valley. This is considered a **less than significant** impact.

**AB** Development under the Alternative 1 Land Use Map could potentially exceed the holding capacity of Martis Valley. This is considered a **less than significant** impact.

**AC** Development under the Alternative 2 Land Use Map could potentially exceed the holding capacity of Martis Valley. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

The Placer County General Plan identified the holding capacity of the Plan area as 25,262 persons, based on development of 9,391 dwelling units. As the General Plan does not distinguish between permanent and seasonal or part-time residences, the population is based on full-time occupancy of the residences. The 2000 population of the Plan area is approximately 1,185, based on Census block information. The average number of persons per residence in 2000 is approximately 2.63.

**Table 4.2-10** depicts the holding capacity under each land use map option considered for the proposed Martis Valley Community Plan.

**TABLE 4.2-10**
**HOLDING CAPACITY BY LAND USE MAP**

| Holding Capacity | Proposed Land Use Diagram | Existing MVGP Land Use Map | Alternative 1 Land Use Map | Alternative 2 Land Use Map |
|---|---|---|---|---|
| Gross Potential Dwelling Units | 20,467 | 15,360 | 17,496 | 16,959 |
| Adjusted Holding Capacity[1] | 9,220 | 11,688 | 10,311 | 7,956 |

*du: dwelling unit ac: acres*

*[1]: existing developed areas/proposed unit count and a standard 20 percent reduction applied, not at high end of density range for Medium Density Residential and Low Density Residential*

*[2]: Proposed Land Use Diagram: Lahontan I and II (537 units), Ponderosa Palisades/Sierra Meadows (449 units), Northstar-at-Tahoe (3,700 units), Martis Ranch (1,360 units), Hopkins Ranch (87 units), Siller Ranch (1,000 units), Eaglewood (506 units), Waddle Ranch (894 units), Waddle Road and SR 267 (105 units), SR 267 frontage (21 units), Northstar Drive (270 units), east of SR 267 (160 units), Joerger (51 units), County line (80 units).*
*Existing MVGP Land Use Diagram: Lahontan I and II (537 units), Sierra Meadows/Ponderosa Palisades (449 units).*
*Alternative 1 Land Use Diagram: Lahontan I and II (537 units), Sierra Meadows/Ponderosa Palisades (449 units), Northstar-at-Tahoe (4,332 units).*
*Alternative 2 Land Use Diagram: Lahontan I and II (537 units), Ponderosa Palisades/Sierra Meadows (449 units), Northstar-at-Tahoe (3,700 units), Hopkins Ranch (87 units), Siller Ranch (1,000 units), Eaglewood (506 units), Waddle Ranch (894 units), Waddle Road and SR 267 (135 units), SR 267 frontage (21 units), Northstar Drive (270 units), east of SR 267 (160 units), Joerger (51 units), County line (80 units).*

The Proposed Land Use Diagram would result in the development of 9,220 units at build-out. If occupancy were to be year-round for all of the units, there would be a population of 24,249 in

the Plan area. However, the Plan area has a primarily seasonal population, as demonstrated in **Table 4.2-7**. Based on expected occupancy rates from 20.0 to 52.8 percent, 4,850 to 12,803 households, as shown on **Table 4.2-11**, are anticipated to reside in the Plan area, under the Proposed Land Use Diagram, on a full-time basis.

Under the Existing Martis Valley General Plan Land Use Map Alternative, development at build-out is expected to be 11,688 dwelling units as shown in **Tables 4.2-10** and **4.2-11**. Were the all of units to be occupied at one time, the resultant population would be 30,739 persons. However, Martis Valley has a primarily seasonal population, with approximately 20.0 to 52.8 percent units occupied year-round; this would provide a permanent population of 5,233 to 15,086 persons.

The Alternative 1 Land Use Map would accommodate 10,311 dwelling units as shown in **Table 4.2-10** and **4.2-11**. This would result in a peak population of up to 27,118 persons, if the all units were occupied year-round. However, the majority of Martis Valley residences are occupied on a seasonal or recreational basis, so the permanent population would be 6,891 to 14,318 persons.

Development under the Alternative 2 Land Use Map is anticipated to reach 7,956 dwelling units at build-out as shown in **Tables 4.2-10** and **4.2-11.** If these units were occupied concurrently, the population would be 20,924. Since Martis Valley is predominantly occupied on a seasonal basis, the permanent population under Alternative AC would range from 4,184 to 11,049 persons.

**TABLE 4.2-11**
**OCCUPIED DWELLING UNITS AND POPULATION BY LAND USE DIAGRAM**

| Occupancy Rate | Proposed Land Use Diagram | | Existing MVGP Land Use Map | | Alternative 1 Land Use Map | | Alternative 2 Land Use Map | |
|---|---|---|---|---|---|---|---|---|
| | Occupied Units | Population | Occupied Units | Population | Occupied Units | Population | Occupied Units | Population |
| 100.0% | 9,220 | 24,249 | 11,688 | 30,739 | 10,311 | 27,118 | 7,956 | 20,924 |
| 52.8% | 4,868 | 12,803 | 6,171 | 16,230 | 5,444 | 14,318 | 4,201 | 11,049 |
| 39.8% | 3,670 | 9,652 | 4,652 | 12,235 | 4,104 | 10,794 | 3,166 | 8,327 |
| 28.8% | 2,655 | 6,983 | 3,366 | 8,853 | 2,970 | 7,811 | 2,291 | 6,025 |
| 20.0% | 1,844 | 4,850 | 2,338 | 6,149 | 2,620 | 6,891 | 1,591 | 4,184 |

The increase in both the permanent resident population as well as the addition of a seasonal population would result in direct and indirect environmental effects such as noise, community services, traffic, and air quality, which are discussed in the relevant chapters of this EIR. However, the seasonal peak population of each alternative is a worst-case scenario, in the event that all dwelling units were occupied at the same time. Projected permanent occupancy for the project would be less than anticipated in the Placer County General Plan, ranging from 43.7 to 64.2 percent of the General Plan holding capacity for Martis Valley. Although the proposed project would result in population growth in the area, the Plan area is designated for such growth as a Community Plan area in the General Plan. Therefore, impacts relating to population growth are considered less than significant.

Mitigation Measure

None required.

### Impact 4.2.2 Housing

**PP** Development under the Proposed Land Use Diagram would result in housing impacts through not providing sufficient affordable housing and creating an imbalance between employment and housing. This is a **potentially significant** impact.

**AA** Development under the Existing Martis Valley General Plan Land Use Map would result in housing impacts through not providing sufficient affordable housing and creating an imbalance between employment and housing. This is a **potentially significant** impact.

**AB** Development under the Alternative 1 Land Use Map would result in housing impacts through not providing sufficient affordable housing and creating an imbalance between employment and housing. This is a **potentially significant** impact.

**AC** Development under the Alternative 2 Land Use Map would result in housing impacts through not providing sufficient affordable housing and creating an imbalance between employment and housing. This is a **potentially significant** impact.

Housing

***PP Proposed Land Use Diagram***

Affordable housing is an issue of importance in a region containing many seasonal workers and workers unable to afford housing near their places of employment. The Regional Housing Needs Plan (RHNP) is a State-mandated plan prepared by SACOG. The RHNP allocates housing by income group goals to each jurisdiction within El Dorado-Placer- Sacramento-Yolo Housing Market Area. During the period from 2000 to 2020, areas in unincorporated Placer County should provide 23,231 housing units, with 23.4 percent very low income (0 to 50 percent of area median income), 21.9 percent low income (50 – 80 percent of area median income), 22.8 percent moderate income (80 to 120 percent of area median income), and 31.8 percent above moderate income (120 percent and above area median income).

Under PP, up to 9,220 housing units would be constructed; based on the 20.0 percent permanent occupancy assumption in the traffic model for the Plan area, up to 1,844 of these units may be occupied permanently. The RHNP does not include provisions for seasonal housing units, but its intent appears to be to provide a variety of housing types for permanent use. Based on this, development under the Proposed Land Use Diagram should provide RHNP ratios for the anticipated level of permanent housing units. This would result in 431 very low-income units and 404 units affordable to low income households or 4.7 percent of total development under the Proposed Land Use Diagram affordable to low income households and 4.4 percent affordable to very low-income households.

While some developments in the Plan area may be required to provide 10 percent affordable units or an in-lieu affordable housing fee (Policy 2.A.11), this fee would not result in sufficient affordable housing units to meet Martis Valley's share of affordable housing as described above. Therefore, the impact of the Existing Martis Valley General Plan Land Use Map Alternative on affordable housing opportunities is considered potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect

environmental effects of the potential deficiency of affordable and employee housing for the Proposed Land Use Diagram.

### *AA Existing Martis Valley General Plan Land Use Map*

Under AA, up to 11,688 housing units would be constructed; based on the 20.0 percent permanent occupancy assumption in the traffic model for the Plan area, up to 2,338 of these units may be occupied permanently. The RHNP does not include provisions for seasonal housing units, but its intent appears to be to provide a variety of housing types for permanent use. Based on this, development under Alternative AA should provide RHNP ratios for the anticipated level of permanent housing units. This would result in 547 very low income units and 512 units affordable to low income households or 4.7 percent of total development under Alternative AA affordable to low income households and 4.4 percent affordable to very low income households.

While some developments in the Plan area may be required to provide 10 percent affordable units or an in-lieu affordable housing fee (Policy 2.A.11), this fee would not result in sufficient affordable housing units to meet Martis Valley's share of affordable housing as described above. Therefore, the impact of the Existing Martis Valley General Plan Land Use Map Alternative on affordable housing opportunities is considered potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of affordable and employee housing for the Existing Martis Valley General Plan Land Use Map.

### *AB Alternative 1 Land Use Map*

Alternative AB would result in the construction of up to 10,311 housing units and 2,062 of these may be occupied permanently. The RHNP does not include provisions for seasonal housing units, but its intent appears to be to provide a variety of housing types for permanent use. Based on this, development under Alternative AB should provide RHNP ratios for the anticipated level of permanent housing units. This would result in 483 very low income units and 452 units affordable to low income households or 4.7 percent of total development under AB affordable to low income households and 4.4 percent affordable to very low income households.

While some developments in the Plan area may be required to provide 10 percent affordable units or an in-lieu affordable housing fee (Policy 2.A.11), this fee would not result in sufficient affordable housing units to meet Martis Valley's share of affordable housing as described above. Therefore, the impact of the Alternative 1 Land Use Map on affordable housing opportunities is considered potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of affordable and employee housing for the Alternative 1 Land Use Map.

### *AC Alternative 2 Land Use Map*

Development under Alternative AC would construct up to 7,956 housing units and up to 1,591 of these may be occupied permanently. The RHNP does not include provisions for seasonal housing units, but its intent appears to be to provide a variety of housing types for permanent use. Based on this, development under Alternative AC should provide RHNP ratios for the anticipated level of permanent housing units. This would result in 372 very low income units and 348 units affordable to low income households or 4.7 percent of total development under Alternative AC affordable to low income households and 4.4 percent affordable to very low income households.

While some developments in the Plan area may be required to provide 10 percent affordable units or an in-lieu affordable housing fee (Policy 2.A.11), this fee would not result in sufficient affordable housing units to meet Martis Valley's share of affordable housing as described above. Therefore, the impact of the Alternative 2 Land Use Map on affordable housing opportunities is considered potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of affordable and employee housing for the Alternative 2 Land Use Map.

Jobs-Housing Balance

### *PP Proposed Land Use Diagram*

The commercial, ski mountain, residential, professional and public/quasi-public components proposed for the project, are expected to generate as many as 4,750 full-time employee equivalent jobs. These full-time employee equivalent takes into account both full-time and part-time jobs, as well as numerous secondary jobs that occur with the creation of primary employment.

**Table 4.2-12** shows the amount of direct jobs that could be expected at buildout of the proposed project using the following ratios:

**TABLE 4.2-12**
**PROPOSED LAND USE DIAGRAM EMPLOYMENT GENERATION**

| Land Use Type | Units | Employment Generation | Jobs |
|---|---|---|---|
| Single Family/Multifamily | 8,416 dwelling units | 0.00001 FTEE/s.f. | 241 |
| Townhome/Condominium | 804 dwelling units | 0.1 FTEE/d.u. | 80 |
| Public/Quasi-Public | 337,590 s.f. | 0.75 FTEE/1,000 s.f. | 253 |
| Professional | 65,340 s.f. | 3.35 FTEE/1,000 s.f. | 219 |
| General Commercial | 339,768 s.f. | 2.00 FTEE/1,000 s.f. | 679 |
| Tourist/Recreation Commercial | 426,888 s.f. | 2.50 FTEE/1,000 s.f. | 1,067 |
| Ski Mountain | 26,764 skiiers | 82.6/1,000 skiiers | 2,211 |
| **Total** | | | **4,750 jobs** |

*Source: Final Land Use Numbers, LSC, 2001; Town of Mammoth Lakes; Town of Vail, 1991; Placer County Mitigation Agreement, 2002*
*[1]Assuming average residence of 2,860 square feet*

The Plan would include approximately 9,220 housing units at buildout. Using the occupancy rate of 20.0 percent, approximately 1,844 dwelling units would be occupied units (full-time residents).

Assuming that the percentage of employed residents within the Plan area is the similar to the Census Tract as a whole (51.9 percent), approximately 2,517 residents of the Plan area would be employed. This would result in an imbalance between the 4,750 jobs generated within the Plan area and the capacity of the Plan area to provide housing units for approximately 2,517 employees. The jobs-housing ratio would be 2.46 under this alternative (see **Table 4.2-13**).

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of employee housing for the Proposed Land Use Diagram.

**TABLE 4.2-13**
**JOBS CREATED PER OCCUPIED HOUSEHOLD**

| Proposed Land Use Diagram | Number of FTEE Jobs Generated | Occupied Units | Jobs-Housing Ratio |
|---|---|---|---|
| | 4,750 | 1,844 | 2.56 |

### *AA Existing Martis Valley General Plan Land Use Map*

The commercial, ski mountain, residential, professional and public/quasi-public components proposed for the project, are expected to generate as many as 5,253 full-time employee equivalent jobs. These full-time employee equivalent takes into account both full-time and part-time jobs, as well as numerous secondary jobs that occur with the creation of primary employment.

**Table 4.2-14** shows the amount of direct jobs that could be expected at buildout of the proposed project using the following ratios:

**TABLE 4.2-14**
**EXISTING MARTIS VALLEY GENERAL PLAN EMPLOYMENT GENERATION**

| Land Use Type | Units | Employment Generation | Jobs |
|---|---|---|---|
| Single Family/Multifamily | 10,607 dwelling units | 0.00001 FTEE/s.f. | 284 |
| Townhome/Condominium | 1,081 dwelling units | 0.1 FTEE/d.u. | 108 |
| Public/Quasi-Public | 723,096 s.f. | 0.75 FTEE/1,000 s.f. | 542 |
| Professional | 0 s.f. | 3.35 FTEE/1,000 s.f. | 0 |
| General Commercial | 226,512 s.f. | 2.00 FTEE/1,000 s.f. | 453 |
| Tourist/Recreation Commercial | 662,100 s.f. | 2.50 FTEE/1,000 s.f. | 1,655 |
| Ski Mountain | 26,764 skiiers | 82.6/1,000 skiiers | 2,211 |
| **Total** | | | **5,253 jobs** |

*Source: Final Land Use Numbers, LSC, 2001; Town of Mammoth Lakes; Town of Vail, 1991; Placer County Mitigation Agreement, 2002*
[1]*Assuming average residence of 2,860 square feet*

The project would include approximately 11,688 housing units at buildout. Using the occupancy rate of 20.0 percent, approximately 2,338 dwelling units would be occupied units (full-time residents).

Assuming that the percentage of employed residents within the Plan area is the similar to the Census Tract as a whole (51.9 percent), approximately 3,191 residents of the Plan area would be employed. This would result in an imbalance between the 5,253 jobs generated within the Plan area and the capacity of the Plan area to provide housing units for approximately 3,191 employees. The jobs-housing ratio would be 2.25 under this alternative (see **Table 4.2-15**).

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of employee housing for the Existing Martis Valley General Plan Land Use Map.

**TABLE 4.2-15**
**JOBS CREATED PER OCCUPIED HOUSEHOLD**

| Alternative | Number of FTEE Jobs Generated | Occupied Units | Jobs-Housing Ratio |
|---|---|---|---|
| AA | 5,253 | 2,338 | 2.25 |

### *AB Alternative 1 Land Use Map*

The commercial, ski mountain, residential, professional and public/quasi-public components proposed for the project, are expected to generate as many as 5,016 full-time employee equivalent jobs. These full-time employee equivalent takes into account both full-time and part-time jobs, as well as numerous secondary jobs that occur with the creation of primary employment.

**Table 4.2-16** shows the amount of direct jobs that could be expected at buildout of the proposed project using the following ratios:

**TABLE 4.2-16**
**ALTERNATIVE 1 LAND USE PLAN EMPLOYMENT GENERATION**

| Land Use Type | Units | Employment Generation | Jobs |
|---|---|---|---|
| Single Family/Multifamily | 9,255 dwelling units | 0.00001 FTEE/ s.f. | 265 |
| Townhome/Condominium | 1,056 dwelling units | 0.1 FTEE/d.u. | 106 |
| Public/Quasi-Public | 304,920 s.f. | 0.75 FTEE/1,000 s.f. | 229 |
| Professional | 10,890 s.f. | 3.35 FTEE/1,000 s.f. | 36 |
| General Commercial | 191,664 s.f. | 2.00 FTEE/1,000 s.f. | 383 |
| Tourist/Recreation Commercial | 714,384 s.f. | 2.50 FTEE/1,000 s.f. | 1,786 |
| Ski Mountain | 26,764 skiiers | 82.6/1,000 skiiers | 2,211 |
| **Total** | | | **5,016 jobs** |

*Source: Final Land Use Numbers, LSC, 2001; Town of Mammoth Lakes; Town of Vail, 1991; Placer County Mitigation Agreement, 2002*

[1]*Assuming average residence of 2,860 square feet*

The project would include approximately 10,311 housing units at buildout. Using the occupancy rate of 20 percent, approximately 2,062 dwelling units would be occupied units (full-time residents).

Assuming that the percentage of employed residents within the Plan area is the similar to the Census Tract as a whole (51.9 percent), approximately 3,576 residents of the Plan area (based on 2.63 residents per household) would be employed. This would result in an imbalance between the 5,016 jobs generated within the Plan area and the capacity of the Plan area to provide housing units for only 3,576 employees. Shown in **Table 4.2-17,** implementation of Alternative AB would result in 2.43 jobs for every occupied housing unit. This job-housing imbalance is potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of employee housing for the Alternative 1 Land Use Map.

**TABLE 4.2-17**
**JOBS CREATED PER OCCUPIED HOUSEHOLD**

| Alternative AB | Number of FTEE Jobs Generated | Occupied Units | Jobs-housing Ratio |
|---|---|---|---|
| | 5,016 | 2,062 | 2.43 |

***Alternative 2 Land Use Map***

The commercial, ski mountain, residential, professional and public/quasi-public components proposed for the project, are expected to generate as many as 5,850 full-time employee equivalent jobs. These full-time employee equivalent takes into account both full-time and part-time jobs, as well as numerous secondary jobs that occur with the creation of primary employment.

**Table 4.2-18** shows the amount of direct jobs that could be expected at buildout of the proposed project using the following ratios:

**TABLE 4.2-18**
**ALTERNATIVE 2 LAND USE MAP EMPLOYMENT GENERATION**

| Land Use Type | Units | Employment Generation | Jobs |
|---|---|---|---|
| Single Family/Multifamily | 6,540 dwelling units | 0.00001 FTEE/ s.f. | 187 |
| Townhome/Condominium | 1,416 dwelling units | 0.1 FTEE/d.u. | 142 |
| Public/Quasi-Public | 252,648 s.f. | 0.75 FTEE/1,000 s.f. | 189 |
| Professional | 130,680 s.f. | 3.35 FTEE/1,000 s.f. | 438 |
| General Commercial | 252,648 s.f. | 2.00 FTEE/1,000 s.f. | 505 |
| Tourist/Recreation Commercial | 871,200 s.f. | 2.50 FTEE/1,000 s.f. | 2,178 |
| Ski Mountain | 26,764 skiiers | 82.6/1,000 skiiers | 2,211 |
| **Total** | | | **5,850 jobs** |

*Source: Final Land Use Numbers, LSC, 2001; Town of Mammoth Lakes; Town of Vail, 1991; Placer County Mitigation Agreement, 2002*

[1]*Assuming average residence of 2,860 square feet*

The project would include approximately 7,956 housing units at buildout. Using the occupancy rate of 20 percent, approximately 1,591 dwelling units would be occupied units (full-time residents).

Assuming that the percentage of employed residents within the Plan area is the similar to the Census Tract as a whole (51.9 percent), approximately 2,169 residents of the Plan area would be employed. This would result in an imbalance between the 5,850 jobs generated within the Plan area and the available housing within the Plan area for approximately 2,169 employees. Development under Alternative AC would result in 3.68 jobs per housing unit (see **Table 4.2-19**). This exceeds the average persons per household for the Martis Valley Block Group by 1.05. This job-housing imbalance is potentially significant.

Indirect effects associated with the lack of affordable housing are usually job-related and include traffic, air quality, and noise impacts associated with households having to travel outside of the area they work in to where they live. The traffic analysis (Section 4.4) and the associated analyses in air quality (Section 4.6) and noise (Section 4.5) in this EIR have considered the indirect environmental effects of the potential deficiency of employee housing for the Alternative 2 Land Use Map.

**TABLE 4.2-19**
**JOBS CREATED PER OCCUPIED HOUSEHOLD**

| Alternative | Number of FTEE Jobs Generated | Occupied Units | Jobs-Housing Ratio |
|---|---|---|---|
| AC | 5,393 | 1,541 | 3.50 |

Policies and Implementation Programs

The following policies and implementation programs from the Martis Valley Community Plan Update would serve to reduce the housing impacts related to the lack of affordable housing and employee-housing imbalance under the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

*Policy 3.A.1* *The County shall give the highest priority for permit processing to development projects that include a lower income residential component.*

*Policy 3.A.2* *The County shall relax or reduce appropriate development standards for affordable/workforce/employee housing projects as an incentive for developers.*

*Policy 3.A.3* *All new housing projects of 100 or more units on land that has received an increase in allowable density through either a public or privately initiated general plan amendment, community plan amendment, rezoning or specific plan (adopted since August 1994) shall be required to provide at least 10 percent of the units as affordable to low income households (less than 80% of area median income). The low income units shall be available concurrently with the market-rate units. All such units shall remain affordable for at least 20 years. In cases where developers construct the low income units, the projects shall be eligible for a 10 percent density bonus.*

*In cases where the County determines that it is impractical for the developer to actually construct the units on site, the County may as an alternative, allow the dedication of land sufficient to accommodate at least 10% of the units for low-income households, and/or the payment of an in-lieu fee. In cases where land dedication is deemed suitable, such land shall be offered in fee to the County or to another public or nonprofit agency approved by the County. The amount of the in-lieu fee shall be determined on a case-by-case basis. The County may require the developer to fund an analysis showing how contributions of in-lieu fees could be best utilized to create the desired number of low-cost units.*

*All new housing projects of less than 100 units that have received an increase in allowable density through a general plan amendment, community plan amendment, rezoning or specific plan (since August 1994) shall be required to pay an in-lieu fee of one percent of the total estimated land and construction cost of the project, for use in producing affordable housing. Alternatively, the County may waive the fee in cases where lower income units are included in the project and the Board of Supervisors finds that the number of lower income units is commensurate with the numbers that could be built or leveraged through the fee.*

*Policy 3.A.4* *New or expanding resorts in the Martis Valley such as Northstar-at-Tahoe, Eaglewood, Siller Ranch, Hopkins Ranch, Martis Ranch, and Waddle Ranch shall be required to provide employee housing equal to 50 percent of the housing demand (based on the number of full-time equivalent employees) generated by the project. The housing is intended to serve the needs of the lower or moderate income level employee. Employee housing shall be provided in one of the following ways (in order of preference):*

*a. Construction of employee housing onsite;*
*b. Construction of employee housing offsite;*
*c. Dedication of land for needed units; or*
*d. Payment of an in-lieu fee.*

*Policy 3.A.5* *Owners of vacation homes in Martis Valley shall be encouraged to rent to resort workers and to construct secondary dwellings or accessory apartments as a means of increasing the supply of rental units that serve the needs of the growing number of service workers.*

*Policy 3.A.6* *The County shall continue to seek out opportunities for creative methods of encouraging and assisting in the financing of new workforce housing projects in the region.*

*Policy 3.A.7* *The County shall review each new development project and identify suitable ways in which such projects can contribute to the supply of lower cost housing or the opportunity to set aside land for such purposes.*

*Policy 3.A.8* *The County shall discourage the use of land for high-end residential development where the densities permitted by the Plan and the location in relation to the transportation system, jobs, the airport and necessary services are such that the land would be conducive to moderate or low cost housing.*

<u>Implementation Programs</u>

1. *As part of the Martis Valley Community Plan update, the County will review land use patterns, existing densities, the location of job centers and the availability of services to identify additional areas that may be suitable for higher density residential development.*

   *Responsible Agency/Department: Planning Department*
   *Funding: General Fund*

*Time frame: 2002*

2. *The County will continue to implement the permit streamlining program for residential projects.*

   *Responsible Agency/Department: Planning Department*
   *Funding: General Fund*
   *Time frame: Ongoing*

3. *The County will continue to implement the following incentive programs for the construction of affordable housing:*
   - *Allow second residential units with single family residences.*
   - *Allow manufactured housing in all residential zone districts.*
   - *Allow density bonuses for the construction of units for low and very low income residents, and for housing projects for seniors.*
   - *Consider amendments to the zoning ordinance so that employee housing constructed on-site is not deducted from allowable density within the project.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: Ongoing*
   *Funding: General Fund*

4. *The County will continue to offer a density bonus which provides a 25 percent density bonus if 20 percent of the units are available to low income households.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: Ongoing*
   *Funding: Permit fees*

6. *Private developers are encouraged to participate in Federal and State housing programs designed to provide for low and moderate income housing.*

   *Responsible Agency/Department: Planning Department*
   *Time frame: Ongoing*
   *Funding: Public/Private*

11. *The County shall review its interpretation and application of building codes to see that they are not acting as barriers to the development of innovative approaches to meeting the needs of fire resistant, low cost and/or energy-efficient housing.*

   *Responsible Agency/Department: Building Department*
   *Time frame: Ongoing*
   *Funding: General Fund*

<u>Mitigation Measures</u>

The following mitigation measure shall apply to Alternatives AA, AB, and AC. MM 4.2.2 shall be included as Implementation Program 15 in the Martis Valley Community Plan housing section.

**MM 4.2.2** As a condition of approval of each housing development in Martis Valley, the project applicant shall construct 5 percent of units affordable to very low income households (0 to 50 percent of area median income) and 5 percent

of units affordable to low income households (50 to 80 percent of median income). Where practicable, the County shall require the future developer of each project site to construct affordable housing as early as possible. In instances where the County finds that it is not feasible to construct the affordable units, the developer shall be required to pay a fee as described in Policy 3.A.3.

Responsible Agency/Department: Planning Department
Time frame: Ongoing
Funding: General Fund

Policy 3.A.4 combined with the affordable housing requirements of mitigation measure MM 4.2.2 would reduce the affordable housing and employee-housing imbalance impacts of PP and Alternatives AA, AB, and AC to **less than significant**.

### 4.2.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

Planned and proposed developments in the area include Eaglewood, Northstar-at-Tahoe expansion and employee housing, Hopkins Ranch, Siller Ranch, and Martis Ranch along with developments in the Town of Truckee and the Nevada County portion of Martis Valley.

IMPACTS AND MITIGATION MEASURES

**Impact 4.2.3 Cumulative Housing Impacts**

**PP** Cumulative development under the Proposed Land Use Diagram could potentially exceed the holding capacity of Martis Valley as well as result in housing impacts. This is considered a **cumulative significant** impact.

**AA** Cumulative development under the No Project Alternative could potentially exceed the holding capacity of Martis Valley as well as result in housing impacts. This is considered a **cumulative significant** impact.

**AB** Cumulative development under the Alternative 1 Land Use Map could potentially exceed the holding capacity of Martis Valley as well as result in housing impacts. This is considered a **cumulative significant** impact.

**AC** Cumulative development under the Alternative 2 Land Use Map could potentially exceed the holding capacity of Martis Valley as well as result in housing impacts. This is considered a **cumulative significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Cumulative development in the vicinity of the project would increase the population and number of housing units within Placer County. However, development under the Martis Valley Community Plan is generally consistent with the land use designations and growth assumed of the Placer County General Plan. The General Plan has placed the Community Plan designation in that area in order to accommodate anticipated growth.

The project's contribution to population growth has been identified and considered within the General Plan EIR. The Martis Valley Community Plan includes policies and implementation

programs that serve to mitigate growth including employee housing and affordable housing programs.

As described under Impact 4.2.2, implementation of the Proposed Land Use Diagram or Alternatives AA through AC could result in generation of employment in numbers greater than the amount that could be housed in permanent housing anticipated in the Plan area. In addition, affordable housing in the area may not be sufficient to meet the Plan area's needs or its fair share of regional housing needs.

Mitigation Measures

Policy 3.A.4 addresses the need for employee housing in the Plan area. Mitigation measure MM 4.2.2 would further reduce the project's impacts to affordable housing and jobs-housing balance. Cumulative impacts are considered **less than significant**.

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# Section 4.3
# Human Health / Risk of Upset

This section provides information on safety hazards in the Plan area. The reader is referred to Section 4.8 (Geology and Soils) for information regarding impacts associated with geologic and seismic hazards, to Section 4.7 (Hydrology and Water Quality) for information regarding impacts associated with water quality and flooding, Section 4.5 (Air Quality) regarding air quality hazards, and Section 4.11 (Public Services) regarding wildland fire hazards.

### 4.3.1 EXISTING SETTING

HAZARDOUS MATERIALS DEFINED

A material is considered hazardous if it appears on a list of hazardous materials prepared by a Federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as:

> *…A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations,* Title 22, Section 66260.10).

Chemical and physical properties that cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity, are defined in the CCR, Title 22, Sections 66261.20 - 66261.24. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

PROJECT SETTING

The Plan area consists of an area of land that is approximately 25,570 acres near the Town of Truckee in the central Sierra Nevada Mountains. General geographic boundaries of the Martis Valley Plan area include the Placer County boundary to the north, the Truckee River to the west, the Lake Tahoe Basin to the south, and the California/Nevada State Line to the east. Natural features located within the Martis Valley area include the Truckee River, Martis Creek, Dry Lake, Gooseneck Lake, and steep terrain along with forested areas. Prominent land uses in the Martis Valley area include the Town of Truckee, Truckee-Tahoe Airport, existing residential communities consisting of Ponderosa Palisades, Martiswood Estates, Ponderosa Ranchos, Sierra Meadows and Lahontan, the Northstar-at-Tahoe resort community and the Martis Creek Lake Recreation Area.

**Hazardous Substances and Uses**

Sites In or Near the Plan Area

A hazardous material/waste database search conducted for the Plan area revealed hazardous material sites. Various databases were searched from inside the Plan area and to within 1/8 mile to 1 mile outside the Plan area boundary.

The first site, Truckee-Tahoe Airport, is located within the Plan area. The Airport site includes 9 underground tanks containing diesel, unleaded gasoline, aviation gasoline, or jet fuel. Three of

the tanks are closed or removed which includes all the diesel fuel tanks and one unleaded gasoline tank. The remaining 6 tanks, which store various fuels, continue to be in active service and identified as State Underground Storage Tanks (UST). None of these underground storage tanks are known to be leaking.

The second site, Henrickson Auto Wrecking Yard, is located outside of the Plan area (within ¼ to ½ mile) in Truckee. The wrecking yard is listed on the State Equivalent CERCLIS List (SCL) and the current state status is former annual workplan site and referred to Regional Water Quality Control Board (RWQCB).

The third site, Norcal Electric, is located outside of the Plan area (within ¼ to ½ mile) in Truckee. This site is listed under the Regional Leaking Underground Storage Tank (Regional LUST). One site tank contained diesel fuel and actions were taken to remove the tank; however, the aquifer was affected and a preliminary site assessment is underway by the Lahontan Regional Water Quality Control Board. The second tank, also listed as under the Regional LUST, contained diesel fuel and a site assessment began on June 20, 1999 and a leak report was released on July 19, 1995. This leaking tank affected the aquifer and the Lahontan Regional Water Quality Control Board remedied the event and the case was closed on November 8, 1999.

The fourth site, Department of Transportation Yard, is located outside of the Plan area (within ¼ to ½ mile) in Truckee. This site is listed on the Regional LUST and the State LUST. A report for the 2 leaking underground storage tanks containing miscellaneous motor vehicle fuel was released on March 23, 1992 and site assessment began the same day. These leaks affected the aquifer and the Lahontan Regional Board remediation involved excavation and disposal of the storage tanks. The last review for this site was conducted on December 2, 1999.

Additionally, the Plan area contains 3 sites that are listed in the California State Water Resources Control Board database. These 3 sites are be part of the database either because of an unauthorized release report was filed pursuant to Section 25295 of the Health and Safety Code or because a cease and desist order was issued pursuant to Section 13301 of the Water Code concerning the discharge of wastes which are hazardous materials. The sites, which are all located within the Northstar-at-Tahoe resort, include the Northstar-at-Tahoe Golf Course (1,000 underground storage tank removal, case considered closed), Northstar – Mid Mountain Maintenance Facility (removal of 2 underground storage tanks containing diesel fuel, remediation proposed, case is still open), and the Northstar Gasoline Station (removal of 3 underground storage tanks containing unleaded gasoline and diesel fuel, case is still open) (KEA, 2001).

Other Uses Known to Utilize Hazardous Materials

In addition to the listings mentioned above, the Truckee-Tahoe Airport has the potential for handling additional hazardous materials or wastes associated with operation. The operation of the existing golf courses located in the Plan area (Lahontan and Northstar-at-Tahoe) involves the storage of various chemicals used for maintaining the courses. Typical chemicals used and stored onsite may include herbicides, fungicides, pesticides, and motor vehicle products.

**Airport Operations Hazards**

The Truckee-Tahoe Airport is the primary general aviation airport serving the entire north Lake Tahoe region. The Truckee-Tahoe Airport is a public airport operated by the Truckee-Tahoe Airport District. The facility is located approximately 2 miles southeast from downtown Truckee

along State Route 267. The airport straddles the boundary between Nevada and Placer Counties. Aircraft utilizing the facility range from gliders to business jets and commuter planes. The most common aircraft are general aviation light single engine. The Truckee-Tahoe Airport Master Plan, dated November 1998, showed the total annual operations for the year 1996 as 32,900 total flights. The 1998 Airport Master Plan projected 34,500 flights (including permanently-based aircraft, itinerant aircraft, gliders, ultralights, and balloons) for the total annual operation in the year 2000; 41,000 flights for the year 2005; 46,900 flights for the year 2010; 54,000 flights for the year 2015; and 61,600 flights for the year 2020.

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Also included are potential airport operation hazards associated with incompatible land uses, such as power transmission lines, wildlife hazards (e.g., bird strikes), or tall structures in the vicinity of an airport.

**Avalanche Hazards**

The term avalanche, if unmodified, refers to down slope movements of a mass of snow and/or ice, and this mass of frozen water can also be accompanied by other materials. Avalanches are classified by the type of snow involved. These include climax, combination, damp snow, delayed action, direct action, dry snow, hangfire, and windslab avalanches. Sometimes the term avalanche is used to describe those landslides in which the material catches a pocket of underlying air thus reducing underlying friction and resulting in incredibly rapid downslope movement of snow and/or ice. As movement becomes much more rapid because of lower cohesion, higher water content and steeper slopes the definition for an avalanche can grade from debris slides to debris flows and from debris slide to debris avalanche. Debris slides and, less commonly, debris avalanches may have slump blocks at their heads. In debris slides, the moving mass breaks up into smaller and smaller particles as it advances toward the foot of the slope and the movement is usually slow. In debris avalanches, progressive failure is more rapid and the whole mass, either because it is quite wet or because it is on a steep slope, liquefies, at least in part and flows and tumbles downhill. These movements are commonly along a stream channel and may advance well beyond the foot of the slope. Debris avalanches generally take place along long narrow drainage ways and often leave a serrated or V-shaped scar tapering uphill at the head in contrast to the horseshoe-shaped scarp of a slump.

The setting in which conditions for avalanche are favorable consists of a combination of factors including steepness of slope, exposure, snow pack composition, wind, temperature, rate of snow fall, and other interacting factors outlined in the Placer County Code, Chapter 35, Section 35.01. Avalanches most frequently occur on northerly- and easterly-facing slopes inclined at angles greater than 29 degrees, but under the right combination of factors avalanches can be released under a wide variety of slopes with any aspect.

The Plan area has a typically maritime climate with generally deep snow packs, mild temperatures and strong southerly to southwesterly winds. Although avalanches have the potential to occur on steeper slopes in the Plan area, they are not likely to occur on the terrain that is dominated by more subtle surface features. There have been no records of avalanches occurring in the area (Placer County, 1993). Avalanche hazards are further addressed in Section 4.8 (Geology and Soils) of this Draft EIR.

**Abandoned Mines and Tailings**

The Northstar-at-Tahoe property contains an abandoned mine and mine tailings. The entrance to the mineshaft and most of the mine tailings are located in the middle of small-forested area between two existing ski runs near the existing Backside Express chairlift. The entrance of the mineshaft is covered by boulders and tree trunks cut and stacked in front of the mineshaft opening. Small openings to the entrance of the mineshaft are visible between the rocks and tree trunks. The tailings cover an area approximately 3,300 square feet in size with a depth varying from 2 to 3 feet. Mine drainage inundates a shallow depression that eventually drains to Martis Creek. Two water samples were collected from the depression in 2000. While concentrations of metals and pH in these samples were less than the total toxic threshold levels and corrosivity standards in Title 22, California Code of Regulations, Section 66261, the pH levels were measured from 3.53 to 3.72. (KEA, 2001)

**Radon**

Radon isotope-22 is a colorless, odorless, and tasteless radioactive gas that results form the natural decay of uranium. Uranium and radon are present in varying amounts in rocks and soils, and radon is present in background concentrations in the atmosphere. Current evidence indicates that increased lung cancer risk is directly related to radon-decay products.

Medical communities in the United States are currently conducting intense research into the radon potential of rocks and soils and indoor radon exposure levels. At this time, the EPA has recommended an "action" level for indoor radon concentrations at or exceeding 4 pico-curies per liter of air (pCi/l). The EPA has extrapolated that a 1 to 3 percent lung cancer mortality rate resulting from a lifetime of exposure at 4 pCi/l. In other words, it is estimated that 1 to 3 persons per 100 exposed to this concentration for life will die of lung cancer induced by radon. In 1993, surveys were conducted at 23 sites in Nevada County to determine indoor concentrations of radon gas. The surveys found concentrations below 4.0 pico-curies per liter of air (pCi/L). The level of recommended action for radon gas in structures is 4.0 pCi/L. Due to the location of the project site in relation to the Plan area, it can be concluded that the Plan area conditions are closely represented by the soil conditions of Nevada County (Black Eagle, 2000). Based on the findings of the surveys, the EPA designates Nevada County as having an intermediate potential health hazard due to indoor radon. Radon accumulation in structures can also be minimized through building design. Sampling for radon groundwater sources has been conducted in Northstar and wells at Lahontan. The Northstar Community Services District sampling has identified that the gross alpha concentration in the potable water supply at Northstar is 1/100. The State of California Maximum Contaminant Level of 15.0 picocuries per liter (KEA, 2001), while radon concentrations in the Lahontan wells range from 0.1 to 3.4 pCi/L and also meet the EPA proposed MCL for radon (Geo Trans, 2000).

### 4.3.2 REGULATORY FRAMEWORK

Many agencies regulate the various hazards associated with the Martis Valley Community Plan area. The following discussion contains a summary review of regulatory controls pertaining to hazardous materials, airport operations, avalanche hazards, and abandoned mines.

FEDERAL

**Environmental Protection Agency**

EPA provides leadership in the nation's environmental science, research, education and assessment efforts. EPA works closely with other federal agencies, state and local governments, and Indian tribes to develop and enforce regulations under existing environmental laws. EPA is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes responsibility for issuing permits, and monitoring and enforcing compliance.

Federal agencies that regulate hazardous materials include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), 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
- Toxic Substances Control Act

**Table 4.3-1** lists federal, state, and local regulatory agencies that oversee hazardous materials handling and hazardous waste management, and the statutes and regulations that they administer.

**TABLE 4.3-1**
**SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY**

| Regulatory Agency | Authority |
|---|---|
| *Federal Agencies* | |
| Department of Transportation (DOT) | Hazardous Materials Transport Act - Code of Federal Regulations (CFR) 49 |
| Environmental Protection Agency (EPA) | Federal Water Pollution Control Act<br>Clean Air Act<br>Resource Conservation and Recovery Act (RCRA)<br>Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)<br>Superfund Amendments and Reauthorization Act (SARA)<br>Federal Insecticide, Fungicide and Rodenticide Act |
| Occupational Safety and Health Administration (OSHA) | Occupational Safety and Health Act and CFR 29 |
| *State Agencies* | |
| Department of Toxic Substances Control (DTSC) | California Code of Regulations |
| Department of Industrial Relations (CAL-OSHA) | California Occupational Safety and Health Act, CCR Title 8 |
| State Water Resources Control Board and Regional Water Quality Control Board | Porter-Cologne Water Quality Act<br><br>Underground Storage Tank Law |
| Health and Welfare Agency | Safe Drinking Water and Toxic Enforcement Act |
| Air Resources Board and Air Pollution Control District | Air Resources Act |
| Office of Emergency Services | Hazardous Materials Release Response Plans/Inventory Law |
| Department of Fish and Game | Fish and Game Code |
| Department of Food and Agriculture | Food and Agriculture Code |
| State Fire Marshall | Uniform Fire Code, CR Title 19 |

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). However, as of August 1, 1992, 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 Response Compensation and Liability Act (CERCLA).

**Federal Aviation Administration**

The mission of the Federal Aviation Administration (FAA) organization is to provide leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States, with due consideration for economics, environmental compatibility, local proprietary rights, and safeguarding the public investment.

Protection of navigable airspace and avoidance of hazards to flight is achieved through implementation of Part 77 of the Federal Aviation Administration Regulations (FAR 77). The regulations identify three-dimensional imaginary surfaces on and around airports through which no object should penetrate. These surfaces include: the Primary, Approach, Transitional, Horizontal and Conical surfaces. Criteria utilized in determining the shape, size and position of the various surfaces are outlined in the federal regulations. Topographic obstructions are also typically identified on the FAR 77 airspace drawing (see **Figure 4.3-1**). Development under proposed Community Plan may be subject to review associated with Part 77 if obstruction into the navigable airspace is anticipated.

STATE

**Environmental Protection Agency**

The California Environmental Protection Agency (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
- Porter-Cologne Water Quality Control Act

Subsequent development under the proposed Community Plan may subject to one or more of the above laws.

**Department of Toxic Substances Control**

Within Cal-EPA, 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).

**California Division of Aeronautics**

The California Division of Aeronautics fosters and promotes the development of a safe, efficient, dependable, and environmentally compatible air transportation system. The Division issues permits for and annually inspects hospital heliports and public-use airports; makes recommendations regarding proposed school sites within 2 miles of an airport runway; and authorizes helicopter landing sites at/near schools. Aviation system planning provides for the integration of aviation into transportation system planning on a regional, statewide, and national basis. The Division of Aeronautics administers noise regulation and land use planning laws that foster compatible land use around airports and encourages environmental mitigation measures to lessen noise, air pollution, and other impacts caused by aviation.

The Division prohibits the construction of any structure that would penetrate an imaginary surface, unless the State Division of Aeronautics has first issued a permit allowing its construction.

**Surface Mining Reclamation Act**

The Surface Mining and Reclamation Act (SMARA) was enacted in 1975 by the State of California. SMARA declared that the extraction of minerals is essential to the continued economic well-being of the state and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. Specifically, the Act:

- Establishes prohibitions and requirements regarding the mining of minerals and reclamation of land for subsequent reuse;
- Establishes financial assurances required of operators for implementing an approved reclamation plan;
- Establishes and funds an abandoned minerals and mineral materials mine reclamation program that among other uses included the reclamation and restoration of abandoned mine areas; and
- Establishes liability limitations regarding beneficial uses pursuant to State Water Code Section 13397 for remediation/reclamation of abandoned mines.

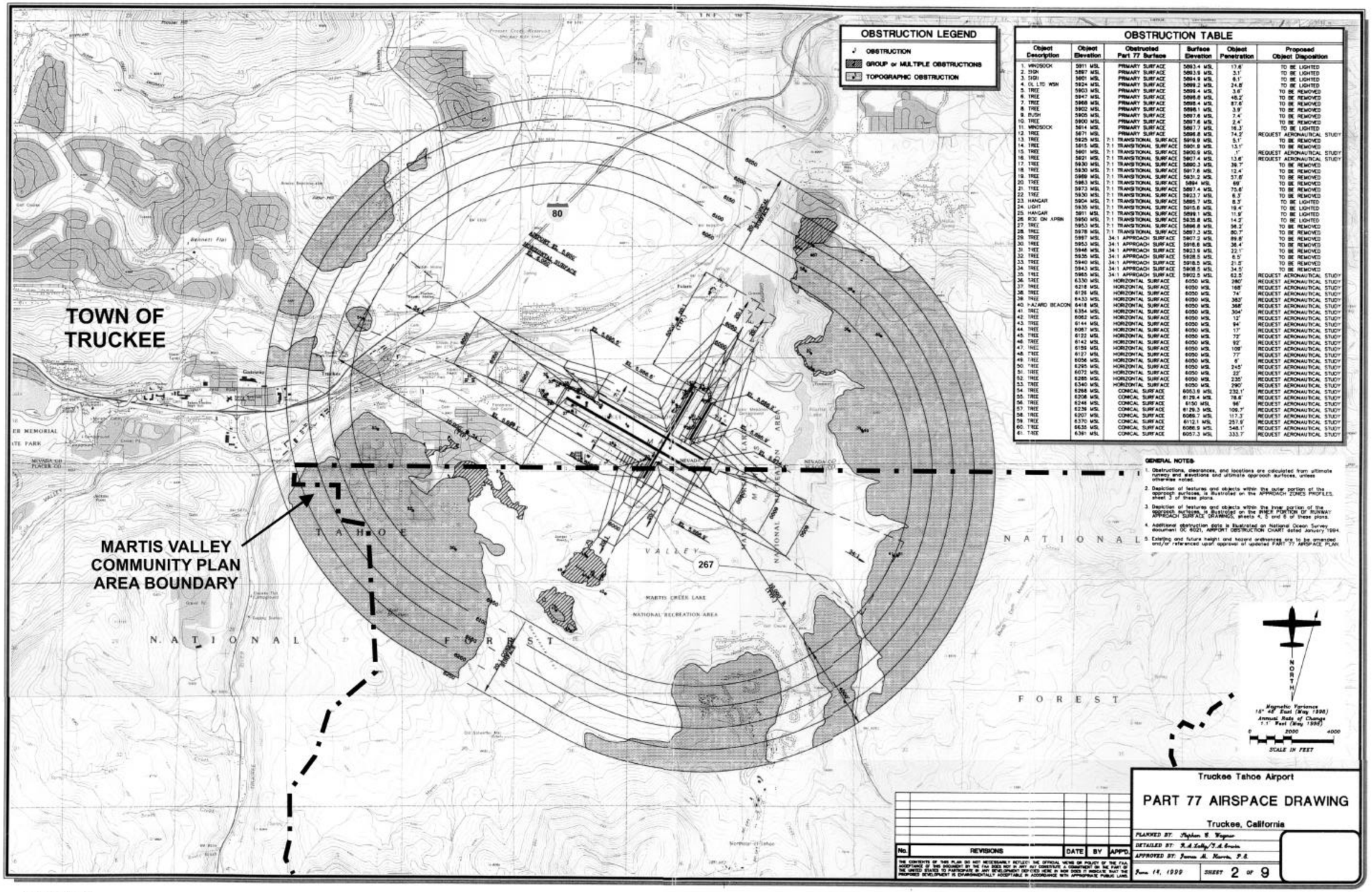
LOCAL

**Martis Valley General Plan**

The existing Martis Valley General Plan incorporates policies that pertain to safety hazards. These policies include the following.

Community Development and Transportation

Policy 18 The avalanche hazard areas for the ski slope and development areas must be precisely determined. Evaluation of the effectiveness of possible control measures, including recommendations on the absolute limits of development in various areas, must be made with each project report.




| OBSTRUCTION TABLE | | | | | |
|---|---|---|---|---|---|
| Object Description | Object Elevation | Obstructed Part 77 Surface | Surface Elevation | Object Penetration | Proposed Object Disposition |
| 1. WINDSOCK | 5911 MSL | PRIMARY SURFACE | 5893.4 MSL | 17.6' | TO BE LIGHTED |
| 2. SIGN | 5897 MSL | PRIMARY SURFACE | 5893.9 MSL | 3.1' | TO BE LIGHTED |
| 3. SIGN | 5901 MSL | PRIMARY SURFACE | 5894.9 MSL | 6.1' | TO BE LIGHTED |
| 4. GL LTD WSN | 5924 MSL | PRIMARY SURFACE | 5899.2 MSL | 24.8' | TO BE LIGHTED |
| 5. TREE | 5903 MSL | PRIMARY SURFACE | 5899.4 MSL | 3.6' | TO BE REMOVED |
| 6. TREE | 5947 MSL | PRIMARY SURFACE | 5898.8 MSL | 48.2' | TO BE REMOVED |
| 7. TREE | 5968 MSL | PRIMARY SURFACE | 5898.4 MSL | 67.6' | TO BE REMOVED |
| 8. TREE | 5902 MSL | PRIMARY SURFACE | 5898.1 MSL | 3.9' | TO BE REMOVED |
| 9. BUSH | 5905 MSL | PRIMARY SURFACE | 5897.6 MSL | 7.4' | TO BE REMOVED |
| 10. TREE | 5900 MSL | PRIMARY SURFACE | 5897.6 MSL | 2.4' | TO BE REMOVED |
| 11. WINDSOCK | 5914 MSL | PRIMARY SURFACE | 5897.7 MSL | 16.3' | TO BE LIGHTED |
| 12. TREE | 5971 MSL | PRIMARY SURFACE | 5896.8 MSL | 74.2' | REQUEST AERONAUTICAL STUDY |
| 13. TREE | 5925 MSL | 7:1 TRANSITIONAL SURFACE | 5919.9 MSL | 5.1' | TO BE REMOVED |
| 14. TREE | 5915 MSL | 7:1 TRANSITIONAL SURFACE | 5901.9 MSL | 13.1' | TO BE REMOVED |
| 15. TREE | 5901 MSL | 7:1 TRANSITIONAL SURFACE | 5900.9 MSL | 1' | REQUEST AERONAUTICAL STUDY |
| 16. TREE | 5921 MSL | 7:1 TRANSITIONAL SURFACE | 5907.4 MSL | 13.6' | REQUEST AERONAUTICAL STUDY |
| 17. TREE | 5930 MSL | 7:1 TRANSITIONAL SURFACE | 5890.3 MSL | 39.7' | TO BE REMOVED |
| 18. TREE | 5930 MSL | 7:1 TRANSITIONAL SURFACE | 5917.6 MSL | 12.4' | TO BE REMOVED |
| 19. TREE | 5969 MSL | 7:1 TRANSITIONAL SURFACE | 5931.2 MSL | 37.8' | TO BE REMOVED |
| 20. TREE | 5963 MSL | 7:1 TRANSITIONAL SURFACE | 5894 MSL | 69' | TO BE REMOVED |
| 21. TREE | 5973 MSL | 7:1 TRANSITIONAL SURFACE | 5897.4 MSL | 75.6' | TO BE REMOVED |
| 22. TREE | 5930 MSL | 7:1 TRANSITIONAL SURFACE | 5923.7 MSL | 6.3' | TO BE REMOVED |
| 23. HANGAR | 5904 MSL | 7:1 TRANSITIONAL SURFACE | 5895.7 MSL | 8.3' | TO BE LIGHTED |
| 24. LIGHT | 5935 MSL | 7:1 TRANSITIONAL SURFACE | 5915.6 MSL | 19.4' | TO BE LIGHTED |
| 25. HANGAR | 5911 MSL | 7:1 TRANSITIONAL SURFACE | 5899.1 MSL | 11.9' | TO BE LIGHTED |
| 26. ROC ON APRN | 5950 MSL | 7:1 TRANSITIONAL SURFACE | 5935.8 MSL | 14.2' | TO BE LIGHTED |
| 27. TREE | 5953 MSL | 7:1 TRANSITIONAL SURFACE | 5898.8 MSL | 54.2' | TO BE REMOVED |
| 28. TREE | 5978 MSL | 7:1 TRANSITIONAL SURFACE | 5897.3 MSL | 80.7' | TO BE REMOVED |
| 29. TREE | 5997 MSL | 34:1 APPROACH SURFACE | 5907.2 MSL | 89.8' | TO BE REMOVED |
| 30. TREE | 5953 MSL | 34:1 APPROACH SURFACE | 5916.6 MSL | 36.4' | TO BE REMOVED |
| 31. TREE | 5946 MSL | 34:1 APPROACH SURFACE | 5923.9 MSL | 22.1' | TO BE REMOVED |
| 32. TREE | 5935 MSL | 34:1 APPROACH SURFACE | 5928.5 MSL | 6.5' | TO BE REMOVED |
| 33. TREE | 5940 MSL | 34:1 APPROACH SURFACE | 5918.5 MSL | 21.5' | TO BE REMOVED |
| 34. TREE | 5943 MSL | 34:1 APPROACH SURFACE | 5908.5 MSL | 34.5' | TO BE REMOVED |
| 35. TREE | 5965 MSL | 34:1 APPROACH SURFACE | 5902.5 MSL | 62.5' | REQUEST AERONAUTICAL STUDY |
| 36. TREE | 6330 MSL | HORIZONTAL SURFACE | 6050 MSL | 280' | REQUEST AERONAUTICAL STUDY |
| 37. TREE | 6218 MSL | HORIZONTAL SURFACE | 6050 MSL | 168' | REQUEST AERONAUTICAL STUDY |
| 38. TREE | 6126 MSL | HORIZONTAL SURFACE | 6050 MSL | 74' | REQUEST AERONAUTICAL STUDY |
| 39. TREE | 6433 MSL | HORIZONTAL SURFACE | 6050 MSL | 383' | REQUEST AERONAUTICAL STUDY |
| 40. HAZARD BEACON | 6418 MSL | HORIZONTAL SURFACE | 6050 MSL | 368' | REQUEST AERONAUTICAL STUDY |
| 41. TREE | 6354 MSL | HORIZONTAL SURFACE | 6050 MSL | 304' | REQUEST AERONAUTICAL STUDY |
| 42. TREE | 6062 MSL | HORIZONTAL SURFACE | 6050 MSL | 12' | REQUEST AERONAUTICAL STUDY |
| 43. TREE | 6144 MSL | HORIZONTAL SURFACE | 6050 MSL | 94' | REQUEST AERONAUTICAL STUDY |
| 44. TREE | 6067 MSL | HORIZONTAL SURFACE | 6050 MSL | 17' | REQUEST AERONAUTICAL STUDY |
| 45. TREE | 6122 MSL | HORIZONTAL SURFACE | 6050 MSL | 72' | REQUEST AERONAUTICAL STUDY |
| 46. TREE | 6142 MSL | HORIZONTAL SURFACE | 6050 MSL | 92' | REQUEST AERONAUTICAL STUDY |
| 47. TREE | 6158 MSL | HORIZONTAL SURFACE | 6050 MSL | 108' | REQUEST AERONAUTICAL STUDY |
| 48. TREE | 6127 MSL | HORIZONTAL SURFACE | 6050 MSL | 77' | REQUEST AERONAUTICAL STUDY |
| 49. TREE | 6056 MSL | HORIZONTAL SURFACE | 6050 MSL | 6' | REQUEST AERONAUTICAL STUDY |
| 50. TREE | 6295 MSL | HORIZONTAL SURFACE | 6050 MSL | 245' | REQUEST AERONAUTICAL STUDY |
| 51. TREE | 6072 MSL | HORIZONTAL SURFACE | 6050 MSL | 22' | REQUEST AERONAUTICAL STUDY |
| 52. TREE | 6285 MSL | HORIZONTAL SURFACE | 6050 MSL | 235' | REQUEST AERONAUTICAL STUDY |
| 53. TREE | 6340 MSL | HORIZONTAL SURFACE | 6050 MSL | 290' | REQUEST AERONAUTICAL STUDY |
| 54. TREE | 6288 MSL | CONICAL SURFACE | 6053.9 MSL | 232.1' | REQUEST AERONAUTICAL STUDY |
| 55. TREE | 6208 MSL | CONICAL SURFACE | 6129.4 MSL | 78.6' | REQUEST AERONAUTICAL STUDY |
| 56. TREE | 6246 MSL | CONICAL SURFACE | 6150 MSL | 96' | REQUEST AERONAUTICAL STUDY |
| 57. TREE | 6239 MSL | CONICAL SURFACE | 6129.3 MSL | 109.7' | REQUEST AERONAUTICAL STUDY |
| 58. TREE | 6207 MSL | CONICAL SURFACE | 6089.7 MSL | 117.3' | REQUEST AERONAUTICAL STUDY |
| 59. TREE | 6370 MSL | CONICAL SURFACE | 6112.1 MSL | 257.9' | REQUEST AERONAUTICAL STUDY |
| 60. TREE | 6635 MSL | CONICAL SURFACE | 6086.9 MSL | 548.1' | REQUEST AERONAUTICAL STUDY |
| 61. TREE | 6391 MSL | CONICAL SURFACE | 6057.3 MSL | 333.7' | REQUEST AERONAUTICAL STUDY |

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FIGURE 4.3-1
TRUCKEE TAHOE AIRPORT FAR PART 77 MAP

**Placer County Avalanche Management Program**

Placer County's avalanche management program defines Potential Avalanche Hazard Areas (PAHAs) as those areas where the minimum probability of avalanche occurrence is greater than 1 in 100 per year or where avalanche damage has already occurred. The Placer County Department of Public Works and property owners that rent their property to the public are required to post information, described below, in facilities located in PAHAs explaining avalanche hazards and available emergency services. The following are relevant Placer County General Plan policies related to avalanche hazards.

According to the Placer County Avalanche Management Ordinance (Ordinance No. 4331-B), specific project related information must include:

- Information that a structure is within a PAHA;
- A warning that avalanche control work, including the use of explosives, may be carried out and that avalanche control personnel may provide special advisories or instructions;
- A warning that authorities may attempt to contact property owners during periods of severe storm events, but that the responsibility of the occupants to use good judgment during such events; and
- Identification of local radio stations that provide weather information, phone numbers of the Office of Emergency Services and other local emergency offices, and available brochures about avalanches.

The County will not issue a building permit for construction in a PAHA without certifying that the structure will be safe under the anticipated snow loads and conditions of an avalanche, or as an alternative, without a recorded statement that discloses that special construction methods were not employed. In general, structures must be constructed of reinforced concrete or other reinforced masonry at least as high as the depth of an expected avalanche because constructing wood-frame structures that will withstand forces greater than 1 ton per square meter is considered economically infeasible. Currently, the Plan area is not covered in the Placer County Avalanche Management Ordinance.

**Placer County Hazardous Waste Management Plan**

Placer County adopted a Hazardous Waste Management Plan (HWMP) in January 1989 that was prepared according to guidelines established by state law (Section 25135 of the California Health and Safety Code, known as AB 2948).

The Placer County HWMP provides data on the quantity and types of hazardous waste currently generated within the county and within the 6 incorporated areas; evaluates the need for treatment, storage, or disposal (TSD) facilities through 2000 based on projected waste generation; and includes policies and implementation measures.

**Truckee-Tahoe Airport Master Plan**

Facility development for the Truckee-Tahoe Airport is currently guided by the 1988 Truckee-Tahoe Airport Master Plan. The Plan anticipates that parallel runways will be constructed

adjacent to both the primary and crosswind runways in the future. A number of new hangars are also planned southwest of Runway 10-28.

**Truckee-Tahoe Airport Comprehensive Land Use Plan**

In 1986, the Foothill Airport Land Use Commission (ALUC) adopted a Comprehensive Land Use Plan (CLUP) for the Truckee-Tahoe Airport. The Foothill Airport Land Use Commission prepared an update in 1990 to include revised noise contours. At present, the Truckee-Tahoe Airport is interested in undertaking another CLUP update to better address the relationship of the airport with the existing land uses and proposed development in the area.

The existing Truckee-Tahoe Airport CLUP (1990) suggests that land use policies and regulations in Martis Valley should be consistent with concerns to minimize public exposure to noise and safety hazards, provide for safe aircraft operations, and protect the airport as a public resource. The plan established areas of influence within which airport operations are likely to affect other land uses, and proposes restraints to minimize conflicts within those boundaries. ALUC reviews development applications and determines the compatibility of the project to the height, noise and safety guidelines of the CLUP. Development of the Plan area is subject to height restrictions of the Truckee-Tahoe Airport Comprehensive Land Use Plan (CLUP) as well as the Federal Aviation Regulations (FAR) Part 77. **Figure 4.3-2** shows the Truckee-Tahoe Airport Safety Zones.

The CLUP is intended to protect and promote the safety and welfare of residents near and users of Truckee-Tahoe Airport, while promoting the continued operation of the airport. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace. In addition, the CLUP promotes compatible urban development and restricts incompatible development near the Truckee-Tahoe Airport. Three areas of compatibility are considered in the plan which include:

- Compatibility of surrounding land uses with airport noise levels;
- Compatibility of surrounding land uses with respect to the safety of persons on the ground and persons on board aircraft making controlled crash landings; and
- Protection of airspace needed for safe air navigation near the airport.

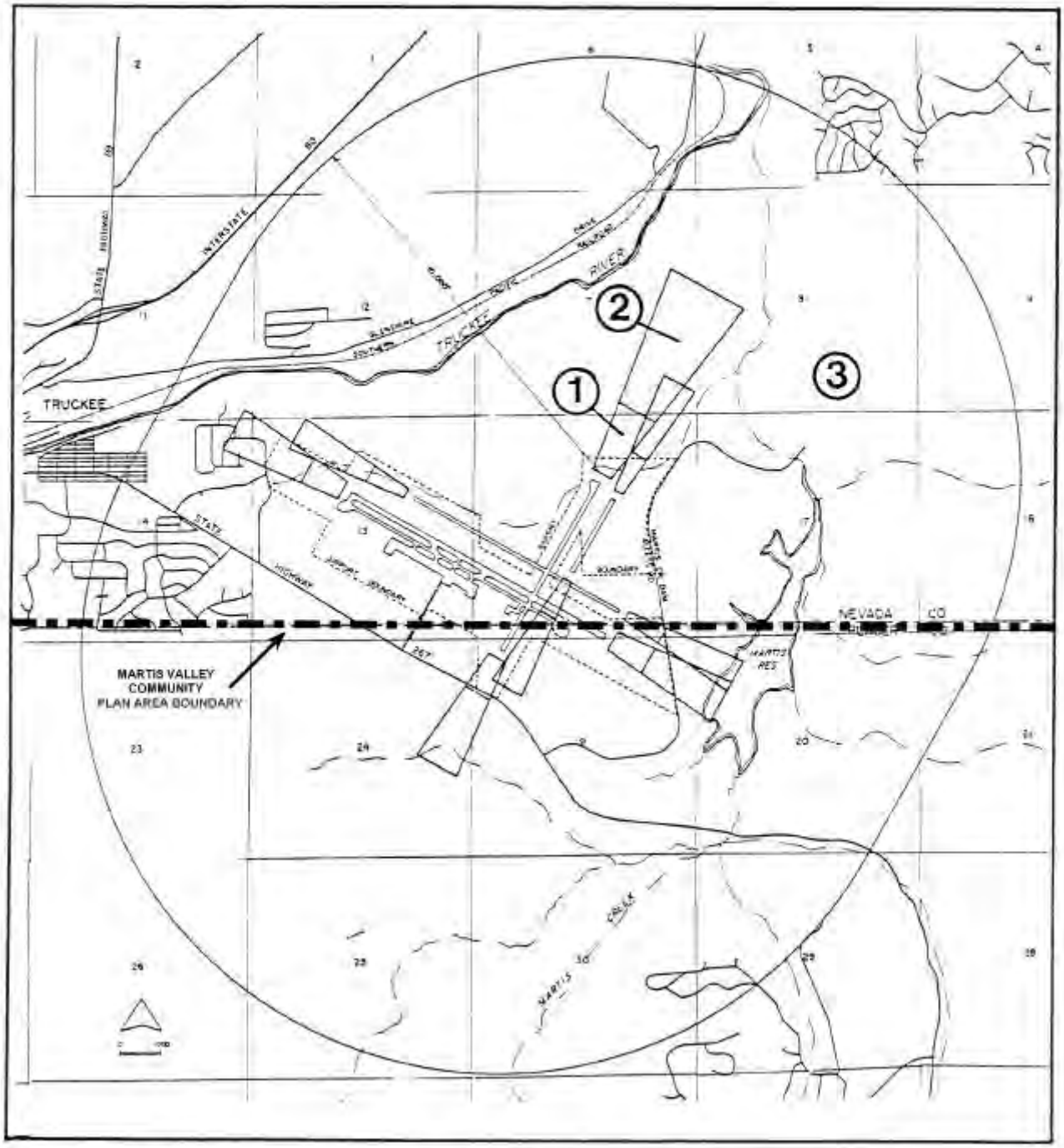
The most critical safety hazard involves the Clear Zone. This zone begins 200 feet from the end of the runway and extends out from 1,000 to 1,700 feet depending on the characteristics of the runway. The next most critical hazard area is described as the Approach/Departure Zone. This is where the aircraft are either climbing or descending and beginning their turning maneuvers. This Zone begins at the outer edge of the Clear Zone and extends out 2,000 to 3,400 feet depending on the characteristics of the runway. However, this CLUP figure incorrectly represents the location of the Overflight Zone. The Overflight Zone should be aligned with the runways, which run parallel to State Route 267. Subsequent development under the proposed Community Plan would generally be subject to review for compliance with the CLUP.

# TRUCKEE-TAHOE AIRPORT SAFETY ZONES

① Safety Area 1 - Clear Zone

② Safety Area 2 - Approach/Departure Zone

③ Safety Area 3 - Overflight Zone




* Note: This figure is intended to illustrate safety area dimensions in a general manner only. The jurisdiction's planning department should be contacted to determine the precise safety area boundaries as they affect individual parcels.

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FIGURE 4.3-2
TRUCKEE TAHOE AIRPORT CLUP AIRPORT SAFETY ZONES

**Placer County General Plan**

The Placer County General Plan includes policies and programs, which call for the County to ensure that the planning of land uses, and new development be compatible with airport activities to minimize airport hazards. The County should recognize that such land uses would be subject to noise protection, location, use, and height restrictions. Specifically, Policy 8.D.1 ensures that new development around airports does not generate safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemical, or fuel storage that would affect the safety of the airport operations. In addition, Implementation Program 8.8 has the County review development projects within overflight zones of the airport for compatibility with applicable airport comprehensive land use plans (CLUPs).

Placer County General Plan Policies

The Placer County General Plan includes the following policies pertaining to hazards:

Policy 8.D.1 The County shall ensure that new development around airports does not create safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.

Policy 8.D.2 The County shall limit land uses in airport safety zones to those uses listed in the applicable airport comprehensive land use plans (CLUPSs) as compatible uses. Exceptions shall be made only as provided for in the CLUPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.

Policy 8.D.3 The County shall ensure that development within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (objects affecting navigable airspace).

Policy 8.A.12 The County shall not issue permits for new development in potential avalanche hazard area (PAHA) as designated in the Placer County Avalanche Management Ordinance unless project proponents can demonstrate that such development will be safe under anticipated snow loads and conditions of an avalanche.

Policy 8.H.1 The County shall maintain maps of potential avalanche hazard areas.

Policy 8.H.2 The County shall require new development in areas of avalanche hazard to be sited, designed, and constructed to minimize avalanche hazards.

Policy 8.G.1 The County shall ensure that the use and disposal of hazardous materials in the county comply with local, state, and federal safety standards.

Policy 8.G.2 The County shall discourage the development of residences or schools near known hazardous waste disposal or handling facilities.

Policy 8.G.5 The County shall strictly regulate the storage of hazardous materials and wastes.

Policy 8.G.12 The County shall identify sites that are inappropriate for hazardous material storage maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and surrounding natural environment.

The proposed Martis Valley Community Plan policy document contains goals, policies and implementation programs that are generally consistent with the policy provisions of the Placer County General Plan.

### 4.3.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

For purposes of this EIR, the following criteria were used in determining whether the implementation of the proposed Community Plan would result in a significant impact:

1) An impact would be considered significant if subsequent land uses under the Martis Valley Community Plan may involve the use, production, or disposal of materials that pose a hazard to people, or to plant or animal populations in the area affected;

2) Exposure of people or property to hazardous including explosives, groundwater contamination, soil contamination;

3) Exposure of workers or residences to hazardous materials and health risks during construction or maintenance activities;

4) Expose future development to hazards related to abandoned mine features; or

5) Place land uses in designated hazardous areas inconsistent with applicable plans and policies of federal, state and local agencies.

Avalanche hazards are addressed in Section 4.8 (Geology and Soils) of this Draft EIR.

METHODOLOGY

This analysis is based on review of existing documentation, field review and consultation with local agencies. It is assumed that future commercial and office uses may utilize hazardous materials as part of their operation.

PROJECT IMPACTS AND MITIGATION MEASURES

**Impact 4.3.1 Abandoned Mines and Tailings**

**PP** The potential exists for abandoned mine shafts and openings in the Plan area to present a physical hazard for subsequent development under the Proposed Land Use Diagram. This is considered a **potentially significant** impact.

**AA** The potential exists for abandoned mine shafts and openings in the Plan area to present a physical hazard for subsequent development under the Existing Martis Valley General Plan Land Use Map. This is considered a **potentially significant** impact.

**AB** The potential exists for abandoned mine shafts and openings in the Plan area to present a physical hazard for subsequent development under the Alternative 1 Land Use Map. This is considered a **potentially significant** impact.

**AC** The potential exists for abandoned mine shafts and openings in the Plan area to present a physical hazard for subsequent development under the Alternative 2 Land Use Map. This is considered a **potentially significant** impact.

***PP Proposed Land Use Diagram***

As described in Section 4.10 (Cultural and Paleontological Resources), portions of the Plan area have historically been utilized for mining operations. The Northstar-at-Tahoe ski resort area contains known abandoned mine and mine tailings. Development under the Proposed Land Use Diagram could be affected by known and unknown mine features and open shafts that could represent potential safety hazards, such as in subsidence or collapse, contamination from tailings and that act as a conduit for groundwater contamination. It is unknown at this time whether the Plan area contains additional mineshafts and mine tailings in other locations that may support residential or recreational development.

***AA Existing Martis Valley General Plan Land Use Map***

Alternative AA has a similar land use pattern as compared to the Proposed Land Use Diagram and could result in the same hazards associated with abandoned mines.

***AB Alternative 1 Land Use Map***

Alternative AB has a similar land use pattern as compared to the Proposed Land Use Diagram and could result in the same hazards associated with abandoned mines.

***AC Alternative 2 Land Use Map***

Alternative AC has a similar land use pattern as compared to the Proposed Land Use Diagram and could result in the same hazards associated with abandoned mines.

<u>Policies and Implementation Programs</u>

The following Martis Valley Community Plan policies and implementation programs in Section IX (Natural Resources) would assist in reducing potential impacts discussed regarding consistency of the project with planning documents applicable to the Plan area.

*Policy 9.A.1 The County shall require the preparation of a soils or geologic investigation prior to permitting development in areas of known or suspected geological or seismic hazards (i.e., seismically induced ground shaking, landslides, liquefaction, critically expansive soils, avalanche).*

*Implementation Programs*

*2. Require the preparation of a soils and/or geologic investigation prior to permitting development in areas of known or suspected geological or seismic hazards (i.e., seismically induced groundshaking, landslides, liquefaction, critically expansive soils).*

*Responsible Agency/Department: Department of Public Works*
*Time Frame: On-going*
*Funding: Permit Fees/ Plan Review Fees*

Mitigation Measures

The following mitigation measures would apply to the Proposed Land Use Diagram and Alternatives AA, AB, and AC as a new policy in Section IX (Natural Resources) under Goal 9.A in the proposed Community Plan.

**MM 4.3.1** Upon the identification of mine facilities on a project site within the Plan area, the County shall require that a detailed survey of the mine features and a hazards assessment be performed and that remedial measures be undertaken in areas of waste rock, mine tailings, and other associated contamination areas. Remediation shall be undertaken in accordance with the requirements of the County, California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board. Remedial measures that could be implemented include, but are not limited to, the following: 1) fencing the impacted area to prohibit public access, 2) removal of mine wastes to an appropriate landfill facility, 3) consolidate and encapsulate mine wastes, restore the area with vegetation, and re-route drainage, and 4) securing mine sites to restrict access and subsidence.

Implementation of the above mitigation measures would mitigate impacts associated with the abandoned mines located in the Plan area that present a physical hazard to **less than significant** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

**Impact 4.3.2 Hazardous Materials Contamination**

**PP** Implementation of the Proposed Land Use Diagram could result in potential disturbance and contamination of existing and future land uses resulting from the use of toxic chemicals, the storage and disposal of toxic chemicals, and other hazardous materials. This is considered a **potentially significant** impact.

**AA** Implementation of Existing Martis Valley General Plan Land Use Map could result in potential disturbance and contamination of existing and future land uses resulting from the use of toxic chemicals, the storage and disposal of toxic chemicals, and other hazardous materials. This is considered a **potentially significant** impact.

**AB** Implementation of Alternative 1 Land Use Map could result in potential disturbance and contamination of existing and future land uses resulting from the use of toxic chemicals, the storage and disposal of toxic chemicals, and other hazardous materials. This is considered a **potentially significant** impact.

**AC** Implementation of Alternative 2 Land Use Map could result in potential disturbance and contamination of existing and future land uses resulting from the use of toxic chemicals, the storage and disposal of toxic chemicals, and other hazardous materials. This is considered a **potentially significant** impact.

### *PP Proposed Land Use Diagram*

As described in the existing setting, a hazardous material/waste database search was conducted for the Plan area that revealed hazardous material/waste sites. In addition, 3 sites located on the Northstar property are listed in the California State Water Resources Control Board database, including the Northstar-at-Tahoe Golf Course, Northstar – Mid Mountain Maintenance, and the Northstar Gasoline Station. Some of these sites as well as unknown contamination sites could potentially impact the land use capabilities of the properties located nearby, impact domestic groundwater use and place residents and the environment at risk. The Proposed Land Use Diagram designates commercial, public and office uses within the Plan area and adjacent to residential uses. Even though no industrial uses are permitted within the Plan area, commercial uses such as dry cleaning, auto repair shops and gas stations use hazardous materials in their daily operations. The use and disposal of hazardous materials is regulated by local, state and federal regulations. Additionally, businesses utilizing certain amounts and types of hazardous materials are required under federal, state and local standards to develop plans that would help to prevent an accidental release of hazardous materials. Because hazardous materials and contamination tends to be site-specific, contaminated sites would not impact the Plan area as a whole.

### *AA Existing Martis Valley General Plan Land Use Map*

The Existing Martis Valley General Plan Land Use Map would result in a similar land use pattern and uses as compared to the Proposed Land Use Diagram and would result in the same hazards associated with hazardous materials contamination as described for the Proposed Land Use Diagram.

### *AB Alternative 1 Land Use Map*

The Alternative 1 Land Use Map would result in a similar land use pattern and uses as compared to the Proposed Land Use Diagram and would result in the same hazards associated with hazardous materials contamination as described for the Proposed Land Use Diagram.

### *AC Alternative 2 Land Use Map*

The Alternative 2 Land Use Map would result in a similar land use pattern and uses as compared to the Proposed Land Use Diagram and would result in the same hazards associated with hazardous materials contamination as described for the Proposed Land Use Diagram.

Policies and Implementation Programs

There are no policies or implementation programs in the Community Plan that pertain to this impact.

Mitigation Measures

The following mitigation measure would apply to Proposed Land Use Diagram and Alternatives AA, AB, and AC. Mitigation measure MM 4.3.2 shall be incorporated into the Community Plan as a policy in Section I (Land Use) under Goal 1.A.

**MM 4.3.2** Prior to site improvements for properties that are suspected or known to contain hazardous materials and sites that are listed in the hazardous

material/waste database search or the California State Water Resources Control Board database, the County shall require that the soil and surrounding area shall be tested and remediated for potential hazardous materials in accordance with local, state, and federal regulations.

Implementation of the above mitigation measure would mitigate potential impacts resulting from hazardous materials to **less than significant** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

**Impact 4.3.3 Airport Operations**

**PP** The potential exists for safety hazards associated with airport operations to occur within the Plan area in areas proposed for development under the Proposed Land Use Diagram. This is considered a **potentially significant** impact.

**AA** The potential exists for safety hazards associated with airport operations to occur within the Plan area in areas proposed for development under the existing Martis Valley Community Plan Land Use Map. This is considered a **potentially significant** impact.

**AB** The potential exists for safety hazards associated with airport operations to occur within the Plan area in areas proposed for development under the Alternative 1 Land Use Map. This is considered a **potentially significant** impact.

**AC** The potential exists for safety hazards associated with airport operations to occur within the Plan area in areas proposed for development under the Alternative 2 Land Use Map This is considered a **potentially significant** impact.

***PP Proposed Land Use Diagram***

The Truckee-Tahoe Airport utilizes height restriction areas to insure that objects would not impair flight safety or decrease the operational capability of the airport. Specifically, Federal Aviation Regulations (FAR) Part 77 defines a series of imaginary surfaces surrounding all public use airports. Any proposed object or structure that would penetrate any of these imaginary surfaces as they apply to the Truckee-Tahoe Airport is considered by the Federal Aviation Administration (FAA) to be an obstruction to air navigation. An obstruction to air navigation may not be a hazard to air navigation, however, the FAA presumes it to be a hazard and treats it as such until an FAA aeronautical study had determined that it does not have a substantial adverse effect on the safe use of the navigable airspace by aircraft. The imaginary surfaces the FAA uses to determine whether or not a structure or an object would be an obstruction to air navigation includes the primary surface, approach surface, horizontal surface, conical surface, and transitional surfaces. **Figure 4.3-1** shows the Part 77 civil airport imaginary surfaces. The CLUP determines compatibility of surrounding land uses based upon noise levels associated with the airport operations and exposure of persons to crash hazards associated with aircraft and height restrictions. **Figure 4.3-2** shows the Truckee-Tahoe Airport Safety Zones associated with the CLUP.

The Proposed Land Use Diagram designates Open Space within the Clear Zone and Open Space and Residential Forest within the Approach/Departure Zone, consistent with the CLUP. Land uses designated within the Overflight Zone would also be generally consistent with the CLUP. However, development under the Proposed Land Use Diagram has the potential to place structures or objects in a height restriction area that may be considered an air navigation hazard

according to the Federal Aviation Regulations Part 77 or could result in the design of specific facilities that are inconsistent with the CLUP. This is a potentially significant impact.

***AA Existing Martis Valley General Plan Land Use Map***

Alternative AA has a similar land use pattern as compared to the Proposed Land Use Diagram and would also be generally consistent with the CLUP. However, like the Proposed Land Use Diagram, development under this alternative has the potential to place structures or objects in a height restriction area that may be considered an air navigation hazard according to the Federal Aviation Regulations Part 77 or could result in the design of specific facilities that are inconsistent with the CLUP. This is a potentially significant impact.

***AB Alternative 1 Land Use Map***

Alternative AB has a similar land use pattern as compared to the Proposed Land Use Diagram and would also be generally consistent with the CLUP. However, like the Proposed Land Use Diagram, development under this alternative has the potential to place structures or objects in a height restriction area that may be considered an air navigation hazard according to the Federal Aviation Regulations Part 77 or could result in the design of specific facilities that are inconsistent with the CLUP. This is a potentially significant impact.

***AC Alternative 2 Land Use Map***

Alternative AC has a similar land use pattern as compared to the Proposed Land Use Diagram and would also be generally consistent with the CLUP. However, like the Proposed Land Use Diagram, development under this alternative has the potential to place structures or objects in a height restriction area that may be considered an air navigation hazard according to the Federal Aviation Regulations Part 77 or could result in the design of specific facilities that are inconsistent with the CLUP. This is a potentially significant impact.

Policies and Implementation Programs

The following Martis Valley Community Plan policies would reduce potential impacts associated with airport operation hazards.

*Policy 5.E.1* *The County shall support the continued use of the Truckee-Tahoe Airport as a general purpose airport.*

*Policy 5.E.2* *The County shall work with the Airport Land Use Commission in the planning of land uses around the Truckee-Tahoe Airport to ensure protection of airport operations from urban encroachment and establishment of compatible uses within the over-flight zones.*

Mitigation Measures

The following mitigation measures would apply to the Proposed Land Use Diagram and Alternatives AA, AB, and AC. Mitigation measures MM 4.3.3a and MM 4.3.3b shall be incorporated into the Community Plan as policies in Section V (Transportation and Circulation) under Goal 5.E.

**MM 4.3.3a** The County shall review all development projects in the overflight zones of the Truckee-Tahoe Airport for consistency with its Comprehensive Land Use Plan.

**MM 4.3.3b** The County shall limit land uses in airport safety zones to those uses listed in the applicable airport comprehensive land use plans (CLUPSs) as compatible uses. Exceptions shall be made only as provided for in the CLUPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.

**MM 4.3.3c** The County shall ensure that development within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (objects affecting navigable airspace).

Implementation of the above mitigation measures would mitigate potential impacts resulting from airport operation hazards to **less than significant** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

**Impact 4.3.4 Radon Exposure**

**PP** Development under the Proposed Land Use Diagram could be potentially exposed to radon. This is considered a **less than significant** impact.

**AA** Development under the existing Martis Valley Community Plan Land Use Map could be potentially exposed to radon. This is considered a **less than significant** impact.

**AB** Development under the Alternative 1 Land Use Map could be potentially exposed to radon. This is considered a **less than significant** impact.

**AC** Development under the Alternative 2 Land Use Map could be potentially exposed to radon. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Radon emissions are a potential environmental condition for the Sierra Mountains. Radon vapors emit from three primary sources inside buildings that include soil beneath buildings, through water used for showering and other indoor uses, and construction materials. In most cases, the amount of radon entering a building through water and building materials is small compared to soil vapor. Soil vapor enters a building as a result of ambient air pressure inside the building being lower than the air pressure in soil beneath the building. In California, decomposed granite is a potential source of radon. However, soil types in Martis Valley suggest a low probability of generating radon vapor from the soil. In addition, sampling for radon groundwater sources conducted in Northstar and wells at Lahontan have identified low levels of radon. Therefore, impacts resulting from radon emissions are considered less than significant for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

Mitigation Measures

None required.

### 4.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

SETTING

Implementation of the Proposed Land Use Diagram, the Existing Martis Valley General Plan Land Use Map or Alternatives AB and AC, in combination with proposed and planned development in the Martis Valley area could contribute to a cumulative increase of risk associated with abandoned mineshafts and tailings, hazardous materials, and incompatibilities between future land uses and airport operations in the Martis Valley area. Ski resort or residential development within the Plan area may uncover additional mineshafts and tailings, which would need to be sealed off. Future land uses may utilize hazardous materials during the course of daily operations, which could pose a threat to residents in the immediate area or the environment. However, there are no recognized region-wide hazards in Martis Valley that future development is expected to contribute to.

IMPACTS

**Impact 4.3.5 Cumulative Hazard Impacts**

**PP** Development under the Proposed Land Use Diagram could result in site-specific hazards for area residents. This is considered a **less than significant** cumulative impact.

**AA** Development under the existing Martis Valley Community Plan Land Use Map could result in site-specific hazards for area residents. This is considered a **less than significant** cumulative impact.

**AB** Development under the Alternative 1 Land Use Map could result in site-specific hazards for area residents. This is considered a **less than significant** cumulative impact.

**AC** Development under the Alternative 2 Land Use Map could result in site-specific hazards for area residents. This is considered a **less than significant** cumulative impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Impacts associated with health hazards and risk of upset would be site-specific. The project contains mitigation measures to abate the site-specific hazards, including mines and hazardous waste, so any potential cumulative impacts associated with the project would be expected to be decreased as the mines would be sealed off and harmful substances would have been removed from the vicinity, properly disposed of, and replaced with currently approved building materials. Additionally, the CLUP in addition to local regulations would determine appropriate land uses within the vicinity of the Truckee-Tahoe Airport's approach zone. As a result, the proposed project is not anticipated to contribute to cumulative human heath impacts. Impacts are considered to be less than significant.

Mitigation Measure

None required.

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# Section 4.4
# Traffic and Circulation

This section presents an analysis of the traffic impacts associated with the implementation of the Martis Valley Community Plan. The analysis focuses on the potential impacts to the roadway, transit, bicycle, and pedestrian systems in the Martis Valley portion of Placer County, the Town of Truckee and along State Route 267 to Kings Beach. Traffic-related impacts are identified for the proposed land use diagram and each land use map alternative using the Town of Truckee's Transportation Model, which has been expanded to include the Martis Valley area. For each significant impact identified, potential mitigation measures are also identified to offset any significant impacts. All technical analysis related to this section is contained in **Appendix 4.4** and was prepared by LSC Transportation Consultants, Inc.

### 4.4.1 SETTING

The Martis Valley resides in a resort destination area that attracts tourists both during the summer and winter seasons. The area serves as a recreational and residential area, and also as a "gateway" between the Tahoe Region to the south and the Interstate 80 corridor to the north. As a result, traffic conditions in the area vary greatly over the seasons. Winter conditions can also create adverse driving conditions. The private automobile is the primary mode of travel in the area. Public and private transit services also serve the area, focusing on the Northstar-At-Tahoe ski area. Distance, roadway grades, and climate all make it difficult for non-motorized transportation to become a major mode of travel. However, the area does provide opportunity for bicyclists and hikers to enjoy these activities, if not for daily commuting purposes. A detailed description of the roadways in the study area is provided below.

ROADWAY SYSTEM

**Interstate 80 (I-80)**

Interstate 80 provides interregional highway connections east to Reno, Nevada and beyond, and west to Sacramento, California and the San Francisco Bay Area. The Martis Valley area lies to the south of I-80, 34 miles west of Reno and 90 miles east of Sacramento. This section of I-80 is currently a four-lane divided highway with limited truck climbing lanes, with speed limits posted at 65 mph. There are 5 interchanges serving Truckee on I-80. The peak month ADT along this roadway is approximately 40,000- 50,000 vehicles per day.

**State Route 267 (SR 267)**

State Route 267 (SR 267) is a 2-lane highway within the project vicinity, running in a general northwest-southeast alignment between Interstate 80 in Truckee and State Route 28 in Kings Beach. State Route 267 traverses southwesterly from Interstate 80 into downtown Truckee. Within downtown, capacity of this roadway is substantially limited by the existing unsignalized Bridge/Commercial Road intersection (where the SR 267 designation makes a 90-degree turn), as well as the existing at-grade crossing of the Union Pacific Railroad mainline. (This rail line currently serves roughly 21 trains per day.) From downtown Truckee, State Route 267 travels southeasterly across relatively level terrain to the base of a sustained grade near Northstar Drive up to an elevation of 7,199 feet at Brockway Summit. From Brockway Summit, the route descends 945 feet into the Tahoe Basin, ending at State Route 28 in Kings Beach. The route is of local and regional significance, providing access to residential, industrial, commercial and recreational land uses. It serves as the major access route between the Kings Beach and Incline Village communities near Lake Tahoe on the south and the I-80 corridor to the north. It also serves as the sole existing access to the Northstar-At-Tahoe ski area and adjacent residential neighborhoods.

This highway consists of 2 travel lanes, with a speed limit of 55 miles per hour in the rural sections. A southbound truck-climbing lane is provided for a portion of the southbound grade north of Brockway Summit. Traffic signals are currently installed at the Palisades Drive intersection in Truckee, as well as at the SR 28 intersection in Kings Beach. All other intersections are controlled by stop signs on the side street approaches, with the exception of the "3-way stop" intersection at Bridge Street/Donner Pass Road, which is controlled by stop signs on the west, east, and south approaches only. The peak day average daily trips (ADT) along this roadway is approximately 14,000–16,000 vehicles per day.

**State Route 267 Bypass**

The State Route 267 Bypass, currently under construction, is planned to connect SR 89 North to the north of Interstate 80 and the existing SR 267 alignment near the Tahoe–Truckee Regional Airport to the south. This roadway, which is currently planned for completion in 2002, will allow regional traffic to travel between the Martis Valley and Tahoe Basin to the south with the I-80 corridor on the north without impacting downtown Truckee. A new diamond-configuration interchange will be constructed on Interstate 80 approximately ½ mile east of the existing SR 89 North/SR 267 interchange. Both ramp intersections will be controlled by traffic signals. With completion of the Bypass, the existing SR 89 North segment north of Interstate 80 will curve to the east to a new intersection with a straight alignment of SR 89 North and the SR 267 Bypass. From the south, the Bypass will curve to the east to a signalized intersection with existing SR 267 (Brockway Road) on the west and Joerger Drive on the east. (Caltrans plans identify this east approach as Soaring Way, which would be an extension of the existing roadway off of Airport Road. As plans for this extension have not been finalized and as land uses along Joerger Drive will be the sole traffic generators using this approach under current approved plans, this east approach is designated as Joerger Drive for purposes of this study.) Between this signal and the I-80 interchange, the Bypass will be constructed as a 2-lane access-controlled roadway.

For purposes of this study the SR 267 Bypass will be referred to as SR 267 and the existing SR 267 will be referred to as Brockway Road for the portion from Joerger Drive to West River Street. The north-south portion of the existing SR 267 that lies north of West River Street will be referred to as Bridge Street. East of Bridge Street, the existing SR 267 will be referred to as Donner Pass Road. One travel lane will be provided in each direction on the new Bypass, and traffic signals will be provided at the I-80 Eastbound, I-80 Westbound, and Old SR 267/Joerger Drive intersections. (Note: While SR 267 has a northwest/southeast alignment, it is considered to run northbound/ southbound for the purposes of this study).

**State Route 89 (SR 89)**

SR 89 is one of the 3 primary California routes that access Lake Tahoe (the other 2 are SR 267 and US 50), providing access between Donner Pass Road in Truckee and Tahoe City (the "SR 89 South" segment). Starting at the Interstate 80/SR 267 interchange on the east side of Truckee, "SR 89 North" serves as a rural 2-lane highway connecting Truckee with Sierraville, Quincy, Mt. Lassen National Park and Mount Shasta to the north. The peak day ADT along this roadway is approximately 25,000 vehicles per day.

**State Route 28 (SR 28)**

State Route 28 is the major roadway serving Lake Tahoe's North Shore, linking SR 267 with Nevada to the east and Tahoe Vista and Tahoe City to the west. At the intersection with SR 267 in Kings Beach, SR 28 is a 4-lane facility with 2 lanes of travel in each direction. East of Kings Beach and west of Tahoe Vista, SR 28 is a 2-lane facility. The posted speed limit on this segment

of SR 28 is 35 miles per hour. The peak day ADT along this roadway is approximately 25,000 vehicles per day.

**Northstar Drive**

Northstar Drive provides access from SR 267 westward to the Northstar-At-Tahoe Ski Resort and associated residential and commercial areas. It is generally a 2-lane configuration, with an eastbound left-turn lane at the stop-sign-controlled T-intersection with SR 267. Both northbound left-turn and southbound right-turn lanes are provided on SR 267 at this intersection. Additionally, a traffic control program conducted by Northstar-at-Tahoe in association with California Highway Patrol is in place on peak days of winter traffic. Posted speeds are 35 miles per hour. Residential street intersections along Northstar Drive are controlled by stop signs on the side street approaches. The winter peak day ADT along this roadway is approximately 10,000 vehicles per day.

**Airport Road and Schaffer Mill Road**

Airport Road is a 2-lane roadway providing the main access to the Truckee Tahoe Regional Airport, as well as other industrial and commercial businesses on the northeast side of SR 267. A center left-turn lane is provided along most of this roadway. Schaffer Mill Road (also 2 lanes) extends southwest from the same point on SR 267, providing access to the Lahontan residential development and other parcels not currently developed. The SR 267/Airport Road/Schaffer Mill Road is controlled by stop signs on the side street approaches, and is situated just southeast of the point where the SR 267 Bypass will connect to the existing SR 267 alignment. The peak day ADT along these roadways is approximately 3,000 vehicles per day.

Developers of the Lahontan community are currently designing improvements at the intersection to the satisfaction of the Department of Public Works (DPW) and Caltrans. These improvements will include auxiliary turn lanes, tapers, easements, lighting, striping and signage as required. The construction of the signal is being funded by the developers of Lahontan as part of their conditions of approval. However, the developer has the right to request a reimbursement agreement.

**Palisades Drive**

Palisades Drive is a local residential street, which provides 1 of 2 primary accesses to the Ponderosa Palisades neighborhood. It travels northward from Ponderosa Road to its terminus at the existing SR 267 (Brockway Road), which is a signalized intersection. (However, for purposes of this study, this roadway is assumed to run east/west in all LOS calculations and turning-movement volume tables because SR 267 is considered to run north/south.) The peak Average Daily Traffic (ADT) along this roadway is approximately 4,400 vehicles per day.

**Martis Valley Road**

Martis Valley Road is a local residential street, which provides 1 of 2 primary accesses to the Ponderosa Palisades/Sierra Meadows neighborhood. This roadway travels northeast from Ponderosa Drive to a 2-way stop-controlled intersection with the existing SR 267 (Brockway Road). The traffic levels on this roadway are relatively low (less than 4,000 vehicles per day) but delays for left-turn movements from Martis Valley Road to SR 267 northbound often occur during the A.M. peak hour.

**West River Street**

West River Street provides east-west access between SR 89 on the west side of Truckee and SR 267 (Bridge Street) in the downtown area. West River Street provides access to a number of industrial, commercial, and residential land uses located along the Truckee River. West River Street (along with the McIver Crossing underpass) provides a potential diversion route around the Bridge Street at-grade rail/highway crossing for northbound SR 267 traffic. The peak Average Daily Traffic (ADT) along this roadway is approximately 5,500 vehicles per day.

**Donner Pass Road**

For purposes of this study, Donner Pass Road is defined to begin west of SR 89 South and travel eastward to the eastern I-80 ramp intersection (SR 89/SR 267). While Donner Pass Road is currently considered to end at its intersection with SR 267, when the SR 267 bypass is completed, the roadway will be maintained by the Town of Truckee and named Donner Pass Road. This roadway provides a vital link for local circulation by connecting the Gateway Center area of Truckee to the historic downtown area. This roadway provides a single through lane in each direction, with a continuous center left-turn lane in the Hilltop and Gateway areas. The peak day ADT along this roadway is approximately 17,500 vehicles per day.

TRAFFIC SAFETY

Between 1990-1999, the California Highway Patrol reported a total of 701 automobile collisions along the entire length of SR 267. Injury accidents accounted for 35.9 percent of those collisions; 1.1 percent of those collisions involved fatalities. **Table 4.4-1** shows accident data by year.

California Highway Patrol has several safety concerns on SR 267 (Sattler, John. Public Affairs and Community Outreach Officer, California Highway Patrol). First, severe traffic congestion often occurs during peak season travel times northbound on SR 267 into downtown Truckee, and southbound on SR 267 over Brockway Summit to Kings Beach. Frustrated with the congestion on Brockway Summit, some motorists choose to pass slower cars in no-passing zones, which creates hazards in both northbound and southbound directions. Finally, CHP has noted a tendency for motorists to speed on SR 267 once they reach the Martis Valley Flats area just east of Truckee. The posted speed limit is 55 miles per hour, but the average speed traveled in this area is reported to be between 60 and 65 miles per hour, with some motorists well exceeding 65 miles per hour.

**TABLE 4.4-1**
**TRAFFIC ACCIDENTS ON SR 267 (1990-1999)**

| | Total Accidents | Fatality Accidents | | Fatalities | Injury Accidents | | Injuries |
|---|---|---|---|---|---|---|---|
| Year | Number | Number | Percent | Number | Number | Percent | Number |
| 1990 | 78 | 4 | 5.1% | 4 | 24 | 30.8% | 36 |
| 1991 | 47 | 1 | 2.1% | 2 | 16 | 34.0% | 29 |
| 1992 | 59 | 0 | 0.0% | 0 | 25 | 42.4% | 55 |
| 1993 | 70 | 0 | 0.0% | 0 | 21 | 30.0% | 29 |
| 1994 | 58 | 0 | 0.0% | 0 | 22 | 37.9% | 31 |
| 1995 | 91 | 1 | 1.1% | 1 | 39 | 42.9% | 56 |
| 1996 | 75 | 0 | 0.0% | 0 | 22 | 29.3% | 32 |
| 1997 | 68 | 1 | 1.5% | 4 | 20 | 29.4% | 38 |
| 1998 | 85 | 0 | 0.0% | 0 | 37 | 43.5% | 63 |
| 1999 | 70 | 1 | 1.4% | 1 | 26 | 37.1% | 46 |
| Average | 70.1 | 0.8 | 1.1% | 1.2 | 25.2 | 35.9% | 41.5 |
| *SR 267 10-Year Total* | *701* | *8* | -- | *12* | *252* | -- | *415* |
| **Accidents by Intersection** | **Total Accidents** | **Fatality Accidents** | | **Fatalities** | **Injury Accidents** | | **Injuries** |
| | **Number** | **Number** | **Percent** | **Number** | **Number** | **Percent** | **Number** |
| I-80 Interchange | 15 | 0 | 0.0% | 0 | 9 | 60.0% | 11 |
| Northstar Dr. | 10 | 0 | 0.0% | 0 | 4 | 40.0% | 9 |

*Source: California Highway Patrol Information Services Unit Accident Records, 1990 through 1999.*

**Table 4.4-2** compares SR 267 average accident rates for 1990-1999 with California State, Placer County, and Nevada County averages for similar roadways. As noted in the Table, accident rates and injury/fatality accident rates are higher on SR 267 when compared with California and Placer County averages. In light of the relative hazards associated with driving in mountainous winter conditions, this comparison indicates that there is no undue traffic accident history for SR 267 as a whole.

TRAFFIC CONDITIONS AND OPERATIONS

The traffic analysis largely is based upon the Town of Truckee Transportation Model, which has been expanded to include the Martis Valley area. Details regarding the expansion of the model and calibration along the SR 267 corridor may be found in **Appendix 4.4**. The model has been developed for a typical P.M. peak-hour of the week during the summer peak season conditions (usually a summer Friday P.M. peak hour), as the Town of Truckee General Plan identifies the summer weekday P.M. peak hour as the design period for all traffic analyses in the Town. The winter analysis does not directly use the model to develop traffic volumes, but rather is based upon a process of factoring summer model output.

**TABLE 4.4-2**
**ACCIDENT DATA COMPARISON**
**SR 267, STATE OF CALIFORNIA, PLACER COUNTY, NEVADA COUNTY**

| | | Travel | Accidents | | | Victims | | Rates | | Fatalities |
|---|---|---|---|---|---|---|---|---|---|---|
| Location/Area | Road Miles | (MVM) (1) | Total | Injury | Fatal | Killed | Injured | Acc/MVM | F+I/MVM | /100 MVM |
| **10 Year Average for State Route 267** | 12.7 | 42.5 | 70.1 | 25.2 | 0.8 | 1.2 | 41.5 | 1.65 | 0.61 | 1.88 |
| **California (5)** | | | | | | | | | | |
| Rural (Outside City) 2 & 3 Lane | 7,759.9 | 10,666.1 | 12,975 | 5,932 | 399 | 483 | 10,366 | 1.22 | 0.59 | 4.53 |
| Statewide 2 & 3 Lane | 8,431.1 | 13,492.3 | 18,640 | 8,265 | 460 | 551 | 14,236 | 1.38 | 0.65 | 4.08 |
| Statewide Total | 15,185.7 | 144,140.9 | 141,240 | 51,767 | 1,524 | 1,774 | 84,186 | 0.98 | 0.37 | 1.23 |
| **Placer County** | | | | | | | | | | |
| Rural (Outside City) 2 & 3 Lane | 67.9 | 241.0 | 288 | 125 | 2 | 3 | 195 | 1.20 | 0.53 | 1.24 |
| Countywide Total | 155.7 | 1,437.0 | 1,049 | 431 | 11 | 15 | 708 | 0.73 | 0.31 | 1.04 |
| **Nevada County** | | | | | | | | | | |
| Rural (Outside City) 2 & 3 Lane | 62.4 | 131.3 | 232 | 109 | 7 | 7 | 176 | 1.77 | 0.88 | 5.33 |
| Countywide Total | 122.7 | 562.4 | 594 | 259 | 12 | 13 | 454 | 1.06 | 0.48 | 2.31 |

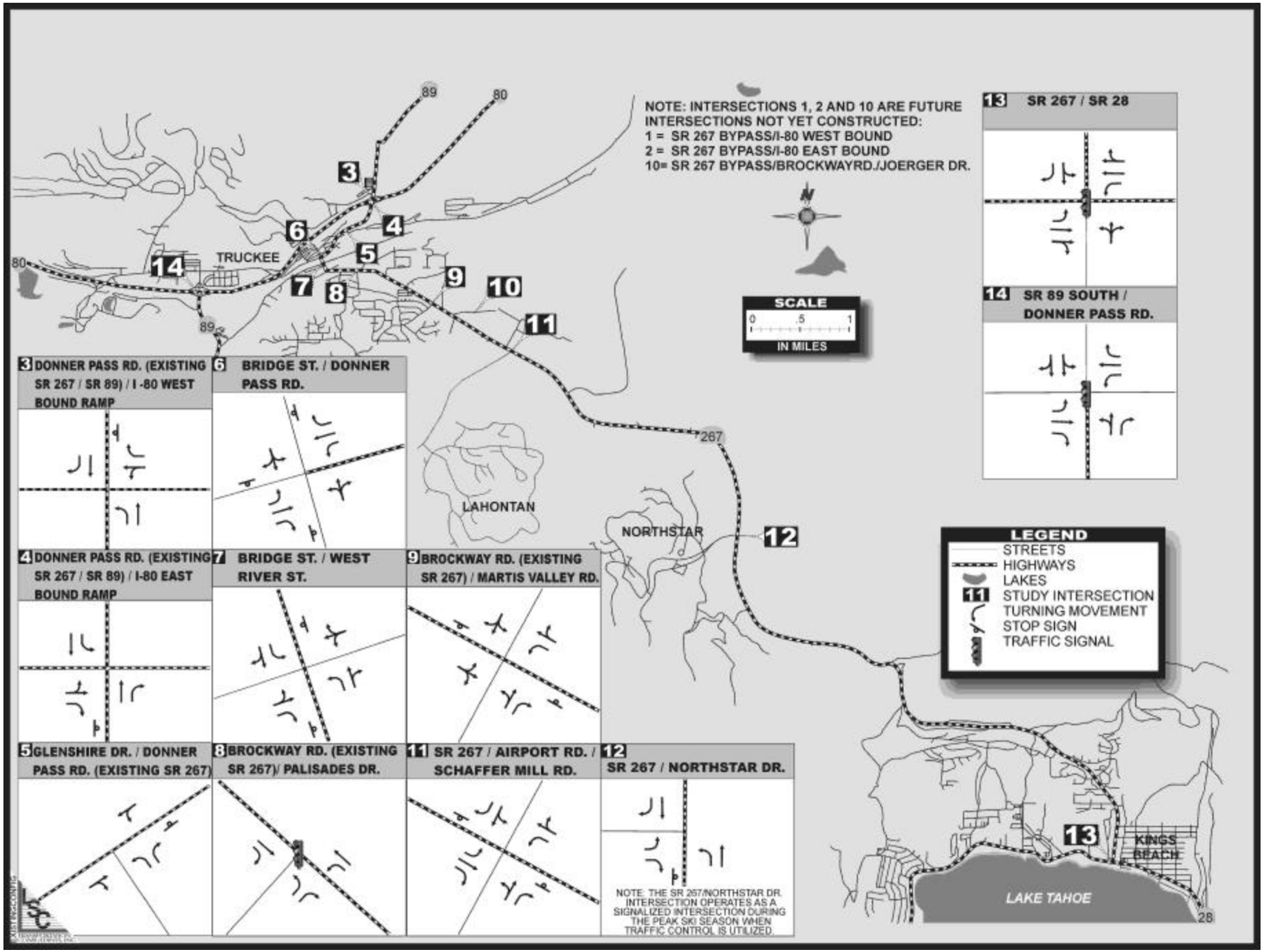
*Note 1: MV = Million Vehicle Miles*
*Source: Based on 1994 Accident Data on California State Highway (Caltrans).*

For this study, impacts on study roadways were determined by measuring the effect that project traffic has on traffic operations at key intersections and along roadways during the winter 30th highest winter peak and summer peak weekday P.M. peak-hour conditions. The following intersections and roadway segments were selected for analysis:

**Study Intersections:**

- SR 89/SR 267 Bypass/I-80 Westbound
- SR 89/SR 267 Bypass/I-80 Eastbound
- Donner Pass Road (Existing SR 267/SR 89)/I-80 Westbound
- Donner Pass Road (Existing SR 267/SR 89)/I-80 Eastbound
- Glenshire Drive/Donner Pass Road (Existing SR 267)
- Bridge Street/Donner Pass Road
- Bridge Street/West River Street
- Brockway Road (Existing SR 267)/Palisades Drive
- Brockway Road (Existing SR 267)/Martis Valley Road
- SR 267 Bypass/Brockway Road (Existing SR 267)/Joerger Drive
- SR 267/Airport Road/Schaffer Mill Road
- SR 267/Northstar Drive
- SR 267/SR 28
- SR 89/Donner Pass Road

The existing intersection configuration of these intersections is shown in **Figure 4.4-1**.




PMC

SOURCE: LSC, 2002

FIGURE 4.4-1
EXISTING INTERSECTION CONFIGURATIONS

**Roadway Segments:**

- SR 89 North of Bypass
- Donner Pass Road (Existing SR 89) North of I-80 (East)
- Donner Pass Road (Existing SR 267) South of I-80 (East)
- Donner Pass Road (Existing SR 267) East of Bridge Street
- Donner Pass Road West of Bridge Street
- Bridge Street (Existing SR 267) South of Donner Pass Road
- Brockway Road (Existing SR 267) South of West River Street
- Brockway Road (Existing SR 267) South of Palisades Drive
- Brockway Road (Existing SR 267) South of Martis Valley Road
- SR 267 Bypass South of I-80
- SR 267 South of Brockway Road and SR 267 Bypass
- SR 267 South of Airport Road/Schaffer Mill Road
- SR 267 South of Northstar Drive
- SR 267 North of SR 28
- SR 28 East of SR 267
- SR 28 West of SR 267
- West River Street West of SR 267
- Palisades Drive West of SR 267
- Martis Valley Road West of SR 267
- Schaffer Mill Road West of SR 267
- Airport Road East of SR 267
- Northstar Drive West of SR 267
- SR 89 S South of Donner Pass Road
- Donner Pass Road East of SR 89 South
- Donner Pass Road West of SR 89 South

**Level Of Service (LOS) Criteria**

The analysis of intersections relies on qualitative measures known as level of service (LOS) to describe traffic operating conditions. LOS is a quantitative measure of traffic conditions on isolated sections of roadway and intersections. LOS ranges from "A" (with no congestion) to "F" (where the system fails with gridlock or stop-and-go conditions prevailing). **Table 4.4-3** provides a more detailed description of the LOS criteria used for this study. LOS conditions were evaluated using the methodologies documented in the *Highway Capacity Manual 2000* (Transportation Research Board, National Research Council, 2000), as applied in the Traffix software (Dowling Associates, Version 7.5). Computer output of detailed LOS calculations is provided in **Appendix 4.4** of this report. The specific LOS standards of the various jurisdictions in the study area are discussed in Section 4.4.2, below.

**Historical Traffic Data**

Traffic along the highways near the study area was obtained from *Traffic Volumes on California State Highways* (Caltrans, 1990-2000) as presented in **Table 4.4-4**. As shown, annual average daily traffic (ADT) has grown between 4.2 percent and 1.2 percent annually on average within the region. Relatively high growth has occurred on SR 267 near the Placer/Nevada County Line and on Interstate-80 near SR 267.

**TABLE 4.4-3**
**DESCRIPTIONS OF LEVELS OF SERVICE**

**Descriptions of Levels of Service**

The concept of Level Of Service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

***Level-Of-Service Definitions***

In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- **LOS A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- **LOS B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- **LOS C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **LOS D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **LOS E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- **LOS F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount, which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. LOS F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow, which causes the queue to form, and LOS F is an appropriate designation for such points.

**Existing Traffic Volumes**

Existing traffic volumes at the study intersections and along the study roadway segments were estimated for 2001 30th highest winter peak hour and summer peak weekday P.M. peak-hour conditions in the steps described below:

Summer Peak Weekday

1) Existing observed summer peak weekday counts were identified.

2) Caltrans observed count data (July 18, 2001) were increased by the historic peak month ADT annual growth rate on Caltrans highways to reflect 2001 peak month conditions.

3) Turning-movement volumes to and from SR 28 and I-80 were adjusted by the Peak Month ADT annual growth rate for these other roadways, as well, to estimate 2001 conditions.

4) Counts on Northstar Drive were validated by loop detector counts provided by Northstar-At-Tahoe ski area for July 2000. To correct errors in these counts, the loop detector counts were adjusted to reflect ratio of detector counts to observed manual counts conducted by Northstar staff on January 20, 2001 and February 18, 2001, as documented in the *Northstar-At-Tahoe 2000/2001 Ski Season Traffic Monitoring Report* (LSC, 2001), as presented in **Appendix 4.4**.

5) Volumes were balanced conservatively along SR 267, such that the greater through volume (from each turning movement volume or link volume) was used to balance the remainder.

30th Highest Winter Hour Winter Traffic Volumes

1) Available observed turning-movement volumes at the SR 28/SR 267 (January 1994) and SR 267/Northstar Drive (January, 2001) were evaluated.

2) Hourly count data provided by Caltrans for January 14th to 16th, 2000 at 3 separate count locations on SR 267 was evaluated. However, data for Friday, January 14th and Saturday, January 15th, SR 89 was not used, as parallel SR 89 was closed for a portion of the day and this data was therefore considered not to be representative of typical peak conditions.

3) It was determined that the most representative count data is provided by the count conducted on Saturday, January 20, 2001 at the Northstar Drive/SR 267 intersection. This day exhibited the 2nd highest eastbound peak-hour volume on Northstar Drive, as recorded by the Northstar Drive loop detectors. These counts were increased based upon a comparison of the peak eastbound hourly traffic volume on Northstar Drive on January 20, 2001 and the peak day, Friday, February 23, 2001 to reflect the peak day conditions.

4) A comparison was made between summer peak weekday and winter weekend peak hour traffic volumes at the SR 89 South/I-80 ramp intersections and the SR 89 South/Donner Pass Road intersection, based upon the winter traffic count data presented in the *SR 89 Corridor Study* (LSC Transportation Consultants, Inc, 2000) and summer peak weekday P.M. peak-hour traffic volumes. Factors were developed using this data that compare winter weekend PM peak-hour volumes to summer peak weekday PM peak-hour volumes. For example, the winter traffic volumes turning left from SR 89 northbound to I-80 westbound were shown to be 291% of the summer peak weekday traffic volumes at the SR 89 South/I-80 westbound ramp.

## TABLE 4.4-4
## HISTORICAL TRAFFIC DATA ON CALIFORNIA HIGHWAYS WITHIN STUDY AREA

| | State Route 267 | | | | | Interstate 80 | | State Route 89 | | SR 28 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | South of Commercial/ Bridge in Truckee | South of Placer/ Nevada County Line | North of Northstar Drive | Brockway Summit | North of Kings Beach Jct. 28 | East of 267 | West of 267 | South of I-80 | North of I-80 | East of 267 | West of 267 |
| Average Annual Daily Traffic Volumes | | | | | | | | | | | |
| 1990 | 11,900 | 7,100 | 6,700 | 6,100 | 8,200 | 21,300 | 23,500 | 16,600 | 4,350 | 15,900 | 16,800 |
| 1991 | 12,500 | 8,600 | 7,300 | 6,700 | 8,000 | 23,100 | 23,500 | 16,600 | 5,300 | 17,100 | 16,800 |
| 1992 | 12,500 | 8,600 | 7,300 | 6,700 | 8,000 | 23,100 | 23,500 | 16,600 | 5,300 | 17,100 | 16,800 |
| 1993 | 12,500 | 8,600 | 7,300 | 6,700 | 8,000 | 23,100 | 23,500 | 17,200 | 5,300 | 17,100 | 16,800 |
| 1994 | 13,700 | 10,500 | 8,000 | 7,100 | 9,200 | 23,500 | 25,500 | 21,100 | 5,400 | 18,500 | 17,000 |
| 1995 | 13,700 | 10,500 | 8,000 | 7,100 | 9,200 | 23,000 | 25,000 | 20,900 | 5,400 | 18,100 | 17,000 |
| 1996 | 13,700 | 10,500 | 8,000 | 7,100 | 9,200 | 26,500 | 29,500 | 21,000 | 5,400 | 18,100 | 17,000 |
| 1997 | 15,400 | 11,500 | 8,700 | 7,600 | 9,200 | 26,500 | 28,000 | 21,000 | 6,300 | 19,400 | 18,400 |
| 1998 | 15,400 | 11,500 | 8,700 | 7,600 | 9,200 | 25,000 | 25,500 | 20,100 | 6,300 | 19,600 | 18,600 |
| 1999 | 15,400 | 11,500 | 8,700 | 7,600 | 9,200 | 29,500 | 30,000 | 20,600 | 6,300 | 19,100 | 18,100 |
| 2000 | 14,200 | 11,500 | 9,900 | 8,100 | 9,200 | 29,500 | 24,700 | 20,700 | 7,000 | 19,100 | 18,100 |
| Change: 1991-2000 | 2,300 | 4,400 | 3,200 | 2,000 | 1,000 | 8,200 | 1,200 | 4,100 | 2,650 | 3,200 | 1,300 |
| Total % Change | 18.4% | 51.2% | 43.8% | 29.9% | 12.5% | 35.5% | 5.1% | 24.7% | 50.0% | 20.1% | 7.7% |
| *Annual % Change AADT* | *1.7%* | *4.2%* | *3.7%* | *2.6%* | *1.2%* | *3.1%* | *0.5%* | *2.2%* | *4.1%* | *1.9%* | *0.7%* |
| Peak Month Average Daily Traffic Volumes | | | | | | | | | | | |
| 1990 | 15,100 | 9,100 | 8,600 | 8,100 | 10,500 | 29,000 | 31,000 | 21,100 | 6,400 | 22,100 | 22,500 |
| 1991 | 14,900 | 11,600 | 9,600 | 8,800 | 11,100 | 30,000 | 31,000 | 21,100 | 7,000 | 24,200 | 23,900 |
| 1992 | 14,900 | 11,600 | 9,600 | 8,800 | 11,100 | 30,000 | 31,000 | 21,100 | 7,000 | 24,200 | 23,900 |
| 1993 | 14,900 | 11,600 | 9,600 | 8,800 | 11,100 | 30,500 | 31,000 | 21,800 | 7,000 | 24,200 | 23,900 |
| 1994 | 16,900 | 13,800 | 10,200 | 9,200 | 11,900 | 31,000 | 34,000 | 25,500 | 7,400 | 24,200 | 23,900 |
| 1995 | 16,900 | 13,800 | 10,200 | 9,200 | 11,900 | 30,000 | 35,000 | 26,000 | 7,400 | 23,700 | 23,900 |
| 1996 | 16,900 | 13,800 | 10,200 | 9,200 | 11,900 | 34,500 | 40,500 | 23,000 | 7,400 | 23,700 | 23,900 |
| 1997 | 17,400 | 14,200 | 10,500 | 9,300 | 11,900 | 38,000 | 46,000 | 23,000 | 8,300 | 24,900 | 24,600 |
| 1998 | 17,400 | 14,200 | 10,500 | 9,300 | 11,900 | 37,500 | 42,500 | 22,600 | 8,300 | 24,700 | 24,400 |
| 1999 | 17,400 | 14,200 | 10,500 | 9,300 | 11,900 | 44,500 | 50,000 | 23,200 | 8,300 | 24,100 | 23,700 |
| 2000 | 16,100 | 14,200 | 11,400 | 9,900 | 11,900 | 31,000 | 41,000 | 24,600 | 8,800 | 24,100 | 23,700 |
| Change: 1991-2000 | 1,000 | 5,100 | 2,800 | 1,800 | 1,400 | 2,000 | 10,000 | 3,500 | 2,400 | 2,000 | 1,200 |
| Total % Change | 6.7% | 44.0% | 29.2% | 20.5% | 12.6% | 6.7% | 32.3% | 16.6% | 34.3% | 9.0% | 5.3% |
| *Annual % Change Peak Month ADT* | *0.7%* | *3.7%* | *2.6%* | *1.9%* | *1.2%* | *0.6%* | *2.8%* | *1.5%* | *3.0%* | *0.9%* | *0.5%* |
| Peak Hour Traffic Volumes | | | | | | | | | | | |
| 1990 | 1,800 | 1,100 | *1,350* | 970 | 1,650 | 3,100 | 3,600 | 2,400 | 600 | 2,100 | 2,200 |
| 1991 | 1,800 | 1,100 | 960 | 920 | 1,000 | 3,100 | 3,600 | 2,400 | 1,750 | 2,100 | 2,200 |
| 1992 | 1,800 | 1,100 | 960 | 920 | 1,000 | 3,100 | 3,600 | 2,400 | 1,750 | 2,100 | 2,200 |
| 1993 | 1,800 | 1,100 | 960 | 920 | 1,000 | 3,100 | 3,600 | 2,400 | 1,750 | 2,100 | 2,200 |
| 1994 | 1,800 | 1,400 | 790 | 720 | 880 | 3,100 | 3,600 | 2,600 | 900 | 2,100 | 2,200 |
| 1995 | 1,800 | 1,400 | 790 | 720 | 880 | 2,900 | 3,500 | 2,550 | 900 | 2,050 | 2,200 |
| 1996 | 1,800 | 1,400 | 790 | 720 | 880 | 3,550 | 4,100 | 2,700 | 900 | 2,050 | 2,200 |
| 1997 | 1,800 | 1,400 | 790 | 720 | 880 | 3,550 | 4,000 | 2,700 | 1,000 | 2,100 | 2,300 |
| 1998 | 1,800 | 1,400 | 790 | 720 | 880 | 3,550 | 2,400 | 2,600 | 1,000 | 2,100 | 2,300 |
| 1999 | 1,800 | 1,400 | 790 | 720 | 880 | 4,200 | 2,800 | 2,650 | 1,000 | 2,050 | 2,250 |
| 2000 | 1,400 | 1,400 | 1,450 | 1,150 | 880 | 3,500 | 2,800 | 2,400 | 830 | 2,050 | 2,250 |
| Change: 1991-2000 (1) | -400 | 300 | 100 | 180 | -770 | 400 | -800 | 0 | 230 | -50 | 50 |
| Total % Change | -22.2% | 27.3% | 10.4% | 19.6% | -77.0% | 12.9% | -22.2% | 0.0% | 13.1% | -2.4% | 2.3% |
| *Annual % Change Peak Hour ADT* | *-2.5%* | *2.4%* | *1.0%* | *1.8%* | *-13.7%* | *1.2%* | *-2.5%* | *0.0%* | *1.2%* | *-0.2%* | *0.2%* |

*Note 1: Outliers in 1990 at 267/Northstar Drive, 267/Jct. 28, and 89/North of I-80 are excluded from analysis.*
*Source: Traffic Volumes on California State Highways, 1990-2000. State of California Business, Transportation and Housing Agency. Department of Transportation.*

Therefore, a factor of 2.91 was applied to the summer turning-movement volume from SR 267 northbound to I-80 westbound to estimate winter turning-movement volumes.

5) The difference between peak-hour and 30th peak-hour traffic volumes was determined for both north and south directions. Count data was obtained from Northstar-at-Tahoe for eastbound peak-hour volumes on Northstar Drive for every day in the 2000/2001ski season. Hourly count data for January 20th, 2001 and February 18, 2001 was then evaluated to identify those days on which the second-highest hour was also within the top 30 hours for the year. By considering both the observed peak-hour volumes and the estimated second-highest volumes on peak days, the actual 30th highest winter peak hour volume along Northstar Drive was estimated.

6) The February 18, 2001 turning movement volumes were factored down to reflect the 30th highest winter peak hour. The difference in volumes was only applied to the eastbound traffic exiting Northstar in an effort to remain conservative (inbound PM peak-hour traffic to the ski area was assumed to remain at the peak winter volume). The decrease in traffic was applied, based upon existing observed traffic volumes during periods of peak ski area exiting traffic activity.

Once these factors were applied, turning movements at the intersections were balanced. The existing 2001 turning-movement volumes for the summer peak weekday P.M. peak hour and 30th highest winter peak hour are shown in **Figures 4.4-2** and **4.4-3**, respectively.

The existing peak season ADT was estimated by applying a factor to the peak-hour volume on each roadway. This factor was determined by reviewing daily traffic count data along various roadways in the Town of Truckee and Martis Valley from 1997 to the present. A peak hour-to-ADT factor was determined for each study roadway segment and applied to the estimated summer peak-hour traffic volumes to determine the 2001 ADT, with the following exceptions:

- The average of the ADT factor along SR 267 south of Bridge Street and at the County line was averaged and applied to all segments of SR 267 located between these two locations.

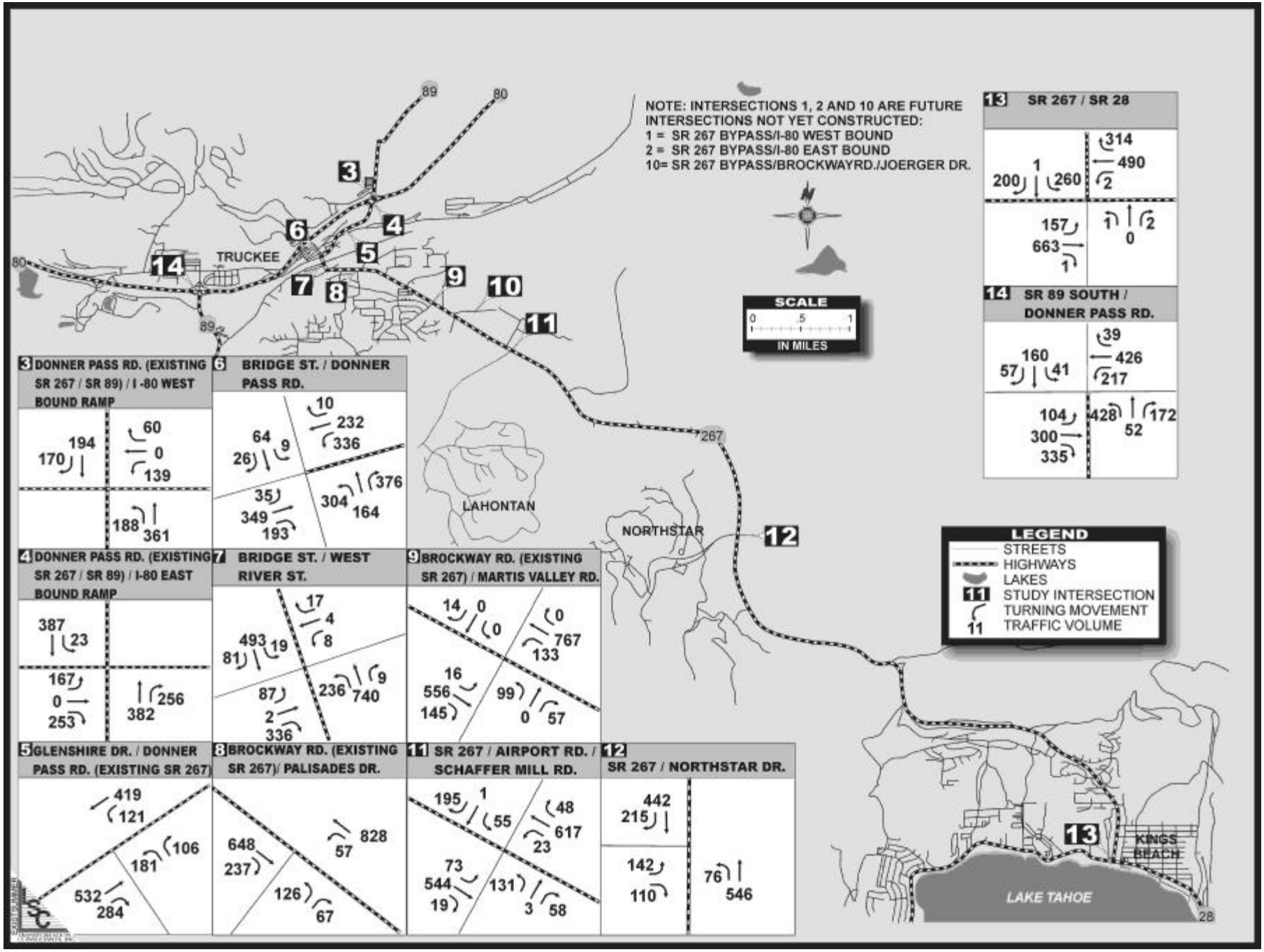
- The factor for Palisades Drive was assumed to equal that observed along Martis Valley Road.

- The factor along Northstar Drive West of SR 267 was based upon the data recorded as part of the Northstar Traffic Monitoring Program.

- The factor along Schaffer Mill Road was assumed to be equal to that along Northstar Drive.

- The factor along Donner Pass Road east of SR 89 South was increased from 10.6 (observed west of SR 89 South) to 12.0, to reflect the high level of commercial land uses along Donner Pass Road east of SR 89 South.

- The factor along Airport Road is based upon the average peak hour to ADT factor for Light Industrial, General Aviation, and General Office land uses as presented in the Trip Generation Manual (ITE, 1997).

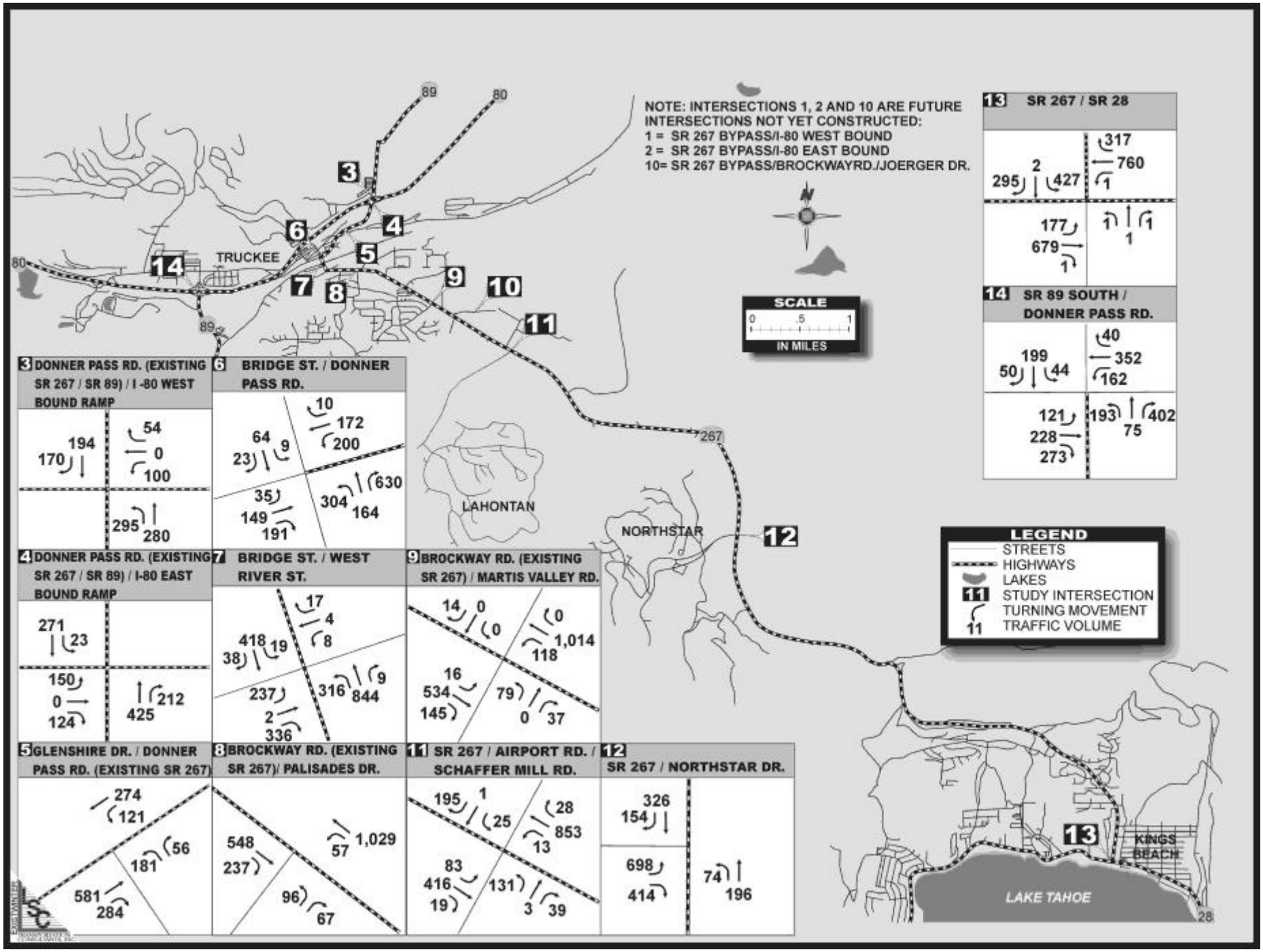



PMC

SOURCE: LSC, 2002

FIGURE 4.4-2

YEAR 2001 SUMMER PEAK WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES




PMC
PACIFIC MUNICIPAL CONSULTANTS

SOURCE: LSC, 2002

FIGURE 4.4-3
YEAR 2001 30TH HIGHEST WINTER PEAK HOUR TRAFFIC VOLUMES

## Existing Level of Service (LOS)

The existing LOS at all the study intersections is summarized in **Table 4.4-5**. The roadway LOS was determined by applying the appropriate Nevada County (Town of Truckee) or Placer County standard to the peak-hour, peak-directional traffic volumes on each roadway or the ADT on each roadway. The resulting roadway LOS is summarized in **Table 4.4-6**.

**TABLE 4.4-5**
**EXISTING INTERSECTION LOS (YEAR 2001)**

| Note: LOS shown in bold exceeds standard | | Year: | 2001 | |
|---|---|---|---|---|
| | | Roadway Network: | Existing | |
| | | Land Use: | Existing | |
| | | | Summer | Winter |
| | | Design Period: | Weekday | Weekend |
| **Intersection** | **Type of Control** | | **LOS** | **LOS** |
| SR 89/SR 267 Bypass/I-80 Westbound | Traffic Signal | Total Intersection | -- | -- |
| SR 89/SR 267 Bypass/I-80 Eastbound | Traffic Signal | Total Intersection | -- | -- |
| DPR (Existing 267/89)/I-80 Westbound | Stop-Controlled | Worst Movement | **F** | **F** |
| | | Total Intersection | B | A |
| DPR (Existing 267/89)/I-80 Eastbound | Stop-Controlled | Worst Movement | **F** | D |
| | | Total Intersection | A | A |
| Glenshire Drive/DPR (Existing SR 267) | Stop-Controlled | Worst Movement | **F** | **F** |
| | | Total Intersection | E | C |
| Bridge Street/Donner Pass Road | Stop-Controlled (2) | Worst Movement | **F** | **F** |
| | | Total Intersection | **F** | E |
| Bridge Street/West River Street | Stop-Controlled | Worst Movement | **F** | **F** |
| | | Total Intersection | E | **F** |
| Brockway Rd (Existing 267)/Palisades Dr | | Total Intersection | B | B |
| Brockway Rd (Existing 267)/Martis Valley Rd | Stop-Controlled | Worst Movement | **F** | **F** |
| | | Total Intersection | **E** | B |
| 267Bypass/267/Brockway Rd (Existing 267)/Joerger Dr | | Total Intersection | -- | -- |
| SR 267/Airport Road/Schaffer Mill Road | Stop-Controlled | Worst Movement | **F** | **F** |
| | | Total Intersection | **F** | C |
| SR 267/Northstar Drive | Stop-Controlled (1) | Worst Movement | **F** | C |
| | | Total Intersection | A | C |
| SR 267/SR 28 | | Total Intersection | B | C |
| SR 89 South/Donner Pass Road | | Total Intersection | D | D |

*Note 1: Traffic control is provided at the SR 276/Northstar Drive intersection during the peak skier season.*
*General Note: The SR 267 Bypass was not in operation at the time of this traffic analysis.*
*DPR: Donner Pass Road*

**TABLE 4.4-6**
**EXISTING ROADWAY LOS FOR SUMMER CONDITIONS (YEAR 2001)**

| Roadway | Jurisdiction | Applicable LOS Standard | Peak Direction/ Peak-Hour Volume (per lane) | ADT | Roadway LOS |
|---|---|---|---|---|---|
| SR 89 North of Bypass | Truckee | D | — | — | — |
| SR 267 Bypass South of I-80 | Truckee | D | — | — | — |
| Donner Pass Road (Existing SR 89) North of I-80 (East) | Truckee | D | 421 | 6,590 | A |
| Donner Pass Road (Existing SR 267) South of I-80 (East) | Truckee | D | 640 | 13,160 | A |
| Donner Pass Road (Existing SR 267) East of Bridge Street | Truckee | D | 734 | 13,510 | A |
| Donner Pass Road West of Bridge Street | Truckee | D | 577 | 11,730 | A |
| Bridge Street (Existing SR 267) South of Donner Pass Road | Truckee | D | 844 | 14,510 | A |
| Brockway Road (Existing SR 267) South of West River Street | Truckee | D | 985 | 16,760 | A |
| Brockway Road (Existing SR 267) South of Palisades Drive | Truckee | D | 885 | 14,720 | A |
| Brockway Road (Existing SR 267) South of Martis Valley Road | Truckee | D | 900 | 13,920 | A |
| SR 267 South of Brockway Road and SR 267 Bypass | Placer County | E | — | — | — |
| SR 267 South of Airport Road/Schaffer Mill Road | Placer County | E | 688 | 11,030 | D |
| SR 267 South of Northstar Drive | Placer County | E | 654 | 7,980 | D |
| SR 267 North of SR 28 | Placer County | E | 471 | 9,790 | D |
| SR 28 East of SR 267 | Placer County | E | 925 | 16,100 | E |
| SR 28 West of SR 267 | Placer County | E | 821 | 12,100 | D |
| West River Street West of SR 267 | Truckee | D | 425 | 5,220 | A |
| Palisades Drive West of SR 267 | Truckee | D | 294 | 4,380 | A |
| Martis Valley Road West of SR 267 | Truckee | D | 278 | 3,910 | A |
| Schaffer Mill Road West of SR 267 | Placer County | C (1) | 192 | 2,820 | A |
| Airport Road East of SR 267 | Placer County | C (1) | 251 | 3,040 | B |
| Northstar Drive West of SR 267 | Placer County | C (1) | 291 | 6,520 | C |
| SR 89 S South of Donner Pass Road | Truckee | D | 712 | 11,730 | A |
| Donner Pass Road East of SR 89 South | Truckee | D | 682 | 14,340 | A |
| Donner Pass Road West of SR 89 South | Truckee | D | 911 | 17,490 | A |

*General Note: The SR 267 Bypass was not in operation at the time of this traffic analysis.*
*(1) The applicable LOS for County roadways is LOS C except within ½ mile of SR 267, for which it is LOS D.*

TRANSIT SYSTEM

### Truckee Trolley Winter Service

The main public transit service in place to serve the Martis Valley region is the Truckee Trolley, operated by Area Transit Management, Inc. (ATM, Inc.) under contract to the Town of Truckee. This free shuttle service runs during the peak ski season months, with 3 fixed routes: Truckee Depot to Northstar, Northstar to Kings Beach, and Truckee Depot to Sugar Bowl Ski Area. Hourly service is provided along SR 267 between downtown Truckee and Northstar between 7:00 AM and 5:30 PM; vehicles leave the Truckee Depot at the top of the hour and leave Northstar at the bottom of the hour, with major stops at the Truckee Tahoe Airport, the Best Western Motor Inn, and the Regional Park. No service is provided between 1:00 PM and 2:00 PM.

During the 1999-2000 ski season, the Trolley operated from November to April, carrying a total of 39,177 passengers. The majority of riders on the 2 Northstar routes were Northstar employees and

guests, with employees comprising 69.5 percent of passengers, and guests 26.6 percent. Northstar provides employee housing near downtown Truckee, making the route between Northstar and the Truckee Depot a convenient transit option for Northstar employees.

**Truckee Trolley Summer Service**

ATM, Inc. also provides the Truckee Trolley summer service under contract to the Town of Truckee. During the summer season, the Truckee Trolley provides service between the Truckee Tahoe Airport and the West End Donner Lake beach. The Truckee Trolley operates on an hourly basis between approximately 9:00 AM and 5:00 PM, with 8 round-trips per day, 7 days a week. One-way fare for the Truckee Trolley during the summer is $1.00, with a discounted fare for disabled patrons, seniors, and children between the ages of 5 and 15.

The Trolley provided 7,548 passenger-trips during the 1999 summer season, July through November. Peak months were July and August with 2,507 and 2,173 passengers, respectively. Of total ridership, 82 percent consisted of general public riders.

**Lake Tahoe/Northstar Shuttle Service**

During the ski season, Northstar Ski Area operates a free shuttle for employees and guests that runs between the ski area and North Shore along Highways 28 and 267. This route is served once per hour from 7:00 AM to 5:30 PM, except between 1:00 PM and 2:00 PM. The vehicle departs Northstar at 0:30 past the hour and departs Tahoe Vista at the top of the hour. During the 1999-2000 ski season, the shuttle transported 3,866 passengers (Paula Rachuay, Resort Planner, Northstar-At-Tahoe Ski Area. May, 2000)

**Truckee Dial-A-Ride**

The Town of Truckee also funds Dial-a-Ride, a demand-based transit service that provides door-to-door transport between Glenshire, Tahoe Donner and downtown Truckee. Customers call in advance to schedule a ride and pay a flat fare of 3 dollars per ride.

Dial-A-Ride transported 14,579 passengers, between July 1999 and April 2000. Seniors accounted for approximately 60 percent of the ridership, with disabled and wheelchair-bound passengers accounting for almost 26 percent, and general public making up the remaining 14 percent. Monthly ridership ranged from a high of 1,503 passengers in March to a low of 1,065 in April.

**Greyhound Bus Lines**

The unstaffed Amtrak Station/Truckee Intermodal Transit Center in downtown Truckee acts as the depot for Greyhound passengers. Greyhound operates 10 daily scheduled departures from the Truckee Depot: 4 eastbound to Reno and 6 westbound to Sacramento.

**Amtrak Thruway Service**

In addition to 1 westbound and 1 eastbound passenger train (the *California* Zephyr) serving the Truckee Depot each day, Amtrak operates 5 buses daily along the Capitol Corridor, from Reno through Truckee to Sacramento. Passengers on this thruway service can connect with The Capitol s rail service in Sacramento, which runs to the Bay Area.

### Tahoe Area Regional Transit (TART)

Tahoe Area Regional Transit (TART), operated by Placer County, does not currently provide service along SR 267, but does provide bus service between Truckee and Tahoe City via SR 89 South. This service is partially funded by the Town of Truckee. TART buses operate 7 days a week, 364 days a year (excluding Christmas), and run on roughly 2-hour headways between the Truckee Intermodal Transit Center in downtown Truckee and the Tahoe City "Y" area. One-way fare is 1.25 dollars. The 1-way disabled fare is 1 dollar, while all day passes are 3 dollars for adults and 2 dollars for children, senior citizens, and the disabled.

### Shuttle Services to the Reno-Tahoe International Airport

Approximately 17 privately owned shuttle services operate in the Truckee/Martis Valley/Tahoe area, providing transportation between the area and the Reno-Tahoe International Airport in Reno, Nevada. Squaw Creek Transportation is arguably the most established of these services, operating standard shuttle service on the hour between the Resort at Squaw Creek in Squaw Valley, USA and the Reno Airport. Service runs from approximately 5:00 AM to 11:00 PM daily, with basic 1-way fares starting at 38 dollars, with lower group rates. Luxury and door-to-door service is also available.

#### RAIL SERVICES

The existing rail facilities through historic downtown Truckee extend along the I-80 corridor from the Bay Area to the west and to Reno, Ogden and beyond in the east. These facilities are owned and operated by Union Pacific Railroad. There is an un-staffed Amtrak station/Truckee Intermodal Transit Center in downtown Truckee that is used as a passenger pickup and drop off point for buses and shuttles, as well as for Amtrak trains. Passenger rail service is currently limited to 1 daily departure in each direction of the Amtrak *California Zephyr*, which runs from Oakland, California to Chicago, Illinois. However, Caltrans' *Rail Passenger Program Report* (Caltrans Rail Program, 1999) calls for expansion of *The Capitols* rail service, currently operating between San Jose and Auburn, eastward to Truckee and Reno in 2004-05.

#### PARK-AND-RIDE FACILITIES

There are currently no officially designated Park-And-Ride facilities in the study area. Unofficial park-and-ride activity is observed to occur on the northern side of the SR 267/I-80 interchange.

Among the Transportation Control Measures listed in the Truckee General Plan (Town of Truckee General Plan, 1995-2014, 1996), the addition of Park-And-Ride lots within the Town of Truckee is included in Circulation Policy 4.1 as another method Truckee would like to implement to promote efficient use of public transit.

#### BICYCLE AND PEDESTRIAN SYSTEM

At present, there are no designated pedestrian/bicycle routes along the SR 267 corridor through historic downtown Truckee and the Martis Valley. Limited pedestrian activity occurs within the area due to the dispersed pattern of land use. Bicycle activity is also limited within the area, with the exception of summer recreational trips. To access the Martis Valley region from downtown Truckee, cyclists must use the Truckee River crossing located on SR 267. From the North Shore of Lake Tahoe, SR 267 must be used to travel by bicycle to Truckee. This roadway has steep grades the hinder bicycle use.

The Town of Truckee is currently developing a master plan for trails and bikeways that preliminary would add signed bicycle corridors along Donner Pass Road, West River Street and SR 267 to the Placer County boundary near the Truckee Tahoe Airport (Ball, Gavin, April 2000). Placer County has plans to add five miles of off-road multipurpose trails between Northstar and the Truckee town limits, connecting with existing multipurpose trails in the area (Ramirez, John. May 2000). The reader is referred to Section 4.11 (Public Services) regarding existing and planned trail systems in the plan area.

### 4.4.2 REGULATORY FRAMEWORK

FEDERAL REGULATIONS

No federal documents were identified that addressed regulatory issues relating to the proposed project's impact on the transportation system.

STATE REGULATIONS

**Caltrans**

Caltrans owns, operates, and maintains much of the study area roadways, including I-80, SR 267, and SR 28. Specific regulatory conditions that relate to this analysis or the implementation of the proposed project are described below.

- *District System Management Plan*, Caltrans - District 3, August 1992: This document sets forth the policy direction for Caltrans - District 3 over the next 20 to 30 years. Nine policies and 15 action statements are presented, all intended to move toward achieving the District's principal goal:

  > *"... assure the economic vitality and quality of life for its population through a cohesive multi-modal, multi-jurisdictional, economical and environmentally sound transportation system to provide for mobility of goods, services, information, and people, in a safe and efficient manner."*

- *Transportation Concept Report - Interstate Route 80*, Caltrans - District 3, 1999: Route Concept Reports (RCRs) and Transportation Concept Reports (TCRs)are planning documents, which are intended to define the state's goal for a specific facility, in terms of LOS and the general magnitude of improvements. The I-80 Route Concept Reports states that the LOS for this interstate highway in rural areas (including the vicinity of the proposed project) should be LOS D (assuming traffic operations are unaffected by adverse weather). In addition, the "concept facility" is defined as a 6-lane facility, though only four lanes exist today. The RCR anticipates reduction in LOS to F by the year 2016, and proposes a series of improvements to mitigate some of these deficiencies. Among the proposals noted in the concept report is the reconstruction of the I-80/SR 89/SR 267 interchange and the addition of a 1.3-mile eastbound auxiliary lane between Truckee and the new interchange. The reconstruction of the I-80/SR 89/SR 267 interchange is currently in progress, and is scheduled for completion in 2002. The Department of Food and Agriculture plans to construct a new Agriculture Inspection Station adjacent to the westbound lanes on I-80 east of Truckee just west of the existing Truck Inspection Stations. When the new station is operational, the existing station will be closed. According to the concept report, the schedule calls for construction of the

Agricultural Station by early June 2000. However, construction has not started yet. The concept LOS based on these improvements is LOS E.

- *Route Concept Report - State Route 267*, Caltrans - District 3, March 2001: This Route Concept Report identifies concept LOS D, E, and E on the portion of SR 267 in Nevada County, between the Nevada County line and Brockway Summit, and south of Brockway Summit, respectively. According to the concept report, the SR 267 Bypass is planned to be in place by 2002, which will improve the roadway LOS. However, the ultimate concept facility is planned to have a 4-lane cross-section along the bypass roadway. For the section from the Nevada County to Brockway Summit, the concept facility is a 2-lane conventional highway with southbound truck climbing lanes to Brockway Summit. However, the ultimate concept facility would have a 4-lane cross-section, as well. The concept facility of the segment located south of Brockway would include 8-foot shoulders, while the ultimate concept facility would contain 8-foot shoulders, as well as northbound truck climbing lanes. (Please note that Caltrans staff recently identified an error in the March 2001 SR 267 Transportation Concept Report. The Concept LOS was improperly identified in Table 1 of the Caltrans report. A revised copy will be available soon.)

- *Route Concept Report - State Route 28*, Caltrans - District 3, May 1997: This Route Concept Report identifies a concept LOS F on the portion of SR 28 near the proposed project. Members of the community requested that the Placer County Planning Department conduct a study of the reduction in the number of lanes on this segment (Kings Beach) from 4 to 3 lanes. This reduction in lanes would provide a continuous left turn lane in the median. Caltrans conducted a traffic analysis in December 1996. This analysis determined the proposed reduction in lanes would result in increased delays, longer queues, additional fuel consumption, and reduced quality in the level of service on the SR 28/SR 267 signalized intersection. The Tahoe Regional Planning Agency (TRPA) is the responsible regional transportation planning agency within the Tahoe Basin for transportation issues and takes the lead role in identifying transportation strategies and projects. As a result, Caltrans cannot guarantee that the overall facility will operate at any level of service better than LOS F.

LOCAL REGULATIONS

Numerous regulations or policies of relevant jurisdictions apply to the transportation system within the study area. The study area encompasses three local jurisdictions, as follows:

- *Placer County:* Unincorporated portion of Placer County outside Tahoe Basin, including the SR 267/Airport Road-Schaffer Mill Road, SR 267/Northstar Drive and Northstar Drive/Big Springs Drive intersections;

- *Tahoe Regional Planning Agency:* Portion of Placer County located within Tahoe Basin, including the SR 267/SR 28 intersection; and

- *Town of Truckee:* Portion of the SR 267 corridor from a point just north of the Airport Road - Schaffer Mill Road alignment, including the I-80 intersections, Bridge Street/Commercial Row, and New SR 267 Bypass/Old SR 267 intersection.

**Placer County**

Applicable policy documents were reviewed as part of this study to determine the significance of various impacts. Specific regulatory conditions that would relate to this analysis or the implementation of the proposed project are described below:

- According to the *Placer County General Plan Background Report*, the maximum daily traffic volume *per lane* for a rural 2-lane highway with flat terrain operating at LOS E or better is 12,500. Please note that this standard was applied to the section of SR 267 that is located south of Brockway Road and north of Northstar Drive.

- *Countywide Traffic Fee Program* (Placer County Department of Public Works, Transportation Division; July 2000): The Placer County Board of Supervisors adopted the Countywide Traffic Fee Program, requiring new development within the County to pay traffic impact fees. The fees collected through this program, in addition to other funding sources, allows the County to construct transportation facilities needed as a result of new development. The Martis Valley is part of the Tahoe/Resorts Benefit District. Roadway and intersection improvements in the area for the Tahoe/Resorts Benefit District consist of Northstar Drive/Big Springs Drive intersection signalization ($125,000 total cost), northbound passing lane along SR 267 at Brockway Summit ($1,000,000 total cost) and the SR 267 Bypass and miscellaneous improvements ($32,000,000 total cost). The fee each development is required to pay is based upon its Vehicle Miles of Travel (VMT) generated by the project as it compares to the VMT generation of a single-family dwelling unit, or a Dwelling Unit Equivalent (DUE). The fee per DUE in the Martis Valley is 2,355 dollars.

- Placer County DPW staff has indicated that, for purposes of this study, an Average Daily Traffic volume of 2,000 should be used as the standard for the maximum volume compatible with local residential street with front-on lots (e.g. Sierra Meadows/Ponderosa Palisades), as stated in a memo from Richard Moorehead dated 9/5/01.

- *Placer County General Plan Update - Countywide General Plan Policy Document* (Placer County, et al.; August 16, 1994): The Countywide General Plan Policy Document provides long-range direction and policies for the use of land within Placer County. With regard to the transportation and circulation system serving the project, this document establishes an overall roadway system including a roadway functional classification system and designates a series of transit corridors. In addition, six modal goals are presented, each of which is supported by numerous policies and implementation programs. A list of applicable General Plan provisions are provided below:

  Policy 3.A.1 The County shall plan, design, and regulate roadways in accordance with the classification system established in *Placer County General Plan* and reflected in the *Circulation Plan Diagram* contained therein.

  Policy 3.A.2 The County shall require that streets and roads be dedicated, widened, and constructed according to the roadway design and access standards generally defined in the Placer County General Plan and the County's Highway Deficiency Report. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Public Works Director that safe and adequate public access and circulation are preserved by such exceptions.

Policy 3.A.3 The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2021), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations.

Policy 3.A.4 On arterial roadways and thoroughfares, intersection spacing should be maximized. Driveway encroachments along collector and arterial roadways, and to a lesser degree, collector roadways, shall be minimized. Access control restrictions for each class of roadway in the county are specified in Part I of the Placer County General Plan Document.

Policy 3.A.5 The County shall require that through-traffic be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.

Policy 3.A.6 The County shall require all new development to provide off-street parking, either on-site or in consolidated lots or structures.

Policy 3.A.7 The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS).

a. LOS "C" on rural roadways, except within ½ mile of state highways where the standard shall be LOS "D".

b. LOS "C" on urban/suburban roadways except within ½ mile of state highways where the standard shall be LOS "D".

The County may allow exceptions to these level of service (LOS) standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

Policy 3.A.8 The County's LOS standards for the State highway system shall be no worse than those adopted in the *Placer County Congestion Management Program* (CMP).

Policy 3.A.9 The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on the roadways that may occur on the circulation network in the Town of Truckee, the unincorporated area, and adjacent Nevada County.

Policy 3.A.10 The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

Policy 3.A.11 The County shall plan and implement a complete road network to serve the needs of local traffic. This road network shall include roadways parallel to regional facilities so that the regional roadway system can function effectively and efficiently. Much of this network will be funded and/or constructed by new development.

Policy 3.A.12 The County shall require an analysis of the effects of traffic from all land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include a fair share of improvements that provide benefits to others.

Policy 3.A.13 The County shall secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.

Policy 3.A.14 The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.

Policy 3.A.15 Placer County shall participate with other jurisdictions and Caltrans in the planning and programming of improvements, as well as maintaining the adopted level of service (LOS), for the State Highway 267 in accordance with state and federal transportation planning and programming procedures, so as to maintain acceptable levels of service for Placer County residents.

Policy 3.B.1 The County shall work with transit providers to plan and implement additional transit services within and to the county that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.

Policy 3.B.3 The County shall consider the need for future transit right-of-way in reviewing and approving plans for development. Rights-of-way may either be exclusive or shared with other vehicles.

Policy 3.B.4 The County shall pursue all available sources of funding for transit services.

Policy 3.B.8 The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services, such as rail, to the Sierra.

Policy 3.B.9 The County shall require development of transit services by ski resorts and other recreational providers in the Sierra to meet existing and future recreational demand.

Policy 3.B.10 The County shall consider the transit needs of senior, disabled, minority, low-income, and transit-dependent persons in making decisions regarding transit services and in compliance with the Americans with Disabilities Act.

Policy 3.B.11 The County shall support efforts to provide demand-responsive service ("paratransit") and other transportation services for those unable to use conventional transit.

Policy 6.G.2 The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

Policy 6.G.3 The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.

Policy 6.G.4 The County shall consider instituting disincentives for single-occupancy vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the Placer County Air Pollution Control District and incorporated into regional plans.

Policy 6.G.5 The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

Policy 6.G.6 The County shall require large new developments to dedicate land for and construct appropriate improvements for park-and-ride lots, if suitably located.

- *Martis Valley General Plan* (Placer County, 1975): The existing Martis Valley General Plan contains the following relevant goals:

  1) Establish improved access between Highway SR 267 and Interstate 80 in order to eliminate through traffic in downtown Truckee.

2) Encourage methods of innovative mass transit into and within Martis Valley and the Lake Tahoe Basin.

3) Encourage creative methods of dispersal of travelers to specific destination points from mass transit facilities.

**Town of Truckee**

*Truckee General Plan* (Town of Truckee, Community Development Department, Planning Division, adopted February 15, 1996): This document guides the overall growth and development of the Town of Truckee, which is located to the north of the proposed project. The plan's Circulation Element calls for the following goals and policies related to applicable Truckee circulation standards of significance:

Policy 1.6 Maintain a LOS D or better at weekday PM peak hour on arterial and collector road segments, and on primary through movements at intersections, in portions of the Town outside the Downtown Study Area.

Policy 1.7 Maintain a LOS E or better at weekday, PM peak hour on local, collector, and arterial road segments and on primary through movements at intersections within the Downtown Study Area. With regards to this traffic analysis, the Downtown Study Area includes locations along Donner Pass Road between Glenshire Drive and Bridge Street (inclusive) and along Bridge Street between West River Street and Donner Pass Road (inclusive); all other study intersections are outside of the Downtown Study Area.

Note that this policy is applied to unsignalized intersections as a *whole*, rather than on individual approaches or turning movements. In addition, LOS is specifically considered for a summer peak weekday only.

The Truckee Town Engineer has indicated that the conclusions of the *Level of Service Criteria Study* (PRISM Engineering, December 2000, for the Nevada County Transportation Commission) should be used as guidance regarding the methodology associated with roadway capacity. According to this document, the maximum peak hour capacity per lane for a 2-lane highway operating at LOS D or better is 1,584, which was based partially upon factors presented in the 1997 Highway Capacity Manual (HCM, Transportation Research Board, 1997). The most recent 2000 HCM (Transportation Research Board, 2000) presents updated values for some of these factors. Per Placer County's request and the Town of Truckee's Public Works director's preliminary approval, the methodologies used in *Level of Service Criteria Study* were updated to reflect the more recent factors presented in the HCM (Moorehead, 2002).

The primary difference between the 2 methodologies is that the 2000 HCM identifies a lower value of Passenger Car Equivalents (PCEs) per truck along rolling terrain than the 1997 HCM. The reduction in this factor reflects the improved acceleration and deceleration characteristics of more modern trucks, which reduce the impacts of an individual truck on overall traffic flow. Applying these revised values, the capacity of the SR 267 Bypass (at the Town's LOS standard of D) is 1,891 vehicles per hour per lane. For comparison, as a part of the *SR 89 South Intersection Improvement Analysis* (LSC, 2000) a peak-hour peak-direction traffic count through the "Mousehole" railroad Undercrossing in Truckee was performed on February 21, 2000. The maximum observed southbound volume was 2,025 vehicles per hour per lane, indicating that 1,891 vehicles per hour per lane could be accommodated along the roadway links of the SR 267

Bypass, which will contain wider lanes and shoulders than are currently provided through the "Mousehole."

Please note that the *Level of Service Criteria Study* provided an analysis of 2-lane (and not four-lane) highways within Nevada County. Therefore, consistent with the methodologies presented in the *2000 Highway Capacity Manual*, the LOS of a four-lane roadway is dependent upon the percent of traffic that uses each lane. It was, therefore, assumed that if SR 267 is a 4-lane roadway, 60 percent of the traffic in each direction will use 1 lane and 40 percent would use the other.

*Town of Truckee Development Code, Truckee Municipal Code, Title 18* (Town of Truckee, Effective November 6, 2000): This document provides most of the Town's requirements for the development and use of private and public land, buildings and structures within the Town. Section 18.20.020: Access states the following:

> *For intersections with an acceptable level of service (D or better outside the Downtown Study Area (DSA), E or better inside DSA), the project (existing plus project traffic) decreases the level of service of the total intersection to an unacceptable level (E or F outside DSA, F inside DSA area). The significant impact may be reduced to a less than significant level by incorporating intersection improvements and other mitigation into the project, which improves level of service to an acceptable level.*
>
> *For intersections with an unacceptable level of service, the project increases the total traffic volumes of the intersection 5percent or more above existing traffic volumes. The significant impact may be reduced to a less than significant level by incorporating intersection improvements and other mitigation into the project, which maintains the level of service of the intersection at pre-project levels.*

*Town of Truckee AB1600 Traffic Fee Program* (Town of Truckee, August, 1999): The Town of Truckee maintains a Traffic Fee Program much like Placer County's, which requires new development within the Town to pay traffic impact fees. The fees collected through this program, in addition to other funding sources, allows the Town to construct transportation facilities needed as a result of new development. The fee each development is required to pay is based upon its Vehicle Miles of Travel (VMT) generated by the project as it compares to the VMT generation of a single-family dwelling unit, or a Dwelling Unit Equivalent (DUE). The current fee per DUE is 1,936 dollars. Relevant roadway and intersection improvements that are fully or partially funded by the fees collected as a part of this program include Tahoe Donner Connector ($6,035,000 total cost), Glenshire/SR 267 capacity improvements ($600,000 total cost), Bridge Street/Union Pacific Railroad improvements ($450,000 total cost), Easterly Railroad Undercrossing ($6,000,000) and the Easterly River Crossing (cost not determined).

**Tahoe Regional Planning Agency**

*Regional Transportation Plan - Air Quality Plan (RTP- AQP) for the Lake Tahoe Region* (Tahoe Regional Planning Agency, 1995): The purpose of the Regional Transportation Plan - Air Quality Plan (RTP-AQP) is to attain and maintain the Environmental Threshold Carrying Capacities (thresholds) established by TRPA in 1982, and all applicable federal, state, and local standards established for transportation and air quality. To meet the goals of the Transportation Element, peak-period traffic flow should not exceed:

- LOS C on rural scenic/recreational roads;
- LOS D in rural developed areas;

- LOS D on urban roads; or
- LOS D for signalized intersections.
- LOS E may be acceptable during peak periods not to exceed four hours per day.

This document does not identify a peak traffic period such as summer peak weekday or winter weekend. Currently, TRPA does not have a specific adopted standard for unsignalized intersections.

### 4.4.3. IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The CEQA Guidelines states that a project will be expected to result in a significant transportation and circulation impact if it causes an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. For the purpose of this EIR, impacts are considered to be significant if the following could result from the implementation of the proposed project:

1) Project implementation would increase traffic and degrade the LOS of roadways or intersections from acceptable to unacceptable conditions or exacerbate conditions that are already at an unsatisfactory level. These standards are presented in Section 4.1.2, above;

2) Project traffic would exacerbate conditions at a facility operating at lower than minimum standards without the project (as defined in the various policies presented in Section 4.1.2, above);

3) Project implementation would increase traffic volumes on local residential streets with front-on lots to over 2,000 average daily trips;

4) Project implementation would conflict with adopted related goals, objectives, and policies of the Town of Truckee General Plan, Placer County General Plan, or the Regional Transportation Plan - Air Quality Plan (RTP- AQP) for the Lake Tahoe Region;

5) Project implementation would result in inadequate parking capacity; or

6) Project implementation would conflict with transit, pedestrian and bicycle uses.

These criteria are consistent with, or more conservative than, the adopted policies or thresholds of Caltrans, Placer County, Tahoe Regional Planning Agency, and the Town of Truckee. Other transportation-related issues (including impact on air traffic patterns and emergency access) are addressed in other sections of this environmental document.

A summary of standards of significance for the various roadway elements in the study area is presented as **Table 4.4-7**.

The reader is referred to Section 4.1 (Land Use) and Section 4.3 (Human Health/Risk of Upset) associated with potential conflicts with the Truckee-Tahoe Airport.

ASSUMPTIONS

This analysis is predicated upon the following assumptions:

- Land uses will develop in accordance with the densities discussed in the "Methodology" Section, below.
- The proportion of residences used as primary homes versus recreational homes will be in accordance with those proportions identified in "Methodology" Section, below.
- The Town of Truckee General Plan land uses will be built out by 2021.
- There will be no substantial shifts in general travel characteristics (such as the proportion of travel accommodated by the various travel modes) over the coming 20 years: factors such as fuel prices or air quality plans will not substantially impact current travel patterns within or external to the study area.

**TABLE 4.4-7**
**LEVEL OF SERVICE STANDARDS**

| Roadway Element | | Level of Service Standard | | Source | Notes |
|---|---|---|---|---|---|
| | | Summer | Winter | | |
| **Intersections** | | | | | |
| | SR 89/SR 267 Bypass/I-80 Westbound | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | SR 89/SR 267 Bypass/I-80 Eastbound | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | Donner Pass Road (Existing SR 267/SR 89) / I-80 Westbound | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | Donner Pass Road (Existing SR 267/SR 89) / I-80 Eastbound | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | Glenshire Drive/Donner Pass Road (Existing SR 267) | E | None | Town of Truckee General Plan | Based on total intersection delay |
| | Bridge Street/Donner Pass Road | E | None | Town of Truckee General Plan | Based on total intersection delay |
| | Bridge Street/West River Street | E | None | Town of Truckee General Plan | Based on total intersection delay |
| | Brockway Road (Existing SR 267) / Palisades Drive | E | None | Town of Truckee General Plan | Based on total intersection delay |
| | Brockway Road (Existing SR 267) / Martis Valley Road | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | SR 267 Bypass/SR 267/Brockway Road (Existing SR 267)/Joerger Drive | D | None | Town of Truckee General Plan | Based on total intersection delay |
| | SR 267/Airport Road/Schaffer Mill Road | E | E | Placer County Congestion Management Program | – |
| | SR 267/Northstar Drive | E | E | Placer County Congestion Management Program | – |
| | SR 267/SR 28 | D | D | TRPA Regional Transportation Plan/Air Quality Plan | Up to 4 hours per day of LOS E may be acceptable |
| | SR 89 South/Donner Pass Road | D | None | Town of Truckee General Plan | Based on total intersection delay |
| **Roadway Links** | | | | | |
| | SR 267 North of Brockway/267 Bypass Intersection | D | None | Town of Truckee General Plan and NCTC Level of Service Criteria Study | Capacity of 1,891 peak-hour traffic volume per lane |

| Roadway Element | | Level of Service Standard | | Source | Notes |
|---|---|---|---|---|---|
| | | Summer | Winter | | |
| | SR 267 South of Brockway/267 Bypass Intersection and North of Northstar Drive | E | E | Placer County Congestion Management Program | Capacity of 12,500 ADT per lane for level terrain |
| | SR 267 South of Northstar Drive | E | E | Placer County Congestion Management Program | Capacity of 10,500 ADT per lane for rolling terrain |
| | Arterials within Placer County | C (1) | C (1) | Placer County Congestion Management Program | Capacity of 8,100 ADT per lane for LOS D and 7,200 ADT per lane for LOS C |

*Note If worst movement LOS at an unsignalized intersection in Placer County is equal to LOS F a signal warrant analysis is used to determine if mitigation is required.*

*(1) The applicable LOS for County roadways is LOS C except within ½ mile of SR 267, for which it is LOS D.*

METHODOLOGY

The discussion below describes the steps that were followed in estimating the transportation conditions that would result from the proposed land use diagram and 2 land use map alternatives under various roadway improvement options. The methodology consists of 3 steps. First, the Town of Truckee Transportation Model was expanded to include the Martis Valley region and the model was calibrated to existing 2001 summer conditions. Next, the land use quantities associated with each land use map alternative were estimated, as well as appropriate trip rates for each land use. Finally, the transportation model was run for each land use map alternative and roadway improvement options to estimate summer peak weekday PM peak-hour traffic volumes. These numbers were then adjusted to best represent typical winter weekend peak-hour conditions (30th highest winter peak hour). ADT volumes were then estimated from the peak hour volumes.

**Expansion of the Town of Truckee Transportation Model**

The Town of Truckee maintains a town-wide travel demand model using the TMODEL2 software. The purpose of this model is to simulate peak-hour summer traffic flow in Truckee based upon the roadway network and land uses contained in the town. First, the 1995 land use numbers that are contained in the Town of Truckee model were updated to reflect any new development that has occurred along the SR 267 corridor since the last model calibration in 1995, in order to reflect existing 2001 conditions. The model was next expanded to include the Martis Valley region. A total of 36 Traffic Analysis Zones (TAZs) were added to the network, as well as the existing roadways and possible future roadways that would gain access to new development. All existing Martis Valley land uses were inventoried and added to the model. The model was run and compared to known 2001 turning-movement volumes in order to calibrate the model. A more detailed explanation of this process may be found in **Appendix 4.4**.

**Estimation of Land Use Quantities**

While the Community Plan land use description provides acreage and allowed residential densities, the traffic model requires the quantification of building floor area (for commercial uses) or number of dwelling units (for residential uses). Accordingly, it was necessary as the first step in the traffic analysis to determine the future number of dwelling units and square feet of commercial or office space in each TAZ. Please note that the following golf course characteristics were assumed for each land use alternative:

1) Lahontan 1 (18-hole) -- existing

2) Lahontan 2 (9-hole) -- existing
3) Northstar (18-hole) -- existing
4) Eaglewood (18-hole) -- proposed
5) Hopkins Ranch (18-hole) -- proposed
6) Siller Ranch (18-hole and 9-hole) -- conceptually proposed
7) Waddle Ranch (18-hole) – conceptually proposed

The methodology used in determining the number of single-family and multi-family residential units, as well as the square footage of office and commercial uses, in each TAZ for each land use map alternative is described below. This methodology and associated assumptions were developed based upon direction provided by the Placer County Planning Department. The resulting land use quantities by TAZ for each of the Community Plan Alternatives are presented in **Appendix 4.4**.

Proposed Land Use Diagram (PP)

1. All residential land use quantities for this Alternative were provided by the County Planning Department, as shown in **Table 4.4-8**. All residential development in areas designated Low Density Residential was assumed to be single-family residences. Otherwise, the residences were assumed to be multi-family residential. Several exceptions were made in the case that a current application for the development identifies the amount of single-family or multi-family residential (as identified in Section 3.0 [Project Description]). In addition, East-West Partners has indicated that all future residential development within Northstar is planned to be multi-family. Therefore, the existing single-family dwelling units in Northstar were assumed to remain, but all other Northstar residential development was assumed to consist of multi-family residential.

**TABLE 4.4-8**
**LAND USE QUANTITIES FOR THE PP: PROPOSED LAND USE DIAGRAM**

| Development Name | Residential Dwelling Units | Single Family Dwelling Units (SFDU)/Multi-Family Dwelling Units (MFDU) |
|---|---|---|
| Lahontan I & II | 537 | SFDU |
| Ponderosa Palisades/Sierra Meadows | 449 | SFDU |
| Northstar | 3,700 | SFDU/MFDU |
| Martis Ranch | 1,360 | SFDU/MFDU |
| Hopkins Ranch | 87 | SFDU |
| Siller Ranch | 1,000 | SFDU |
| Eaglewood | 506 | SFDU/MFDU |
| Waddle Ranch | 894 | SFDU/MFDU |
| Waddle Road/SR 267 | 105 | SFDU |
| Forest Residential East of Northstar | 21 | SFDU |
| Northstar Drive Employee Housing | 270 | MFDU |
| East of SR 267 – Northstar | 160 | SFDU |
| Forest Residential near County Line | 51 | SFDU |
| County Line Medium Density Residential | 80 | MFDU |
| **Total** | **9,220** | |

2. For all commercial and office space, 20 percent of the acreage is subtracted for use by roadways and utilities. Of the remaining acreage, a maximum Floor-to-Area Ratio (FAR) of 0.25 percent is assumed. The square footage of tourist commercial in the Siller Brothers Property was adjusted from 383,000 square feet to 75,000 square feet.

A total of 9,220 dwelling units (4,731 single-family and 4,489 multi-family dwelling units) and 1,190,000 square feet of commercial/office land uses were used in the traffic analysis, in addition to the golf courses.

Existing Martis Valley General Plan Land Use Map (AA)

1. Because the Sierra Meadows/Ponderosa Palisades area has already been subdivided into 449 lots and Lahontan I and II has already been approved to develop 537 single-family dwelling units, adjustments were required to account for existing development in these areas. Therefore, because the Lahontan areas consist of 421 acres of land designated Low Density Residential, the 421 acres was subtracted from the total Low Density Residential land use acreage. Similarly, as the Sierra Meadows/Ponderosa Palisades area consists of 40 acres designated Low Density Residential and 350 acres designated Medium Density Residential, the total acreage was adjusted accordingly. The existing residential lots are added back in to the total in step 3.

2. For all residential areas, 20 percent of the acreage was first subtracted from the total acreage to reflect roadway and utility use. The maximum allowable density for each land use designation was then applied to the remaining acreage. For example, if a 40-acre area was designated High Density Residential at a density of 3-6 units per acre, the 40 acres would be multiplied by 0.8 and then by the maximum density (6 units per acre) to estimate a total of 192 units. The residential uses contained within the Forest, Low Density Residential, Open Space, and Valley Residential designations were assumed to consist of single-family residences only. The residential uses contained within the High Density Residential, Medium Density Residential, and Ski-Based Commercial Residential designations were assumed to consist of multi-family residences only. A list of the maximum allowable density of each land use designation contained in the existing Martis Valley General Plan is shown in **Table 4.4-9.**

**TABLE 4.4-9**
**EXISTING MARTIS VALLEY GENERAL PLAN MAXIMUM ALLOWABLE LAND USE DENSITIES**

| Land Use Designation | Maximum Allowable Density |
|---|---|
| Forest | 1 DU / 10 acre |
| High Density Residential | 6 DU / acre |
| Medium Density Residential | 3 DU / acre |
| Low Density Residential | 1 DU / acre |
| Open Space | 1 DU / acre |
| Ski-Based Commercial | 15 DU / acre |
| Valley Residential | 1 DU / 10 acres |

*Note 1 DU = Dwelling Unit*
*Note 2: 6 acres of High Density Residential was assumed to have a maximum allowable density of 15.2 dwelling units per acre to represent the recently-approved Northstar Employee Housing development.*

3. Next, the 537 existing single-family residential lots in Lahontan and the 449 existing dwelling residential lots in the Sierra Meadows/Ponderosa Palisades neighborhood were added to the totals as single-family dwelling units. While the majority of the Northstar area is designated Medium Density Residential (indicating multi-family dwelling units), the existing single-family lots contained in Northstar were assumed to remain.

4. For all commercial and office space, 20 percent of the acreage is subtracted for use by roadways and utilities. Of the remaining acreage, a maximum FAR of 25 percent is assumed. In other words, the square feet of floor area of the commercial and office spaces were assumed to be 20 percent of the total land area (80 percent multiplied by 25 percent).

5. The Ski-Based Commercial land use designation was assumed to contain both residential and commercial within the same area. For example, 10 acres of land designated Ski-Based Commercial would contain 87,120 square feet of commercial land use (10 acres X 43,560 square feet/acre X 80 percent X 0.25 FAR), as well as 120 multi-family dwelling units (10 acres X 80 percent X 15 DU/acre). In addition, no residential use was assigned to the smaller 1 to 2 acre parcels located on the ski mountains.

A total of 11,668 dwelling units (4,064 single-family and 7,604 multi-family dwelling units), 1,681,000 square feet of commercial/office land uses, and 130 acres of Recreation land use were identified used for the traffic analysis, in addition to the golf courses.

<u>Alternative 1 Land Use Map Alternative (AB)</u>

1. The same adjustments as those presented above for the Existing Martis Valley General Plan Land Use Map were made for the Lahontan development and the Sierra Meadows/Ponderosa Palisades development for this. The only difference in methodology was that the Lahontan and Sierra Meadows/Ponderosa Palisades areas are wholly designated as Low Density Residential in Alternative 1. A similar adjustment was made for the Northstar area, which consisted of removing 1,174 acres of the Low Density Residential designation contained within Northstar.

2. As with the Existing Community Plan Alternative, 20 percent of the acreage was subtracted from the total acreage for roadway and utility use, and then the maximum allowable density for each land use designation was then applied to the remaining acreage. The residential uses within the Forest, Low Density Residential, Rural Residential, and Forest Residential designation areas were assumed to consist of single-family residences only. The residential contained within the High Density Residential, Medium Density Residential, and Ski-Based Commercial Residential designations were assumed to consist of multi-family residences only. A list of the maximum allowable density of each land use designation under Alternative 1 is shown in **Table 4.4-10.**

**TABLE 4.4-10**
**ALTERNATIVE 1 MAXIMUM ALLOWABLE LAND USE DENSITIES**

| Land Use Designation | Maximum Allowable Density |
|---|---|
| Forest | 1 DU / 40 acre |
| High Density Residential | 15 DU / acre |
| Medium Density Residential | 10 DU / acre |
| Low Density Residential | 5 DU / acre |
| Rural Residential | 1 DU / acre |
| Forest Residential | 2.5 acres / 1 DU |
| Tourist Commercial | 15 DU / acre |

*Note: DU = Dwelling Unit*

3. Next, the 537 single-family dwelling units in Lahontan and the 449 single-family dwelling units in the Sierra Meadows/Ponderosa Palisades neighborhood were added to the totals as single-family dwelling units. In addition, 3,522 single-family dwelling units were added to the Northstar area, which reflects the application of a 3 dwelling unit per acre density to the 1,174 acres of Low Density Residential designation. The amount of single-family dwelling units that were included in each Northstar TAZ was based upon the proportion of Low Density Residential acreage that exists in each TAZ.

4. For all commercial and office space, 20 percent of the acreage is subtracted for use by roadways and utilities. Of the remaining acreage, a maximum FAR of 25 percent is assumed.

5. As with the Existing Martis Valley General Plan Land Use Map, the Tourist Commercial land use designation (similar to the Ski-Based Commercial land use designation) may have both residential and commercial associated to the acreage. In addition, no residential use was assigned to the smaller one to two acre parcels located on the ski mountains.

Using this methodology, a total of 10,311 dwelling units (8,458 single-family and 1,853 multi-family dwelling units) and 1,220,000 square feet of commercial/office land uses was used for the traffic analysis, in addition to the golf courses.

Alternative 2 Land Use Map Alternative (AC)

This land uses Alternative is the same as the Proposed Land Use Alternative except that it does not contain any development on the Martis Ranch property, located on the east side of SR 267. A total of 7,956 dwelling units (3,467 single-family and 4,489 multi-family dwelling units) and 1,173,000 square feet of commercial/office land uses was used for the traffic analysis, in addition to the golf courses.

**Estimation of Trip Rates**

Per Placer County Department of Public Works direction, it was assumed that 20 percent of all residences in Martis Valley are full-time residences, and that the remaining 80 percent are second homes, with the exception of the residences that reside in the Ponderosa Palisades neighborhood. The assumption that 20 percent of the residences in Martis Valley will be full-time residences was based upon the review of the existing number of homes that are second homes

in the Martis Valley area. As the proportion of homes used as full-time residences is actually presently lower than 20 percent and as the trip generation of full-time residences is higher than that of second homes, this assumption results in conservative (i.e., "high") estimates of total trip generation.

ITE land use code 260 (Recreational Homes) was used as the appropriate rate for second homes, while ITE land use code 210 (Single Family Dwelling Units) was used for full-time residences. A blended single-family and multi-family trip rate was estimated, as shown in **Table 4.4-11**. As the ITE *Trip Generation Manual* does not include a recreational multi-family dwelling unit rate, the assumption was made that multi-family recreational units have the same trip generation rate as a single-family recreational unit. (While MFDU typically have rates lower than SFDU, recreational MFDU probably have a higher utilization rate, as they are more likely in a rental pool program.)

**TABLE 4.4-11**
**RESIDENTIAL TRIP RATES**

| | ITE Land Use Code | ADT | PM Peak-Hour Trip of Generator | | |
|---|---|---|---|---|---|
| | | | In | Out | Total |
| **Single-Family Dwelling Unit Rate Calculation** | | | | | |
| Recreational Home | 260 | 3.16 | 0.14 | 0.17 | 0.31 |
| Single Family Dwelling Unit | 210 | 9.57 | 0.65 | 0.37 | 1.02 |
| Blended Rate Assuming 80 % Recreational | | 4.44 | 0.24 | 0.21 | 0.45 |
| **Multi-Family Dwelling Unit Rate Calculation** | | | | | |
| Recreational Home | 260 | 3.16 | 0.14 | 0.17 | 0.31 |
| Condominium | 230 | 5.86 | 0.35 | 0.19 | 0.54 |
| Blended Rate Assuming 80 % Recreational | | 3.70 | 0.18 | 0.17 | 0.36 |

*Source: ITE Trip Generation Manual, 6th Edition, 1997.*

It was assumed that the residences contained within the Ponderosa Palisades neighborhood (TAZ 91), which is located west of SR 267 and accessible via Martis Valley Road and Palisades Drive, consist of 80 percent primary homes and 20 percent secondary homes. This assumption came out of the model calibration to existing conditions, which indicated that the residences in the Ponderosa Palisades neighborhood generate more traffic than residences in the remainder of Martis Valley. The trip rates for the Ponderosa Palisades neighborhood residences located within the TAZs contained within the Town of Truckee were also increased and the same trip rates were applied as to TAZ 91. These rates are shown in **Table 4.4-12**. **Table 4.4-13** provides a summary of all the trip rates that were used in the model.

**TABLE 4.4-12**
**PONDEROSA PALISADES/SIERRA MEADOWS AREA RESIDENTIAL TRIP RATES**

| | ITE Land Use Code | ADT | PM Peak-Hour Trip of Generator | | |
|---|---|---|---|---|---|
| | | | In | Out | Total |
| **Single-Family Dwelling Unit Rate Calculation** | | | | | |
| Recreational Home | 260 | 3.16 | 0.14 | 0.17 | 0.31 |
| Single-Family Dwelling Unit | 210 | 9.57 | 0.65 | 0.37 | 1.02 |
| Blended Rate Assuming 20 % Recreational | | 8.29 | 0.55 | 0.33 | 0.88 |
| **Multi-Family Dwelling Unit Rate Calculation** | | | | | |
| Recreational Home | 260 | 3.16 | 0.14 | 0.17 | 0.31 |
| Condominium | 230 | 5.86 | 0.35 | 0.19 | 0.54 |
| Blended Rate Assuming 20 % Recreational | | 5.32 | 0.31 | 0.19 | 0.49 |

**TABLE 4.4-13**
**PM PEAK-HOUR TRIP RATES**

| Land Use | Corresponding ITE Land Use Code | Corresponding ITE Land Use | Unit | Rate (PM peak-hour trips per unit) |
|---|---|---|---|---|
| Single-Family Dwelling Units | -- | -- | Dwelling Units | 0.45 |
| Multi-Family Dwelling Units | -- | -- | Dwelling Units | 0.36 |
| General Commercial | 814 | Specialty Retail Center | 1,000 s.f. floor area | 2.59 |
| Public or Professional Office (Office) | 710 | General Office | 1,000 s.f. floor area | 1.49 |
| General Commercial | 814 | Specialty Retail Center | 1,000 s.f. floor area | 2.59 |
| Golf Course | 430 | Golf Course | Holes | 3.56 |
| Single-Family Dwelling Units In Ponderosa Palisades Neighborhood (1) | -- | -- | Dwelling Units | 0.88 |
| Multi-Family Dwelling Units | -- | -- | Dwelling Units | 0.49 |
| Recreational | 412 | County Park | Acres | 0.06 |

*Note 1: Residences in Ponderosa Palisades neighborhood are assumed to be 80 percent full-time residences and 20 percent second homes.*

*Source: ITE Trip Generation Manual, 6th Edition, 1997.*

The trip generation rates identified above take into account incidental trips associated with each land use, including service trips, employee trips and commute trips by residents and employees.

A summary of the total number of trips generated by each Alternative is summarized in **Appendix 4.4** and in **Table 4.4-14.**

**Estimation of 2021 Traffic Volumes**

In order to estimate 2021 traffic volumes, the full build-out of the Town of Truckee General Plan land uses was assumed as well as planned development in Nevada County and anticipated increases in traffic volumes that feed into the Martis Valley area. In addition, the land uses proposed by each Martis Valley land use Alternative were also added to the model. Model runs were conducted to estimate future 2021summer volumes. Please note that the 2021 model network contains the Third Tahoe Donner Connection, which would connect SR 89 to Northwoods Boulevard and Bridge Street in Downtown Truckee. The model also contains Sawmill Flat Road and Highlands Drive in the Northstar area, both of which have been approved to be constructed as part of the Northstar Employee Housing development. Because the model is calibrated to provide estimates of summer P.M. peak-hour volumes only, the winter volumes were estimated by applying factors to summer turning-movement volumes and then balancing the volumes along SR 267 and Brockway Road. This was accomplished in the following steps:

1. The amount of traffic generated by skiers at the Northstar-at-Tahoe Ski area was estimated based upon the data provided in the *Northstar-at-Tahoe 2000-2001 Winter Season Traffic Monitoring Program Report* (LSC, August, 2001). The skier traffic generated by skiers at the Northstar-At-Tahoe ski area was subtracted from the peak winter traffic volumes to estimate all non-skier winter traffic.

2. A ratio of summer to non-skier winter turning movement volumes was estimated at each of the study intersections.

3. The summer to winter ratio was applied to all summer 2021 turning-movement volumes to estimate peak winter non-skier traffic volumes. The volumes were balanced along the SR 267 corridor and Brockway Road.

4. The skier traffic was then added back to the winter non-skier volumes to estimate 2021 peak winter traffic volumes. The traffic generated by the Siller Ranch ski area access was also added to the winter volumes for all scenarios. The traffic generated by the Siller Ranch ski area access was estimated based upon the existing traffic levels generated by Northstar-At-Tahoe ski area. The ratio of acreage at the Northstar-At-Tahoe ski area to the proposed acreage of the Siller Ranch ski area access was applied to the traffic generated by the Northstar-At-Tahoe ski area to estimate the Siller Brothers ski area access trip generation. The 30$^{th}$ highest winter hour was estimated by adding the 30$^{th}$ highest hour skier traffic volumes onto the winter non-skier traffic volumes.

ADT volumes were estimated for 2021 forecast conditions. It is only necessary to consider summer ADT values, as the comparison between future 2021 summer and winter ADT levels indicates that summer ADT represents a "worst case" condition for traffic over an entire day. An analysis of future daily traffic volumes along Northstar Drive was conducted to validate this point. The data contained in the Northstar-at-Tahoe 2000-2001 Winter Season Traffic Monitoring Program Report was used to estimate the non-skier ADT on Northstar Drive during the day of the 30th highest winter peak hour traffic volume. Based upon the observed traffic volumes and the

recorded number of skiers that bought tickets at Northstar-At-Tahoe that day, it is estimated that approximately 45 percent of the traffic on Northstar Drive during a winter day is generated by skiers. Next, it was determined based on existing counts that the winter non-skier ADT on Northstar Drive is approximately 70 percent of the summer ADT. Therefore, the winter ADT on Northstar Drive can be assumed to be equal to 70 percent of the summer ADT plus the skier traffic. Applying these results to the future 2021 traffic volumes indicates that the winter ADT remains less than the summer ADT in the future. ADT volumes were estimated based upon the peak-hour forecasts discussed above, multiplied by the factors presented in Section 4.4.1.

A more detailed description of the 2021 traffic volume estimation may be found in **Appendix 4.4.**

**TABLE 4.4-14**
**ESTIMATED TRIP GENERATION FOR EACH LAND USE MAP ALTERNATIVE**

| | Quantity | Unit | Weekday P.M. Peak-Hour Trip Rate (3) | Daily Trip Rate (3) | Weekday P.M. Peak-Hour Trips | Daily Trips |
|---|---|---|---|---|---|---|
| **Existing Martis Valley General Plan Land Use Map (AA)** | | | | | | |
| Single-Family Dwelling Units | 3,503 | DU(1) | 0.45 | 4.44 | 1,576 | 15,553 |
| Multi-Family Dwelling Units | 7,604 | DU | 0.36 | 3.7 | 2,737 | 28,135 |
| General Commercial | 227 | KSF(2) | 2.59 | 40.67 | 588 | 9,232 |
| Office | 723 | KSF | 1.49 | 11.01 | 1,077 | 7,960 |
| Tourist Commercial | 732 | KSF | 2.59 | 40.67 | 1,896 | 29,770 |
| Golf Course (4) | 41 | Holes | 3.56 | 35.74 | 146 | 1,465 |
| Single-Family Dwelling Units in Palisades Neighborhood | 449 | DU | 0.88 | 8.29 | 395 | 3,722 |
| Recreational | 130 | Acres | 0.06 | 2.28 | 8 | 296 |
| *Total* | -- | -- | -- | -- | *8,474* | *96,631* |
| **Proposed Land Use Diagram** | | | | | | |
| Single-Family Dwelling Units | 4,282 | DU | 0.45 | 4.44 | 1,927 | 19,012 |
| Multi-Family Dwelling Units | 4,489 | DU | 0.36 | 3.7 | 1,616 | 16,609 |
| General Commercial | 270 | KSF | 2.59 | 40.67 | 699 | 10,981 |
| Office | 357 | KSF | 1.49 | 11.01 | 532 | 3,931 |
| Tourist Commercial | 563 | KSF | 2.59 | 40.67 | 1,458 | 22,897 |
| Golf Course | 41 | Holes | 3.56 | 35.74 | 146 | 1,465 |
| Single-Family Dwelling Units in Palisades Neighborhood | 449 | DU | 0.88 | 8.29 | 395 | 3,722 |
| Recreational | 0 | Acres | 0.06 | 2.28 | 0 | 0 |
| *Total* | -- | -- | -- | -- | *6,773* | *78,617* |
| *Percent of Existing General Plan* | -- | -- | -- | -- | *79.9%* | *81.8%* |
| **Alternative 1 Land Use Map (AB)** | | | | | | |
| Single-Family Dwelling Units | 8,009 | DU | 0.45 | 4.44 | 3,604 | 35,560 |
| Multi-Family Dwelling Units | 1,853 | DU | 0.36 | 3.7 | 667 | 6,856 |
| General Commercial | 192 | KSF | 2.59 | 40.67 | 497 | 7,809 |
| Office | 314 | KSF | 1.49 | 11.01 | 468 | 3,457 |
| Tourist Commercial | 714 | KSF | 2.59 | 40.67 | 1,849 | 29,038 |
| Golf Course | 41 | Holes | 3.56 | 35.74 | 146 | 1,465 |
| Single-Family Dwelling Units in Palisades Neighborhood | 449 | DU | 0.88 | 8.29 | 395 | 3,722 |
| Recreational | 0 | Acres | 0.06 | 2.28 | 0 | 0 |
| *Total* | -- | -- | -- | -- | *7,626* | *87,907* |
| *Percent of Existing Community Plan* | -- | -- | -- | -- | *89.9%* | *90.9%* |
| **Alternative 2 Land Use Map (AC)** | | | | | | |
| Single-Family Dwelling Units | 3,018 | DU | 0.45 | 4.44 | 1,358 | 13,400 |
| Multi-Family Dwelling Units | 4,489 | DU | 0.36 | 3.7 | 1,616 | 16,609 |
| General Commercial | 253 | KSF | 2.59 | 40.67 | 655 | 10,290 |
| Office | 357 | KSF | 1.49 | 11.01 | 532 | 3,931 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Tourist Commercial | 563 | KSF | 2.59 | 40.67 | 1,458 | 22,897 |
| Golf Course | 41 | Holes | 3.56 | 35.74 | 146 | 1,465 |
| Single-Family Dwelling Units in Palisades Neighborhood | 449 | DU | 0.88 | 8.29 | 395 | 3,722 |
| Recreational | 0 | Acres | 0.06 | 2.28 | 0 | 0 |
| *Total* | -- | -- | -- | -- | *6,160* | *72,314* |
| *Percent of Existing Community Plan* | -- | -- | -- | -- | *72.7%* | *75.2%* |

*Note 1: DU = dwelling units.*
*Note 2: KSF=1,000 square feet of floor area.*
*Note 3: Trip Rates based upon the ITE Trip Generation Manual (TRB, 1997).*
*Note 4: Adjusted to reflect private versus public golf facilities.*

### Conceptual Future Development Plans for Northstar Area

While no formal application has been presented to the County, East West Partners has indicated that the current conceptual plan for the area is to relocate Sawmill Flat Road from its current location (near the southern leg of the Northstar Drive/Basque Road intersection) eastward approximately 1,000 feet to a location near the existing gas station, where a roundabout would be built. The north (fourth) leg of the Northstar Drive/Sawmill Flat Road intersection would provide access to approximately 1,800 day skier intercept parking spaces, which would be relocated from its current location north of the Village. The relocation of these parking spaces would substantially reduce winter peak-hour traffic volumes along Northstar Drive west of the skier intercept parking lot. As the project has yet to be officially proposed and to remain conservative in this analysis, the relocation of these spaces was not assumed for the base case 2021 traffic conditions.

It was estimated based upon the historical operation of ski resorts in the Sierra that 40 percent of day skiers exit the ski resort during the PM peak hour. This percentage was applied to the potential 1,240 relocated parking spaces to estimate the total number of vehicles that would exit during the PM peak hour would be relocated. Based upon this analysis, it was estimated that moving 1,240 skier parking spaces could relocate approximately 496 PM peak-hour exiting trips. However, assuming a capacity of 30 people on the shuttle buses used to transport skiers and a 2.46 vehicle occupancy rate, per the *Northstar-At-Tahoe 2000-2001 Winter Season Traffic Monitoring Program Report,* 40 1-way bus trips would also be generated during the PM peak hour. Therefore the relocation of the skier parking would increase westbound traffic PM peak hour traffic on Northstar Drive by 40 trips and decrease the eastbound PM peak hour traffic by 456 trips.

### Analysis of Roadway Improvement Options/Scenarios

Intersection LOS was calculated for 2 future roadway scenarios, as depicted in **Figure 4.4-4,** both of which contain the SR 267 Bypass (with 1 travel lane in each direction), a traffic signal at the SR 267/Airport Road/Schaffer Mill Road and Bridge Street/Donner Pass Road intersections, as well as some additional intersection turn lanes that are already programmed for construction. Both roadway networks also assume a full-access roadway connection between Big Springs Drive and Sawmill Flat Road, creating a loop through the Northstar mid-mountain area south of Northstar Drive. The two scenarios analyzed were as follows:

> Proposed Roadway Network (No Schaffer Mill Road Connections) -- This roadway improvement option is currently proposed as part of the Martis Valley Community Plan Update and includes the widening of SR 267 to 2 lanes in each direction, from a point just south of Northstar Drive to Interstate 80 via the SR 267 Bypass.

All Connections Option (All Connections) -- This roadway improvement option contains a 4-lane SR 267, a Northstar Connector, and a Palisades Connector. The Northstar Connector would provide a connection from Schaffer Mill Road southward to the Northstar area. The exact alignment of this roadway has also not been determined, although the link lengths used in the model represent the most reasonable alignment connecting Big Springs Drive to Shaffer Mill Road just west of the Lahontan parcel. This roadway was entered into the Town of Truckee Model with an operating speed of 25 miles per hour. The Palisades Connector would provide between 1 and 3 connection(s) from Schaffer Mill Road to the Ponderosa Palisades/Sierra Meadows neighborhood to the north.

While there are 3 existing roadways that have been "stubbed out" to potentially provide this connection, the exact alignment of this connection (or connections) has not been determined. The amount of traffic that might divert onto this connector would vary slightly based upon the alignment chosen. However, because this is a planning level document and the Town of Truckee Model is a macro model, the most reasonable location of the roadway was chosen and entered into the Town of Truckee Model, with an operating speed of 25 miles per hour, comparable to other roadways contained within the model with similar characteristics.

Please note that traffic volumes were also generated for a roadway Alternative, which contains a 4-lane SR 267 and a Northstar Connector, as well as a two-lane SR 267. While the intersection LOS was not analyzed for these roadway Alternatives, the turning-movement volumes resulting on these roadway Alternatives are shown in the Appendices.

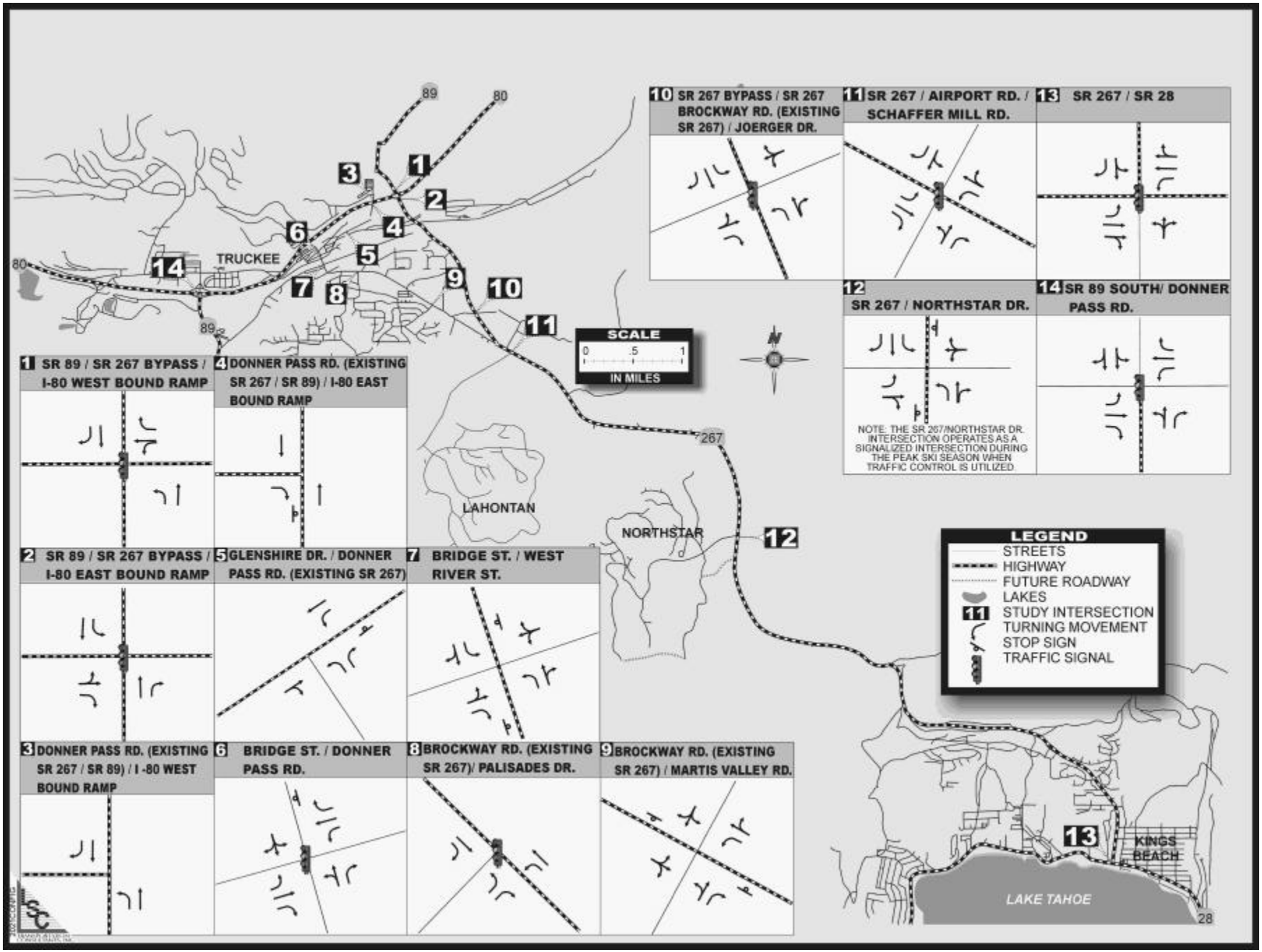
PROJECT IMPACTS AND MITIGATION MEASURES

**Impact 4.4.1 Potential to Exceed an Established Level of Service Standard**

**PP** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of the Proposed Land Use Diagram for up to 8 intersections in the Town of Truckee, and 3 intersections and 2 roadway segments in Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **significant** impact.

**AA** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of this land use Alternative for up to 8 intersections in the Town of Truckee, and 3 intersections and 1 roadway segment in Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **significant** impact.

**AB** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of this land use Alternative for up to 8 intersections in the Town of Truckee, and 3 intersections and 2 roadway segments in Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **significant** impact.




PMC

SOURCE: LSC, 2002

FIGURE 4.4-4
YEAR 2021 INTERSECTION CONFIGURATIONS

**AC** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of this land use Alternative for up to 8 intersections in the Town of Truckee, and 3 intersections and 2 roadway segments in Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **significant** impact.

***PP Proposed Land Use Diagram***

Each intersection was analyzed using the Traffix Software package (Dowling Associates, 2000). Using the Traffix traffic analysis software package, the improvements required to obtain an adequate LOS at each intersection were determined. Within the Town of Truckee, the LOS standard only applies to the summer peak weekday PM peak hour. However, within Placer County the LOS standards apply to both the summer and winter peak periods analyzed. Two scenarios were analyzed for the Proposed Land Use Diagram. The traffic volumes that would result on the 2 roadway networks ("No Schaffer Mill Road Connections" and "All Connections") were analyzed.

As shown in **Table 4.4-15**, intersection LOS standards are forecast to be exceeded under the Proposed Land Use Diagram for the following intersections in the Town of Truckee under each roadway improvement option:

- SR 89/SR 267 Bypass/I-80 Westbound;
- SR 89/SR 267 Bypass/I-80 Eastbound;
- Glenshire Drive/Donner Pass Road (Existing SR 267);
- Bridge Street/Donner Pass Road;
- Bridge Street/West River Street;
- Brockway Road/Martis Valley Road;
- SR 267 Bypass/SR 267/Brockway Road (Existing SR 267)/Joerger Drive; and
- SR 89 South/Donner Pass Road.

Intersection LOS standards are forecast to be exceeded under the Proposed Land Use Diagram for the following intersections within Placer County are:

- SR 267/Airport Road/Schaffer Mill Road;
- SR 267/Northstar Drive; and
- SR 267/SR 28.

**TABLE 4.4-15**
**2021 INTERSECTION LOS UNDER PP: PROPOSED LAND USE DIAGRAM**

| Bold text indicates that LOS threshold exceeded. | | Roadway Network: | All Connections | | No Schaffer Mill Road Connections | |
|---|---|---|---|---|---|---|
| | | Land Use: | Proposed | | Proposed | |
| Intersection | Type of Control | Design Period: | Summer Weekday LOS | Winter Weekend LOS | Summer Weekday LOS | Winter Weekend LOS |
| SR 89/SR 267 Bypass/I-80 Westbound | Traffic Signal | Total Int. | **F** | **E** | **F** | **E** |
| SR 89/SR 267 Bypass/I-80 Eastbound | Traffic Signal | Total Int. | **F** | B | **F** | C |
| DPR(Existing 267/89)/I-80 Westbound | Stop-Controlled | Worst Mvmnt. | B | B | B | B |
| | | Total Int. | A | A | A | A |
| DPR(Existing 267/89)/I-80 Eastbound | Stop-Controlled | Worst Mvmnt. | C | B | C | B |
| | | Total Int. | A | A | A | A |
| Glenshire Drive/DPR(Existing SR 267) | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/Donner Pass Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/West River Street | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Brockway Rd/Palisades Dr | Traffic Signal | Total Int. | C | C | C | B |
| Brockway Rd/Martis Valley Rd | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| 267Bypass/267/Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Airport Road/Schaffer Mill Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Northstar Drive | Stop-Controlled (1) | Worst Mvmnt. | **F** | TC | **F** | TC |
| | | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/SR 28 | Traffic Signal | Total Int. | E | **F** | **F** | **F** |
| SR 89 South/Donner Pass Road | Traffic Signal | Total Int. | **E** | D | **E** | D |

*1 Traffic control program operates at SR 267/Northstar Drive during peak ski season, indicated by "TC."*

In addition, as shown in the tables found in **Appendix 4.4** and **Table 4.4-16**, roadway LOS standards are forecast to be exceeded along the following roadways under "No Schaffer Mill Road Connections" and "All Connections":

- Schaffer Mill Road, from SR 267 to the Hopkins Ranch access, unless the Northstar Drive Connector is built which would extend the section on which the LOS threshold is exceeded to the Eaglewood access.

- Northstar Drive, from SR 267 to Basque Drive, unless the Northstar Drive Connection is built.

Please note that the need to widen SR 267 to four lanes between Northstar Drive and Schaffer Mill Road/Airport Road would be avoided if the Northstar Connector were built (with or without the Palisades Connector). In addition, the portion of SR 267 from I-80 to Brockway Road would not need to be widened to four lanes to maintain an adequate LOS (LOS D or better) under any of the roadway network alternatives.

Also note that the construction of the Palisades Connector in the absence of the Northstar Connector would not reduce traffic volumes on SR 267 between Airport Road/Schaffer Mill Road and Brockway Road sufficient to avoid the need to provide four travel lanes as mitigation to the LOS F along this roadway segment. In addition, while the provision of a Palisades Connector does reduce traffic volumes along Schaffer Mill Road, it does not reduce traffic volumes sufficient to avoid the need to provide four lanes along Schaffer Mill Road as mitigation to the LOS F condition along this roadway segment.

Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a significant impact.

**TABLE 4.4-16**
**UNMITIGATED ROADWAY LOS**

| Bold text indicates LOS threshold is exceeded | Unmitigated Roadway Level Of Service | | |
|---|---|---|---|
| | **Existing Roadway Network** | **Proposed Roadway Option: 4-Lane SR 267 With No Schaffer Mill Road Connections** | **4-Lane SR 267 plus All Connectors Option** |
| **Proposed Land Use Diagram (PP)** | | | |
| SR 267 Bypass I-80 to Old Brockway Road | C (2) | A (2) | A (2) |
| SR 267 Old Brockway Road to Schaffer Mill Road | **F** | E | E |
| SR 267 Schaffer Mill Road to Northstar Drive | **F** | D | D (2) |
| Schaffer Mill Road West of SR 267 | **E** | **E** | **F** |
| Northstar Drive West of SR 267 | **E** | **E** | C (2) |
| **Existing Martis Valley General Plan Land Use Map (AA)** | | | |
| SR 267 Bypass I-80 to Old Brockway Road | **F** | B | B |
| SR 267 Old Brockway Road to Schaffer Mill Road | **F** | E | E |
| SR 267 Schaffer Mill Road to Northstar Drive | **F** | D | D |
| Schaffer Mill Road West of SR 267 | **F** | **F** | **F** |
| Northstar Drive West of SR 267 | D | D | C (2) |
| **Alternative 1 Land Use Map (AB)** | | | |
| SR 267 Bypass I-80 to Old Brockway Road | D (2) | A (2) | A (2) |
| SR 267 Old Brockway Road to Schaffer Mill Road | **F** | E | E |
| SR 267 Schaffer Mill Road to Northstar Drive | **F** | D | D (2) |
| Schaffer Mill Road West of SR 267 | **F** | **F** | **F** |
| Northstar Drive West of SR 267 | **E** | **E** | C (2) |
| **Alternative 2 Land Use Map (AC)** | | | |
| SR 267 Bypass I-80 to Old Brockway Road | C (2) | A (2) | A (2) |
| SR 267 Old Brockway Road to Schaffer Mill Road | **F** | E | E |
| SR 267 Schaffer Mill Road to Northstar Drive | **F** | D | D (2) |
| Schaffer Mill Road West of SR 267 | **E** | **E** | **F** |
| Northstar Drive West of SR 267 | **E** | **E** | C (2) |

*Note 1: Roadway LOS standard is D in the Town of Truckee, LOS E along SR 267 in Placer County, and LOS D on all other arterial roadways in Placer County.*
*Note 2: Four lanes not required to attain LOS standard.*
*General Note: The 4-lane SR is the Community Plan proposed Circulation Diagram. The roadway network that does not contain the widening of SR 267 to four lanes was analyzed simply to depict whether the widening is required to maintain adequate LOS or not.*

### *AA Existing Martis Valley General Plan Land Use Alternative*

As shown in **Table 4.4-17**, the intersection LOS standards forecast to be exceeded under this land use Alternative are the same as those forecasted under the Proposed Land Use Diagram (PP).

**TABLE 4.4-17**
**2021 INTERSECTION LOS UNDER AA: EXISTING MARTIS VALLEY GENERAL PLAN LAND USE MAP**

| Bold text indicates that LOS threshold exceeded. | | Roadway Network: | All Connections | | No Schaffer Mill Road Connections | |
|---|---|---|---|---|---|---|
| | | Land Use: | Existing Community Plan | | Existing Community Plan | |
| | | Design Period: | Summer Weekday LOS | Winter Weekend LOS | Summer Weekday LOS | Winter Weekend LOS |
| **Intersection** | **Type of Control** | | | | | |
| SR 89/SR 267 Bypass/I-80 Westbound | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 89/SR 267 Bypass/I-80 Eastbound | Traffic Signal | Total Int. | **F** | C | **F** | C |
| DPR(Existing 267/89)/I-80 Westbound | Stop-Controlled | Worst Mvmnt. | B | B | B | B |
| | | Total Int. | A | A | A | A |
| DPR(Existing 267/89)/I-80 Eastbound | Stop-Controlled | Worst Mvmnt. | C | B | C | B |
| | | Total Int. | A | A | A | A |
| Glenshire Drive/DPR(Existing SR 267) | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/Donner Pass Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/West River Street | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Brockway Rd/Palisades Dr | Traffic Signal | Total Int. | C | C | C | C |
| Brockway Rd/Martis Valley Rd | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| 267Bypass/267/Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Airport Road/Schaffer Mill Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Northstar Drive | Stop-Controlled (1) | Worst Mvmnt. | **F** | TC | **F** | TC |
| | | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/SR 28 | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 89 South/Donner Pass Road | Traffic Signal | Total Int. | **E** | D | **E** | D |

*1 Traffic control program operates at SR 267/Northstar Drive during peak ski season, indicated by "TC."*

In addition, as shown in the tables found in **Appendix 4.4** and **Table 4.4-16**, roadway LOS standards are forecast to be exceeded along the following roadway:

- Schaffer Mill Road, from SR 267 to the Lahontan Property access for all roadway Alternatives.

The construction of the Palisades Connector in the absence of the Northstar Connector would not reduce traffic volumes on SR 267 between Airport Road/Schaffer Mill Road and Brockway Road sufficient to avoid the need to provide 4 travel lanes as mitigation to the LOS F along this roadway segment. In addition, while the provision of a Palisades Connector does reduce traffic volumes along Schaffer Mill Road, it does not reduce traffic volumes sufficient to avoid the need

to provide four lanes along Schaffer Mill Road as mitigation to the LOS F condition along this roadway segment. In addition, the portion of SR 267 from I-80 to Brockway Road would not need to be widened to four lanes to maintain an adequate LOS (LOS D or better) under any of the roadway network Alternatives, except the Existing Martis Valley General Plan Alternative (AA). Under this Alternative four lanes from I-80 to Brockway Road would be required to maintain an adequate LOS.

Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a significant impact.

### *AB Alternative 1 Land Use Map*

As shown in **Table 4.4-18**, the intersection LOS standards forecast to be exceeded under this land use Alternative are the same as under the Proposed Land Use Diagram (PP).

**TABLE 4.4-18**
**2021 INTERSECTION LOS UNDER AB: ALTERNATIVE 1 LAND USE MAP**

| Bold text indicates that LOS threshold exceeded. | | Roadway Network: | All Connections | | No Schaffer Mill Road Connections | |
|---|---|---|---|---|---|---|
| | | Land Use: | Alternative 1 | | Alternative 1 | |
| Intersection | Type of Control | Design Period: | Summer Weekday LOS | Winter Weekend LOS | Summer Weekday LOS | Winter Weekend LOS |
| SR 89/SR 267 Bypass/I-80 Westbound | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 89/SR 267 Bypass/I-80 Eastbound | Traffic Signal | Total Int. | **F** | C | **F** | C |
| DPR(Existing 267/89)/I-80 Westbound | Stop-Controlled | Worst Mvmnt. | B | B | B | B |
| | | Total Int. | A | A | A | A |
| DPR(Existing 267/89)/I-80 Eastbound | Stop-Controlled | Worst Mvmnt. | C | B | C | B |
| | | Total Int. | A | A | A | A |
| Glenshire Drive/DPR(Existing SR 267) | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/Donner Pass Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/West River Street | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Brockway Rd/Palisades Dr | Traffic Signal | Total Int. | C | C | C | C |
| Brockway Rd/Martis Valley Rd | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| 267Bypass/267/Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Airport Road/Schaffer Mill Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Northstar Drive | Stop-Controlled (1) | Worst Mvmnt. | **F** | TC | **F** | TC |
| | | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/SR 28 | Traffic Signal | Total Int. | E | **F** | E | **F** |
| SR 89 South/Donner Pass Road | Traffic Signal | Total Int. | **E** | D | **E** | D |

*1 Traffic control program operates at SR 267/Northstar Drive during peak ski season, indicated by "TC."*

In addition, as shown in the tables found in **Appendix 4.4** and **Table 4.4-16**, roadway LOS standards are forecast to be exceeded along the following roadways:

- Schaffer Mill Road from SR 267 to the Lahontan Property access for all roadway Alternatives; and
- Northstar Drive between SR 267 and Basque Drive unless the Northstar Drive Connector is built.

Please note that the need to widen SR 267 to four lanes between Northstar Drive and Schaffer Mill Road/Airport Road would be avoided if the Northstar Connector were built (with or without the Palisades Connector). In addition, the portion of SR 267 from I-80 to Brockway Road would not need to be widened to four lanes to maintain an adequate LOS (LOS D or better) under any of the roadway network Alternatives.

Also note that the construction of the Palisades Connector in the absence of the Northstar Connector would not reduce traffic volumes on SR 267 between Airport Road/Schaffer Mill Road and Brockway Road sufficient to avoid the need to provide 4 travel lanes as mitigation to the LOS F along this roadway segment. In addition, while the provision of a Palisades Connector does reduce traffic volumes along Schaffer Mill Road, it does not reduce traffic volumes sufficient to avoid the need to provide four lanes along Schaffer Mill Road as mitigation to the LOS F condition along this roadway segment.

Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a significant impact.

### *AC Alternative 2 Land Use Map*

As shown in **Table 4.4-19**, intersection LOS standards could potentially be exceeded under this land use Alternative for the same intersections as with the Proposed Land Use Diagram (PP).

**TABLE 4.4-19**
**2021 INTERSECTION LOS UNDER AC: LAND USE ALTERNATIVE 2**

| Bold text indicates that LOS threshold exceeded. | | Roadway Network: | All Connections | | No Schaffer Mill Road Connections | |
|---|---|---|---|---|---|---|
| | | Land Use: | Alternative 2 | | Alternative 2 | |
| Intersection | Type of Control | Design Period: | Summer Weekday LOS | Winter Weekend LOS | Summer Weekday LOS | Winter Weekend LOS |
| SR 89/SR 267 Bypass/I-80 Westbound | Traffic Signal | Total Int. | **F** | **E** | **F** | **E** |
| SR 89/SR 267 Bypass/I-80 Eastbound | Traffic Signal | Total Int. | **F** | C | **F** | C |
| DPR(Existing 267/89)/I-80 Westbound | Stop-Controlled | Worst Mvmnt. | B | B | B | B |
| | | Total Int. | A | A | A | A |
| DPR(Existing 267/89)/I-80 Eastbound | Stop-Controlled | Worst Mvmnt. | C | B | C | B |
| | | Total Int. | A | A | A | A |
| Glenshire Drive/DPR(Existing SR 267) | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/Donner Pass Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| Bridge Street/West River Street | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| Brockway Rd/Palisades Dr | Traffic Signal | Total Int. | C | C | C | B |
| Brockway Rd/Martis Valley Rd | Stop-Controlled | Worst Mvmnt. | **F** | **F** | **F** | **F** |
| | | Total Int. | **F** | **F** | **F** | **F** |
| 267Bypass/267/Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Airport Road/Schaffer Mill Road | Traffic Signal | Total Int. | **F** | **F** | **F** | **F** |
| SR 267/Northstar Drive | Stop-Controlled (1) | Worst Mvmnt. | **F** | TC | **F** | TC |
| | | Total Int. | **F** | **E** | **F** | **F** |
| SR 267/SR 28 | Traffic Signal | Total Int. | D | **F** | D | **F** |
| SR 89 South/Donner Pass Road | Traffic Signal | Total Int. | **E** | D | **E** | D |

*1 Traffic control program operates at SR 267/Northstar Drive during peak ski season, indicated by "TC."*

In addition, as shown in the tables found in **Appendix 4.4** and **Table 4.4-16**, roadway LOS standards are forecast to be exceeded along the following roadways:

- Schaffer Mill Road, from SR 267 to the Hopkins Ranch Property access unless the Northstar Connector Roadway is built, in which case it will need to be widened from SR 267 to the Eaglewood access;
- Northstar Drive between SR 267 and Basque Drive, unless the Northstar Drive Connector is built.

Please note that the need to widen SR 267 to four lanes between Northstar Drive and Schaffer Mill Road/Airport Road would be avoided if the Northstar Connector were built (with or without the Palisades Connector). In addition, the portion of SR 267 from I-80 to Brockway Road would not need to be widened to four lanes to maintain an adequate LOS (LOS D or better) under any of the roadway network Alternatives.

The construction of the Palisades Connector in the absence of the Northstar Connector would not reduce traffic volumes on SR 267 between Airport Road/Schaffer Mill Road and Brockway Road sufficient to avoid the need to provide four travel lanes as mitigation to the LOS F along this roadway segment. In addition, while the provision of a Palisades Connector does reduce traffic volumes along Schaffer Mill Road, it does not reduce traffic volumes sufficient to avoid the need to provide four lanes along Schaffer Mill Road as mitigation to the LOS F condition along this roadway segment.

Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a significant impact.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan listed below. Compliance with these plan policies and implementation programs would provide some mitigation to traffic impacts.

*Policy 5.A.3* *The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes, as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations.*

*Policy 5.A.4* *On highways, intersection spacing should be maximized. Driveway encroachments along collector roadways shall be minimized. Access control restrictions for each class of roadway in the county are specified in Part I of the Placer County General Plan Document.*

*Policy 5.A.7* *The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS).*

*a. LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D".*

*b. LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D".*

*The County may allow exceptions to these level of service (LOS) standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:*

- *The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.*
- *The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.*
- *The right-of-way needs and the physical impacts on surrounding properties.*

- *The visual aesthetics of the required improvement and its impact on community identity and character.*

- *Environmental impacts including air quality and noise impacts.*

- *Construction and right-of-way acquisition costs.*

- *The impacts on general safety.*
- *The impacts of the required construction phasing and traffic maintenance.*
- *The impacts on quality of life as perceived by residents.*

- *Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards*

*Exceptions to the standards will only be allowed after all feasible measures and options are explored, including Alternative forms of transportation.*

*Policy 5.A.8* *The County's LOS standard for State Route 267 shall be no worse than E.*

*Policy 5.A.9* *The County shall explore with neighboring jurisdictions acceptable and compatible levels of service and joint funding of projects to improve the transportation system.*

*Policy 5.A.10* *The County shall strive to meet the level of service standards through a balanced transportation system that provides Alternatives to the automobile.*

*Policy 5.A.11* *It shall be at the discretion of the County to determine if an analysis of traffic will be required for land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include the project's fair share of improvements that may also provide benefits to others.*

*Policy 5.A.12* *The County shall work to secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.*

*Policy 5.A.13* *The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., work force housing, needed health facilities) and when Alternative sources of funding can be identified to offset foregone revenues.*

*Policy 5.A.14* *Placer County shall participate with other jurisdictions and Caltrans in the planning and programming of improvements, as well as maintaining the adopted level of service (LOS), for State Highway 267 in accordance with state and federal transportation planning and programming procedures, so as to maintain acceptable levels of service for Placer County residents and visitors in Martis Valley.*

*Policy 5.A.15* *The County shall coordinate the road network and Alternative transportation systems within the Community Plan area with similar systems in surrounding areas.*

*Policy 5.C.1* *The County shall promote the use of transportation systems management (TSM)/transportation demand management (TDM) programs that divert automobile commute trips to transit, walking, and bicycling.*

*Policy 5.C.2* *The County shall promote the use, by both the public and private sectors, of TSM/TDM programs that increase the average occupancy of vehicles.*

*Policy 5.C.3* *The County shall work with other responsible agencies to develop other measures to reduce vehicular travel demand and meet air quality goals.*

*Policy 5.C.4* *During the development review process, the County shall require that proposed projects meet adopted Trip Reduction Ordinance (TRO) requirements.*

*Implementation Programs*

1. *Review development projects for compliance with the goals, policies and specific discussions contained in the Transportation and Circulation Section and throughout the Plan.*

   *Responsible Agency/Department: Land Development Departments, Board of Supervisors*
   *Time frame: Ongoing*
   *Funding: Application fees*

2. *Prepare and adopt an ordinance implementing traffic mitigation fees for the Roadway Capital Improvement Program.*

   *Responsible Agency/Department: Department of Public Works, Board of Supervisors*
   *Time frame: On-going*
   *Funding: Road Fund/Fees*

3. *Coordinate transportation planning with the Placer County Transportation Planning Agency, adjacent jurisdictions, and Caltrans.*

   *Responsible Agency/Department: Department of Public Works*
   *Time frame: Ongoing*
   *Funding: Road Fund*

5. *Pursue other sources of funding for transportation improvements.*

   *Responsible Agency/Department: County Executive, Department of Public Works*
   *Time frame: Ongoing*
   *Funding: General Fund/Road Fund*

6. *Continue existing transportation construction and maintenance programs.*

*Responsible Agency/Department: Department of Public Works, Caltrans*
*Time frame: Ongoing*
*Funding: Varied*

Mitigation Measures

The following mitigation measure shall be incorporated into the Implementation Programs portion of the Transportation and Circulation Section of the Martis Valley Community Plan. The following mitigation measure applies to PP, AA, AB and AC.

**MM 4.4.1a** The County shall establish a capital improvement program for the land use map and roadway improvements ultimately approved by the County for the improvements identified in **Tables 4.4-20** through **4.4-25** (depending on the land use map adopted). This would include funding and coordination for traffic improvements associated with impacts identified in the Town of Truckee as well as to state highway facilities (SR 267 and SR 28).

**TABLE 4.4-20**
**2021 INTERSECTION LOS MITIGATION MEASURES FOR PP: PROPOSED LAND USE DIAGRAM**

| Roadway Network: Land Use: Intersection | Type of Control | Type of LOS | Season | All Connections | | No Schaffer Mill Road Connections | |
|---|---|---|---|---|---|---|---|
| | | | | Proposed Land Use Diagram | | Proposed Land Use Diagram | |
| | | | | LOS | Mitigation | LOS | Mitigation |
| SR 89/SR 267 Bypass/ I-80 Westbound | Traffic Signal | Total Int. | Summer | D | Add 2nd NBLTL = 2 Total | D | Add 2nd NBLTL = 2 Total |
| SR 89/SR 267 Bypass/ I-80 Eastbound | Traffic Signal | Total Int. | Summer | D | Add 2nd NBTL = 2 Total | D | Add 2nd NBTL = 2 Total |
| Glenshire Drive/DPR (Existing SR 267) | Stop-Controlled | Total Int. | Summer | D | Signalize Add EBRTL | D | Signalize Add EBRTL |
| Bridge Street/ Donner Pass Road | Signal | Total Int. | Summer | E | Add NBFRTL + Acceleration Lane Add NBLTL (remove L/T shared) Add SBRTL | E | Add NBFRTL + Acceleration Lane Add NBLTL (remove L/T shared) Add SBRTL |
| Bridge Street/ West River Street | Stop-Controlled | Total Int. | Summer | D | Signalize Add SBTL | D | Add SBTL |
| Brockway Rd/ Martis Valley Rd | Stop-Controlled | Total Int. | Summer | B | Signalize | B | Signalize |
| 267Bypass/267/ Brockway Rd/ Joerger Dr | Traffic Signal | Total Int. | Summer | D | Add 2nd NBLTL = 2 Total Add NBTL = 1 Total + T/R Shared Add EBFRTL + Acceleration Lane Add SBTL = 2 Total | D | Add 2nd NBLTL = 2 Total Add NBTL = 1 Total + T/R Shared Add EBFRTL + Acceleration Lane Add SBTL = 2 Total |
| SR 267/Airport Road/ Schaffer Mill Road | Traffic Signal | Total Int. | Summer | D | Add 2 NBTL = 2 Total + T/R Shared Add SBTL = 2 Total Add 2 EBLTL (remove L/T shared) Add EBT/R shared lane Add WBLTL (remove L/T shared) Add WBFRTL + Acceleration Lane | E | Add 2NBTL = 2 Total + T/R Shared Add SBTL = 2 Total Add 2 EBLTL (remove L/T shared) Add EBT/R shared lane Add WBLTL (remove L/T shared) Add WBFRTL + Acceleration Lane |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SR 267/Northstar Drive | Stop-Controlled | Total Int. | Winter | D | Signalize<br>Add NBTL<br>Add EBLTL | D | Signalize<br>Add NBTL<br>Add EBLTL |
| SR 267/SR 28 | Traffic Signal | Total Int. | Winter | D | Add WBFRTL +<br>Acceleration Lane | E | Add WBFRTL +<br>Acceleration Lane |
| SR 89 South/<br>Donner Pass Road | Traffic Signal | Total Int. | Summer | D | Add NBLTL<br>(remove L/T shared)<br>Add SBRTL<br>(remove T/R shared) | D | Add NBLTL<br>(remove L/T shared)<br>Add SBRTL<br>(remove T/R shared) |

**KEY**

NB= Northbound
SB= Southbound
EB= Eastbound
WB= Westbound
TL= Through Lane
LTL= Left-Turn Lane
RTL= Right-Turn Lane
FRT Free-Right Turn Lane

*Notes*

1 *Mitigation represents improvements needed to maintain LOS D/E in Truckee during summer weekday peak, LOS E in Placer County outside the Tahoe Basin during both winter weekend and summer peak weekday hours, and no more than 4 hours of LOS E within the Tahoe Basin during summer or winter hours.*

2 *All item listed are necessary in addition to the base case 2021 roadway geometry.*

### TABLE 4.4-21
### EXTENT OF WIDENING REQUIRED ALONG NORTHSTAR DRIVE AND SCHAFFER MILL ROAD FOR EACH LAND USE ALTERNATIVE AND ROADWAY IMPROVEMENT OPTION

| Roadway to Be Widened | Land Use Map Alternative | Roadway Improvement Option | Roadway Segment to be Widened to Four Lanes |
|---|---|---|---|
| Northstar Drive | PP | Proposed: No Schaffer Mill Road Connections | SR 267 to Basque Road |
| | | All Connections | Widening Not Needed |
| | AA | Proposed: No Schaffer Mill Road Connections | Widening Not Needed |
| | | All Connections | Widening Not Needed |
| | AB | Proposed: No Schaffer Mill Road Connections | SR 267 to Basque Road |
| | | All Connections | Widening Not Needed |
| | AC | Proposed: No Schaffer Mill Road Connections | SR 267 to Basque Road |
| | | All Connections | Widening Not Needed |
| Schaffer Mill Road | PP | Proposed: No Schaffer Mill Road Connections | SR 267 to Hopkins Access |
| | | All Connections | SR 267 to Hopkins Access |
| | AA | Proposed: No Schaffer Mill Road Connections | SR 267 to Lahontan Access |
| | | All Connections | SR 267 to Lahontan Access |
| | AB | Proposed: No Schaffer Mill Road Connections | SR 267 to Siller Access |
| | | All Connections | SR 267 to Siller Access |
| | AC | Proposed: No Schaffer Mill Road Connections | SR 267 to Hopkins Access |
| | | All Connections | SR 267 to Hopkins Access |

**TABLE 4.4-22**
**MITIGATED LOS FOR POTENTIALLY CRITICAL ARTERIAL ROADWAYS**

| | Mitigated Roadway Level Of Service (With Four Lane Roadway) | | |
|---|---|---|---|
| | Existing Roadway Alt. | Proposed: 4-Lane SR 267, No Schaffer Mill Road Connections | four lane SR 267 Plus All Connections |
| **Proposed Land Use Diagram** | | | |
| SR 267 Bypass I-80 to Brockway Road | NA | NA | NA |
| SR 267 Brockway Road to Schaffer Mill Road | E | NA | NA |
| SR 267 Schaffer Mill Road to Northstar Drive | D | NA | NA |
| Schaffer Mill Road West of SR 267 | A | A | A |
| Northstar Drive West of SR 267 | A | A | NA |
| **Existing Martis Valley General Plan** | | | |
| SR 267 Bypass I-80 to Brockway Road | A | NA | NA |
| SR 267 Brockway Road to Schaffer Mill Road | E | NA | NA |
| SR 267 Schaffer Mill Road to Northstar Drive | D | NA | NA |
| Schaffer Mill Road West of SR 267 | C | C | B |
| Northstar Drive West of SR 267 | NA | NA | NA |
| **Alternative 1** | | | |
| SR 267 Bypass I-80 to Brockway Road | NA | NA | NA |
| SR 267 Brockway Road to Schaffer Mill Road | E | NA | NA |
| SR 267 Schaffer Mill Road to Northstar Drive | D | NA | NA |
| Schaffer Mill Road West of SR 267 | B | B | B |
| Northstar Drive West of SR 267 | A | A | NA |
| **Alternative 2** | | | |
| SR 267 Bypass I-80 to Brockway Road | NA | NA | NA |
| SR 267 Brockway Road to Schaffer Mill Road | E | NA | NA |
| SR 267 Schaffer Mill Road to Northstar Drive | D | NA | NA |
| Schaffer Mill Road West of SR 267 | A | A | A |
| Northstar Drive West of SR 267 | A | A | NA |

*Note 1: NA = Not applicable because no mitigation is required.*

**TABLE 4.4-23**
**INTERSECTION LOS MITIGATION MEASURES FOR AA: EXISTING MARTIS VALLEY GENERAL PLAN LAND USE MAP**

| Roadway Network: Land Use: | | | | All Connections Existing Community Plan | | No Schaffer Mill Road Connections Existing Community Plan | |
|---|---|---|---|---|---|---|---|
| **Intersection** | **Type of Control** | **Type of LOS** | **Season** | **LOS** | **Mitigation** | **LOS** | **Mitigation** |
| SR 89/SR 267 Bypass/ I-80 Westbound | Traffic Signal | Total Int. | Summer | D | Add WBLTL= 2 Total<br>Add 2nd NBLTL = 2 Total | D | Add WBLTL = 2 Total<br>Add 2nd NBLTL = 2 Total |
| SR 89/SR 267 Bypass/ I-80 Eastbound | Traffic Signal | Total Int. | Summer | C | Add EBFRTL + Acceleration Lane<br>Add 2nd NBTL = 2 Total | C | Add EBFRTL + Acceleration Lane<br>Add 2nd NBTL = 2 Total |
| Glenshire Drive/DPR (Existing SR 267) | Stop-Controlled | Total Int. | Summer | D | Signalize<br>Add EBRTL | D | Signalize<br>Add EBRTL |
| Bridge Street/ Donner Pass Road | Signal | Total Int. | Summer | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL |
| Bridge Street /West River Street | Stop-Controlled | Total Int. | Summer | E | Signalize<br>Add SBTL | E | Signalize<br>Add SBTL |
| Old Brockway Rd/ Martis Valley Rd | Stop-Controlled | Total Int. | Summer | B | Signalize | C | Signalize |
| 267Bypass/267/ Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | Summer | D | Add 2 NBTL = 2 Total + T/R Shared<br>Add 1SBTL = 2 Total<br>Add 2nd NBLTL = 2 Total<br>Add EBFRTL + Acceleration Lane | D | Add 2 NBTL = 2 Total + T/R Shared<br>Add 2SBTL = 3 Total<br>Add 2nd NBLTL = 2 Total<br>Add EBFRTL + Acceleration Lane |
| SR 267/Airport Road/ Schaffer Mill Road | Traffic Signal | Total Int. | Summer | D | Add 3 NBTL = 3 Total + T/R Shared<br>Add 2 SBTL = 3 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL (remove L/T shared)<br>Add WBFRTL + Acceleration Lane | E | Add 3 NBTL = 3 Total + T/R Shared<br>Add 2 SBTL = 3 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL (remove L/T shared)<br>Add WBFRTL + Acceleration Lane |
| SR 267/Northstar Drive | Stop-Controlled | Total Int. | Winter | E | Signalize<br>Add NBTL<br>Add EBLTL | E | Signalize<br>Add NBTL<br>Add EBLTL |
| SR 267/SR 28 | Traffic Signal | Total Int. | Winter | E | Add WBFRTL + Acceleration Lane | E | Add WBFRTL + Acceleration Lane |
| SR 89 South/ Donner Pass Road | Traffic Signal | Total Int. | Summer | D | Add NBLTL (remove L/T shared)<br>Add SBRTL ( remove T/R shared) | D | Add NBLTL (remove L/T shared)<br>Add SBRTL (remove T/R shared) |

**KEY**

NB= Northbound
SB= Southbound
EB= Eastbound
WB= Westbound
TL= Through Lane
LTL= Left-Turn Lane
RTL= Right-Turn Lane
FRT Free-Right Turn Lane

1 *Mitigation represents improvements needed to maintain LOS D/E in Truckee during summer peak weekday peak, LOS E in Placer County outside the Tahoe Basin during both winter weekend and summer peak weekday hours, and no more than 4 hours of LOS E within the Tahoe Basin during summer or winter hours.*

2 *All item listed are necessary in addition to the base case 2021 roadway geometry.*

**TABLE 4.4-24**
**INTERSECTION LOS MITIGATION MEASURES FOR AB: ALTERNATIVE 1 LAND USE MAP**

| Roadway Network: Land Use: Intersection | Type of Control | Type of LOS | Season | All Connections Alternative 1 | | No Schaffer Mill Road Connections Alternative 1 | |
|---|---|---|---|---|---|---|---|
| | | | | LOS | Mitigation | LOS | Mitigation |
| SR 89/SR 267 Bypass/ I-80 Westbound | Traffic Signal | Total Int. | Summer | D | Add WBLTL = 2 Total<br>Add 2nd NBLTL = 2 Total | D | Add WBLTL = 2 Total<br>Add 2nd NBLTL = 2 Total |
| SR 89/SR 267 Bypass/ I-80 Eastbound | Traffic Signal | Total Int. | Summer | D | Add 2nd NBTL = 2 Total | C | Add EBFRTL + Acceleration Lane<br>Add 2nd NBTL = 2 Total |
| Glenshire Drive/DPR (Existing SR 267) | Stop-Controlled | Total Int. | Summer | D | Signalize<br>Add EBRTL | D | Signalize<br>Add EBRTL |
| Bridge Street/ Donner Pass Road | Signal | Total Int. | Summer | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL |
| Bridge Street/ West River Street | Stop-Controlled | Total Int. | Summer | E | Signalize<br>Add SBTL | D | Signalize<br>Add SBTL |
| Brockway Rd/ Martis Valley Rd | Stop-Controlled | Total Int. | Summer | B | Signalize | B | Signalize |
| 267 Bypass/267/ Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | Summer | D | Add 2 NBTL = 2 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2nd NBLTL = 2 Total<br>Add EBFRTL + Acceleration Lane | D | Add 2 NBTL = 2 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2nd NBLTL = 2 Total<br>Add EBFRTL + Acceleration Lane |
| SR 267/Airport Road/ Schaffer Mill Road | Traffic Signal | Total Int. | Summer | D | Add 2 NBTL = 2 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL (remove L/T shared)<br>Add WBFRTL + Acceleration Lane | E | Add 2 NBTL = 2 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL (remove L/T shared)<br>Add WBFRTL + Acceleration Lane |
| SR 267/Northstar Drive | Stop-Controlled | Total Int. | Winter | D | Signalize<br>Add NBTL<br>Add EBLTL | D | Signalize<br>Add NBTL<br>Add EBLTL |
| SR 267/SR 28 | Traffic Signal | Total Int. | Winter | E | Add WBRTL | E | Add WBRTL |
| SR 89 South/ Donner Pass Road | Traffic Signal | Total Int. | Summer | D | Add NBLTL (remove L/T shared)<br>Add SBRTL (remove T/R shared) | D | Add NBLTL (remove L/T shared)<br>Add SBRTL (remove T/R shared) |

**KEY**

NB= Northbound
SB= Southbound
EB= Eastbound
WB= Westbound
TL= Through Lane
LTL= Left-Turn Lane
RTL= Right-Turn Lane
FRT Free-Right Turn Lane

1 *Mitigation represents improvements needed to maintain LOS D/E in Truckee during summer weekday peak, LOS E in Placer County outside the Tahoe Basin during both winter weekend and summer peak weekday hours, and no more than 4 hours of LOS E within the Tahoe Basin during summer or winter hours.*

2 *All item listed are necessary in addition to the base case 2021 roadway geometry.*

**TABLE 4.4-25**
**INTERSECTION LOS MITIGATION MEASURES FOR AC: ALTERNATIVE 2 LAND USE MAP**

| Roadway Network: Land Use: Intersection | Type of Control | Type of LOS | Season | All Connections Alternative 2 | | No Schaffer Mill Road Connections Alternative 2 | |
|---|---|---|---|---|---|---|---|
| | | | | LOS | Mitigation | LOS | Mitigation |
| SR 89/SR 267 Bypass/ I-80 Westbound | Traffic Signal | Total Int. | Summer | D | Add 2nd NBLTL = 2 Total | D | Add 2nd NBLTL = 2 Total |
| SR 89/SR 267 Bypass/ I-80 Eastbound | Traffic Signal | Total Int. | Summer | D | Add 2nd NBTL = 2 Total | D | Add 2nd NBTL = 2 Total |
| Glenshire Drive/DPR (Existing SR 267) | Stop-Controlled | Total Int. | Summer | D | Signalize<br>Add EBRTL | D | Signalize<br>Add EBRTL |
| Bridge Street/ Donner Pass Road | Signal | Total Int. | Summer | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL | E | Add NBFRTL + Acceleration Lane<br>Add NBLTL (remove L/T shared)<br>Add SBRTL |
| Bridge Street/ West River Street | Stop-Controlled | Total Int. | Summer | D | Signalize<br>Add 2nd SBTL | D | Signalize<br>Add 2nd SBTL |
| Old Brockway Rd/ Martis Valley Rd | Stop-Controlled | Total Int. | Summer | B | Signalize | B | Signalize |
| 267 Bypass/267/ Brockway Rd/Joerger Dr | Traffic Signal | Total Int. | Summer | D | Add 2nd NBLTL = 2 Total<br>Add NBTL = 1 Total + T/R Shared<br>Add EBFRTL + Acceleration Lane<br>Add SBTL = 2 Total | D | Add 2nd NBLTL = 2 Total<br>Add NBTL = 1 Total + T/R Shared<br>Add EBFRTL + Acceleration Lane<br>Add SBTL = 2 Total |
| SR 267/Airport Road/ Schaffer Mill Road | Traffic Signal | Total Int. | Summer | E | Add NBTL = 1 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL (remove L/T shared)<br>Add WBFRTL + Acceleration Lane | E | Add NBTL = 1 Total + T/R Shared<br>Add SBTL = 2 Total<br>Add 2 EBLTL (remove L/T shared)<br>Add EBT/R shared lane<br>Add WBLTL remove L/T shared)<br>Add WBFRTL + Acceleration Lane |
| SR 267/Northstar Drive | Stop-Controlled | Total Int. | Winter | E | Signalize<br>Add NBTL | D | Signalize<br>Add NBTL<br>Add EBLTL |
| SR 267/SR 28 | Traffic Signal | Total Int. | Winter | E | Add WBRTL | E | Add WBRTL |
| SR 89 South/ Donner Pass Road | Traffic Signal | Total Int. | Summer | D | Add NBLTL (remove L/T shared)<br>Add SBRTL (remove T/R shared) | D | Add NBLTL (remove L/T shared)<br>Add SBRTL (remove T/R shared) |

**KEY**
NB=
SB= Southbound
WB= Westbound
TL= Through Lane
RTL= Right-Turn Lane
FRT Free-Right Turn Lane

1 *Mitigation represents improvements needed to maintain LOS D/E in Truckee during summer peak weekday peak, LOS E in Placer County outside the Tahoe Basin during both winter weekend and summer peak weekday hours, and no more than 4 hours of LOS E within the Tahoe Basin during summer or winter hours.*
2 *All item listed are necessary in addition to the base case 2021 roadway geometry.*

Please note that a modern roundabout may be suitable mitigation for intersections that are identified to need a traffic signal. In addition, while the TRPA establishes a LOS D threshold for intersections, it also indicates that LOS E is suitable so long as the LOS E condition is not exceeded for more than 4 hours of the day. Therefore, the mitigation measures identified for the SR 28/SR 267 intersection represent the improvements needed to provide LOS D at the intersection for all but 4 hours per day during which the LOS is E. This conclusion was validated by a review of both summer and winter traffic data along SR 267 and SR 28, which determined that the 5th highest peak hour traffic volumes are between 60 percent and 80 percent of the peak hour. The LOS analysis indicates that the 5th highest peak-hour traffic volumes would result in a LOS D or better for at least 20 hours of the day in the case that the intersection operates at a LOS E during the peak hour.

As shown in **Tables 4.4-16 and 4.4-22**, the Proposed Land Use Diagram, Alternative 1 and 2 could avoid the need to 4-lane SR 267 from Schaffer Mill Road to Northstar Drive if the Northstar Connector is constructed.

Poor LOS conditions requiring intersection improvements at the Bridge Street/West River Street and Bridge Street/Donner Pass Road intersection for all the land use map Alternatives could instead be mitigated by constructing a new roadway (including an additional railroad crossing and Truckee River crossing) to the east of Bridge Street, as identified in the Town of Truckee Downtown Specific Plan (Truckee, 1997). This improvement is part of the Downtown Specific Plan, but was not included in the Town's 2021 roadway network. The Town of Truckee AB 1600 Capital Improvement Program identifies 3 million dollars for an easterly railroad undercrossing, with an additional 3 million dollars coming from other sources, primarily from the developer of the "balloon track" site located south of Glenshire Drive and east of Bridge Street. The Town of Truckee estimates that this facility could divert 41 percent of the traffic off of Bridge Street. However, no preferred alignment has been identified by the Town. Development of this facility could result in impacts to the Truckee River as well as other biological and historic resources in the Truckee Downtown area.

Since the specific design of these roadway improvements has yet to be determined, it is not possible to determine the exact extent of the environmental effects of these improvements. However, these improvements may result in temporary surface water quality, air quality and noise impacts associated with construction; operational noise and air quality impacts; biological resource impacts associated with construction and operation; and cultural resource impacts (especially with conflicts with historic resources in the Truckee Downtown area).

While implementation of the some of the above identified mitigation measures are within the jurisdiction of Placer County to implement, other mitigation measures would require coordination with other jurisdictions (Town of Truckee and Caltrans) to implement and are not under control of the County. In some cases these improvements are identified in capital improvement programs, while other improvements have not been programmed (e.g., widening of SR 267 to four lanes). Given the unknown nature of the timing and funding of these improvements under the 3 jurisdictions (Placer County, Town of Truckee and Caltrans), this impact is considered **significant and unavoidable**.

<u>Optional Mitigation Measure</u>

**MM 4.4.1b** Reduce Land Use Quantities in Martis Valley Community Plan Area.

Alternately, under any of the Alternatives, the land uses allowed under each land use Alternative could be reduced to eliminate the need to widen roadways, particularly SR 267, Northstar Drive, and Schaffer Mill Road.

Under the Proposed Land Use Diagram, the list of roadways which have volumes that exceed LOS standards are shown in **Table 4.4-26**, as well as the reduction in land uses needed to maintain LOS standards. The reduction in ADT (or PM peak-hour one-way trips in the Town of Truckee) that would be required to avoid the need to widen particular roadways to four lanes is also shown in the table. These tables are meant for programmatic planning purposes only. Please note that the location of any trip reductions have a relatively minor impact on whether the traffic volumes would be reduced to adequate levels. For SR 267, the reduction shown indicates the reduction needed in traffic generation for the overall Martis Valley area. For Northstar Drive, the reduction required refers to the total traffic generation of Northstar developments. Finally, the reduction needed for Schaffer Mill Road refers to the reduction needed in traffic generation associated with land uses that are proposed to gain access on Schaffer Mill Road (Lahontan, Siller Ranch, Eaglewood, and Hopkins Ranch).

For example, in order to avoid the need to 4-lane SR 267 from Schaffer Mill Road to Northstar Drive, the total trip generation for the area would need to be reduced by approximately 10 percent. Similarly, the total trip generation along Schaffer Mill Road would need to be reduced by 5 percent unless the Northstar Connector is built or both the Northstar Connector and Palisades connectors are built, in which case the trip generation would need to be reduced by 20 percent or 15 percent, respectively.

**TABLE 4.4-26**
**REDUCTIONS IN MARTIS VALLEY TRIP GENERATION**
**NECESSARY TO MAINTAIN ADEQUATE ROADWAY LOS FOR THE PROPOSED LAND USE DIAGRAM (PP)**

| Roadway | Reduction in Traffic Generation Needed to Avoid Exceeding the Capacity of a 2-Lane Roadway/Reduction in Trips Required | | |
|---|---|---|---|
| | 2021 Existing Roadway | Proposed: 4-Lane SR 267, No Schaffer Mill Road Connections | All Connections |
| SR 267 Bypass Between I-80 and Brockway Road | Note 1 | Note 1 | Note 1 |
| SR 267 Between Brockway Road and Airport Road/Schaffer Mill Road | 90%/15,000 ADT | -- | -- |
| SR 267 Between Airport Road/Schaffer Mill Road and Northstar Drive (1) | 25%/3,000 ADT | -- | Note 2 |
| Schaffer Mill Road West of SR 267 (West end of widening varies) | 5%/500 ADT | 5%/500 ADT | 15%/2,000 ADT |
| Northstar Drive Between SR 267 and Basque Drive (2) | 10%/1,500 ADT or Note 3 | 10%/1,500 ADT or Note 3 | --- |

*Note 1: Four lane SR 267 not required between I-80 and Brockway Road for any roadway Alternative under this land use scenario.*
*Note 2: Four lane SR 267 is not required between Schaffer Mill Road and Northstar Drive if Northstar Connector is built.*
*Note 3: Four lane Northstar Drive is not required if Northstar Connector is built.*

As indicated, a very substantial reduction in land use in the Placer County portion of Martis Valley would be required to avoid exceeding the 2-lane capacity of SR 267 between Brockway Road and Airport Road/Schaffer Mill Road, as future growth in traffic associated with both through traffic and traffic generated by the build-out of the Truckee General Plan is forecast to consume most of the available roadway capacity. This table also reflects the conclusion that providing new connections to Schaffer Mill Road would increase through traffic on this roadway, thereby increasing the reduction in land use required to avoid exceeding the capacity of a 2-lane roadway.

Under the Existing Martis Valley General Plan Land Use Map, the list of roadways which have volumes that exceed LOS standards are shown in **Table 4.4-27**, as well as the reduction in land uses needed to maintain LOS standards.

**TABLE 4.4-27**
**REDUCTIONS IN MARTIS VALLEY TRIP GENERATION NECESSARY TO MAINTAIN ADEQUATE ROADWAY LOS FOR THE EXISTING MARTIS VALLEY GENERAL PLAN LAND USE MAP ALTERNATIVE (AA)**

| Roadway | Reduction in Traffic Generation Needed to Avoid Exceeding the Capacity of a 2-Lane Roadway/Reduction in Trips Required | | |
|---|---|---|---|
| | 2021 Existing Roadway | Proposed: 4-Lane SR 267, No Schaffer Mill Road Connections | All Connections |
| SR 267 Bypass Between I-80 and Brockway Road | 5%/50 P.M. Peak-Hour Trips per Direction per Lane | Note 1 | Note 1 |
| SR 267 Between Old Brockway Road and Airport Road/Schaffer Mill Road | 90%/ 20,000 ADT | -- | -- |
| SR 267 Between Airport Road/Schaffer Mill Road and Northstar Drive (1) | 35%/4,500 ADT | -- | -- |
| Schaffer Mill Road West of SR 267 (West end of widening varies) | 45%/10,500 ADT | 45%/10,500 ADT | 40%/9,000ADT |
| Northstar Drive Between SR 267 and Basque Drive | Note 2 | Note 2 | Note 2 |

*Note 1: Four lane SR 267 not required between I-80 and Broadway Road for any roadway Alternative under this land use scenario.*
*Note 2: Four-lane Northstar Drive is not required.*

Under the Alternative 1 Land Use Map, the list of roadways which have volumes that exceed LOS standards are shown in **Table 4.4-28**, as well as the reduction in land uses needed to maintain LOS standards.

**TABLE 4.4-28**
**REDUCTIONS IN MARTIS VALLEY TRIP GENERATION NECESSARY TO MAINTAIN ADEQUATE ROADWAY LOS FOR THE ALTERNATIVE 1 LAND USE MAP (AB)**

| | Reduction in Traffic Generation Needed to Avoid Exceeding the Capacity of a 2-Lane Roadway/Reduction in Trips Required | | |
|---|---|---|---|
| **Roadway** | **2021 Existing Roadway** | **Proposed: 4-Lane SR 267, No Schaffer Mill Road Connections** | **All Connections** |
| SR 267 Bypass Between I-80 and Brockway Road | Note 1 | Note 1 | Note 1 |
| SR 267 Between Old Brockway Road and Airport Road/Schaffer Mill Road | 90%/17,000 ADT | -- | -- |
| SR 267 Between Airport Road/Schaffer Mill Road and Northstar Drive(1) | 20%/2,000 ADT | -- | Note 2 |
| Schaffer Mill Road West of SR 267 (West end of widening varies) | 45%/10,000 ADT | 45%/10,000 ADT | 40%/9,000 ADT |
| Northstar Drive Between SR 267 and Basque Drive(2) | 10%/1,500 ADT or Note 3 | 10%/1,500 ADT or Note 3 | --- |

*Note 1 Four lane SR 267 not required between I-80 and Broadway Road for any roadway Alternative under this land use scenario.*
*Note 2: Four lane SR 267 is not required between Schaffer Mill Road and Northstar Drive if Northstar Connector is built.*
*Note 3: Four lane Northstar Drive is not required if Northstar Connector is built.*

Under the Alternative 2 Land Use Map, the list of roadways which have volumes that exceed LOS standards are shown in **Table 4.4-29**, as well as the reduction in land uses needed to maintain LOS standards.

**TABLE 4.4-29**
**REDUCTIONS IN MARTIS VALLEY TRIP GENERATION NECESSARY TO MAINTAIN ADEQUATE ROADWAY LOS FOR THE ALTERNATIVE 2 LAND USE MAP (AC)**

| Roadway | Reduction in Traffic Generation Needed to Avoid Exceeding the Capacity of a 2-Lane Roadway/Reduction in Trips Required | | |
|---|---|---|---|
| | 2021 Existing Roadway | Proposed: 4-Lane SR 267, No Schaffer Mill Road Connections | All Connections |
| SR 267 Bypass Between I-80 and Brockway Road | Note 1 | Note 1 | Note 1 |
| SR 267 Between Old Brockway Road and Airport Road/Schaffer Mill Road | 85%/13,000 ADT | -- | -- |
| SR 267 Between Airport Road/Schaffer Mill Road and Northstar Drive(2) | 10%/800 ADT | -- | Note 2 |
| Schaffer Mill Road West of SR 267 (West end of widening varies) | 5%/500 ADT | 5%/500 ADT | 15%/2,000 ADT |
| Northstar Drive Between SR 267 and Basque Drive (3) | 10%/1,000 ADT or Note 3 | 10%/1,000 ADT or Note 3 | Note 3 |

*Note 1 Four lane SR 267 not required between I-80 and Brockway Road for any roadway Alternative under this land use scenario.*
*Note 2: Four lane SR 267 is not required between Schaffer Mill Road and Northstar Drive if Northstar Connector is built.*
*Note 3: Four lane Northstar Drive is not required if Northstar Connector is built.*

Implementation of the traffic volumes for the land use map Alternatives would also result in improved operation of impacted intersections.

### Impact 4.4.2 Traffic Impacts to Local Residential Roadways

**PP** Implementation of the Proposed Land Use Diagram would result in an increase in traffic volumes along local residential roadways in the Sierra Meadows/Ponderosa Palisades area if the Palisades connection is made. This would be a **potentially significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map would result in an increase in traffic volumes along local residential roadways in the Sierra Meadows/Ponderosa Palisades area if the Palisades connection is made. This would be a **potentially significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map would result in an increase in traffic volumes along local residential roadways in the Sierra Meadows/Ponderosa Palisades area if the Palisades connection is made. This would be a **potentially significant** impact.

**AC** Implementation of the Proposed Land Use Diagram would result in an increase in traffic volumes along local residential roadways in the Sierra Meadows/Ponderosa Palisades area if the Palisades connection is made. This would be a **potentially significant** impact.

### *PP Proposed Land Use Diagram*

The majority of the proposed Martis Valley Community Plan transportation-related goals and policies are a duplication of those policies pertaining to the Martis Valley area presented in the Placer County General Plan. While there are several additional policies proposed in the Martis Valley Community Plan, these added policies are not in conflict with the General Plan goals and policies.

There is, however, a potential conflict with established (as well as proposed) policy *if* a general traffic roadway connection is made between the Martis Valley area and the existing local roadways in the Sierra Meadows/Ponderosa Palisades area. Specifically, General Plan Policy 3.A.5 (replicated as proposed Martis Valley CP Policy 5.A.5.) states that "*The County shall require that through-traffic be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life*." Furthermore, as discussed above, a maximum volume of 2,000 ADT is established as the standard for a local residential street with front-on lots.

One of the roadway network Alternatives evaluated as part of this study would provide connections between the northeastern portion of the Martis Valley area and existing local residential streets in the Sierra Meadows/Ponderosa Palisades area (portions of which lie in both Placer County and the Town of Truckee). A total of thr3ee existing roadways have been "stubbed out" to allow potential connections to the south. Due to the geography of the area and the presence of existing development, there does not appear to be a feasible alignment by which to accomplish this connection without the use of an existing residential roadway. Conversely, it is possible to design a connection from Big Springs Road and Schaffer Mill Road that would not impact an existing residential roadway with lots fronting on the roadway. However, it should be noted that while Big Springs Drive does have lots that front directly on the roadway, it is considered a collector roadway and not a local street.

While the level of analysis conducted for this environmental analysis cannot identify traffic volumes on the specific roadways (as these volumes would be impacted by specific development plans not currently available, as well as specific roadway alignments that would require detailed engineering studies to identify), the traffic analysis conducted as part of this environmental study did identify the ADT traffic volumes in 2020 for the roadway connections as a whole, as shown in **Table 4.4-30**.

**TABLE 4.4-30**
**ADT RESULTING ON ROADWAY CONNECTIONS UNDER EACH LAND USE ALTERNATIVE**

| Land Use Alternative | Northstar Connection Only Built | Northstar Connection and Palisades Connection Built | |
|---|---|---|---|
| | ADT Along Northstar Connector (1) | ADT Along Northstar Connector (1) | ADT Along Palisades Connector (2) |
| Proposed Land Use (PP) | 4,980 | 4,620 | 1,890 |
| Existing Martis Valley GP (AA) | 4,340 | 3,780 | 2,650 |
| Alternative 1 (AB) | 5,250 | 4,390 | 2,960 |
| Alternative 2 (AC) | 5,090 | 4,730 | 1,850 |

*Note 1: Between Northstar and Siller Brothers and Lahontan.*
*Note 2: Total of all potential connectors.*

Note that the traffic volumes presented for the Palisades Connector would be added to existing traffic on the residential roadways. In light of these levels of through traffic activity that would be added to local streets, it can be concluded that provision of one or more northern connections to residential streets in existing neighborhoods would constitute a significant impact, in that it would conflict with General Plan Policy 3.A.5, as well as with the traffic volume standard for residential local streets identified for this study.

***AA Existing Martis Valley General Plan Land Use Map***

Implementation of the Martis Valley Community Plan Update under the Existing Martis Valley General Plan Land Use Map would result in more severe traffic impacts to local residential streets associated with Sierra Meadows/Ponderosa Palisades area as compared to the Proposed Land Use Diagram if these connections are made (see **Table 4.4-30**).

***AB Alternative 1 Land Use Map***

Implementation of the Martis Valley Community Plan Update under the Alternative 1 Land Use Map would result in more severe traffic impacts to local residential streets associated with Sierra Meadows/Ponderosa Palisades area as compared to the Proposed Land Use Diagram if these connections are made (see **Table 4.4-30**).

***AC Alternative 2 Land Use Map***

Implementation of the Martis Valley Community Plan Update under the Alternative 2 Land Use Map would result in less severe traffic impacts to local residential streets associated with Sierra Meadows/Ponderosa Palisades area as compared to the Proposed Land Use Diagram if these connections are made (see **Table 4.4-30**).

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere to policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would provide some mitigation to traffic impacts.

*Policy 5.A.5* *The County shall require that through-traffic be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.*

Mitigation Measures

The following mitigation measures apply to all the land use map Alternatives (PP, AA, AB, and AC).

The Transportation Section of the Martis Valley Community Plan shall be modified by the following mitigation measures.

**MM 4.4.2a** The Circulation Diagram shall not allow public roadway access to the Sierra Meadows/Ponderosa Palisades area.

**MM 4.4.2b** The Northstar Connector (if ultimately included as part of the Circulation Diagram as a public roadway) shall be designed to accommodate projected traffic volumes with minimal local residential roadway connections. Residential lots shall be restricted from having direct access onto the Connector.

As described under Impact 4.4.1, construction of the Palisades Connector in the absence of the Northstar Connector would not reduce traffic volumes on SR 267 between Airport Road/Schaffer Mill Road and Brockway Road sufficient to avoid the need to provide 4 travel lanes as mitigation to the LOS F along this roadway segment. In addition, while the provision of a Palisades Connector does reduce traffic volumes along Schaffer Mill Road, it does not reduce traffic volumes sufficient to avoid the need to provide four lanes along Schaffer Mill Road as mitigation to the LOS F condition along this roadway segment.

Implementation of the above mitigation measure would reduce potential conflicts associated with traffic levels on existing residential streets **less than significant** for the Proposed Land Use Diagram and land use map Alternatives AA through AC by prohibiting the Palisades Connector and requiring proper design of the Northstar Connector if ultimately included as part of the Community Plan as a public roadway.

**Impact 4.4.3 Potential Hazards Because of Design or Incompatible Uses**

**PP** Implementation of the Proposed Land Use Diagram is not expected to result in significant traffic hazards. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to result in significant traffic hazards. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to result in significant traffic hazards. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to result in significant traffic hazards. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Under any of the land use alternatives evaluated as part of this study, traffic volumes on study area roadways will increase substantially over the next 20 years. With increasing traffic activity, traffic accidents can be expected to increase. As discussed in Section 4.4.1, above, overall accident rates for the regional roadway system are not unduly high. In addition, there are no specific design features that result in undue accident patterns. Several proposed policies address the need to minimize hazards that could result from poor roadway design or incompatible land uses, such as proposed Policy 5.A.2 and 5.A.4. In addition to these policies, the County maintains standards that govern new street construction and access to ensure that improvements are implemented in accordance with safe design standards. Therefore, each of the land use alternatives would have a **less than significant impact** relative to this issue.

Mitigation Measures

None required.

**Impact 4.4.4 Inadequate Parking Capacity**

**PP** Implementation of the Proposed Land Use Diagram is not expected to result in parking capacity impacts. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to result in parking capacity impacts. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to result in parking capacity impacts. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to result in parking capacity impacts. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

The Martis Valley Community Plan Update is not expected to result in a significant impact on parking capacity on an area-wide basis, as parking supply is a requirement addressed at the individual development project approval level. The provision of adequate parking is addressed, however, under Policy 5.A.6. In combination with existing County parking ordinances, the existing General Plan would have a **less than significant impact** relative to this issue.

Mitigation Measures

None required.

**Impact 4.4.5 Conflicts with Transit**

**PP** Implementation of the Proposed Land Use Diagram is not expected to result in conflicts with transit. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to result in conflicts with transit. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to result in conflicts with transit. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to result in conflicts with transit. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Policies and Implementation Programs

The proposed Martis Valley Community Plan includes several proposed policies associated with the provision of transit services. These include the following:

*Policy 5.B.1* *The County shall work with transit providers to plan and implement additional transit services within and to the county that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.*

*Policy 5.B.2* *The County shall consider the need for future transit right-of-way in reviewing and approving plans for development. Rights-of-way may either be exclusive or shared with other vehicles.*

*Policy 5.B.3* *The County shall pursue sources of funding for transit services.*

*Policy 5.B.4.* *The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services.*

*Policy 5.B.5* *The County shall require development of transit services by ski resorts and other recreational providers to meet existing and future recreational demand.*

*Policy 5.B.6* *The County shall consider the transit needs of senior, disabled, minority, low-income, and transit-dependent persons in making decisions regarding transit services and in compliance with the Americans with Disabilities Act.*

*Policy 5.B.7* *The County shall support efforts to provide demand-responsive service ("paratransit") and other transportation services for those unable to use conventional transit.*

*Policy 5.C.1* *The County shall promote the use of transportation systems management (TSM)/transportation demand management (TDM) programs that divert automobile commute trips to transit, walking, and bicycling.*

*Policy 5.D.2* *The County shall, where appropriate, require new development to provide sheltered public transit stops, with turnouts.*

*Implementation Programs*

1. *Review development projects for compliance with the goals, policies and specific discussions contained in the Transportation and Circulation Section and throughout the Plan.*

   *Responsible Agency/Department: Land Development Departments, Board of Supervisors*
   *Time frame: Ongoing*
   *Funding: Application fees*

3. *Coordinate transportation planning with the Placer County Transportation Planning Agency, adjacent jurisdictions, and Caltrans.*

   *Responsible Agency/Department: Department of Public Works*
   *Time frame: Ongoing*
   *Funding: Road Fund*

7. *The County shall work with the Placer County Transportation Planning Agency periodically reviewing and updating its short-range transit plan at least as often as required by State law.*

   *Responsible Agency/Department: Department of Public Works*
   *Time frame: FY 99-00; every five years thereafter*
   *Funding: Transportation Development Act funds*

8. *The County shall adopt and implement funding mechanisms to support adopted transit plans throughout the County.*

   *Responsible Agency/ Department: Department of Public Works*
   *Time frame: Ongoing*
   *Funding: Transportation Development Act funds*

None of the proposed land use map alternatives are expected to result in conflicts with existing or future transit service. Thus, the proposed Martis Valley Community Plan is expected to have a **less than significant** impact on transit service.

Mitigation Measures

None required.

**Impact 4.4.6 Conflicts with Pedestrian and Bicycle Uses**

**PP** Implementation of the Proposed Land Use Diagram is not expected to result in conflicts with pedestrian and bicycle uses. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to result in conflicts with pedestrian and bicycle uses. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to result in conflicts with pedestrian and bicycle uses. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to result in conflicts with pedestrian and bicycle uses. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Policies and Implementation Programs

The proposed Martis Valley Community Plan includes several proposed policies associated with the provision of pedestrian and bicycle ues. These include the following:

*Policy 5.A.3* *The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes, as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations.*

*Policy 5.C.1* *The County shall promote the use of transportation systems management (TSM)/transportation demand management (TDM) programs that divert automobile commute trips to transit, walking, and bicycling.*

*Policy 5.C.2* *During the development review process, the County shall require that proposed projects meet adopted Trip Reduction Ordinance (TRO) requirements.*

*Policy 5.D.1* *The County shall promote the development of a comprehensive and safe system of recreational and commuter bicycle routes that provides*

*connections between the plan areas major employment and housing areas and between it's existing and planned bikeways.*

*Policy 5.D.2* *The County shall work with neighboring jurisdictions to coordinate planning and development of the plan area bikeways and multi-purpose trails with those of neighboring jurisdictions.*

*Policy 5.D.3* *The County shall pursue sources of funding for the acquisition, development, and improvement of public trails for non-motorized transportation (bikeways, pedestrian, and equestrian).*

*Policy 5.D.4* *The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information.*

*Policy 5.D.5.* *The County shall continue to require developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.*

*Implementation Programs*

1. *Review development projects for compliance with the goals, policies and specific discussions contained in the Transportation and Circulation Section and throughout the Plan.*

   *Responsible Agency/Department: Land Development Departments, Board of Supervisors*
   *Time frame: Ongoing*
   *Funding: Application fees*

3. *Coordinate transportation planning with the Placer County Transportation Planning Agency, adjacent jurisdictions, and Caltrans.*

   *Responsible Agency/Department: Department of Public Works*
   *Time frame: Ongoing*
   *Funding: Road Fund*

4. *Develop funding sources for road-adjacent trails.*

   *Responsible Agency/Department: Facility Services*
   *Time frame: Ongoing*
   *Funding: General Fund/Fees*

9. *The County shall require that bikeways recommended in the Bikeways/Trails Master Plan be developed when street frontage improvements are required of new development.*

   *Responsible Agency/Department: Department of Public Works*
   *Time frame: Ongoing*
   *Funding: Developer fees, Application Fees*

None of the proposed land use map alternatives are expected to result in conflicts with existing or future pedestrian or bicycle uses. The reader is referred to Section 4.11 (Public Services and Utilities) and **Figure 3.0-9** regarding proposed trail system improvements associated with the Community Plan. Thus, the proposed Martis Valley Community Plan is expected to have a **less than significant** impact on pedestrian or bicycle uses.

Mitigation Measures

None required.

### 4.4.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting associated with the traffic analysis consists of planned and proposed development in the Town of Truckee, Placer and Nevada County associated with their general plans in the Martis Valley area as well as regional traffic volume conditions anticipated in the year 2021 associated with Interstate 80, SR 89 and the Tahoe Basin.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

**Impact 4.4.7 Cumulative Impacts to Area Intersections and Roadways**

**PP** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of the Proposed Land Use Diagram and other regional development under year 2021 conditions for area roadway facilities in the Town of Truckee and Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **cumulative significant** impact.

**AA** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of the Existing Martis Valley General Plan Land Use Map and other regional development under year 2021 conditions for area roadway facilities in the Town of Truckee and Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **cumulative significant** impact.

**AB** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of the Alternative 1 Land Use Map and other regional development under year 2021 conditions for area roadway facilities in the Town of Truckee and Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **cumulative significant** impact.

**AC** Depending upon the roadway network and analysis period, intersection and roadway Level of Service (LOS) standards are forecast to be exceeded under full development of the Alternative 2 Land Use Map and other regional development under year 2021 conditions for area roadway facilities in the Town of Truckee and Placer County. Exceedence of LOS standards in the Town of Truckee or Placer County would be considered a **cumulative significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

As described in Section 4.4.3 and under Impacts 4.4.1 and 4.4.2, cumulative development and traffic conditions in the year 2021 for summer and winter peak conditions were modeled to determine impacts to area intersections and roadways. As identified under Impacts 4.4.1 and 4.4.2, these impacts were identified as significant.

Policies and Implementation Programs

New development projects in the Plan area would be required to comply with policies and implementation programs of the Martis Valley Community Plan. Compliance with these Plan policies and implementation programs would provide some mitigation for intersection and roadway impacts. The reader is referred to Impacts 4.4.1 and 4.4.2 regarding applicable proposed policies and implementation programs.

Mitigation Measures

Implementation of mitigation measures MM 4.4.1a and/or b and MM 4.4.2a and b would reduce Community Plan impacts to the impacted roadway facilities identified. While impacts to local residential roadways would be mitigated, cumulative impacts to regional intersections and roadways would remain **significant and unavoidable** given the unknown nature of the timing and funding of these improvements under the three jurisdictions (Placer County, Town of Truckee and Caltrans).

**Impact 4.4.8 Cumulative Impacts to Regional Highway Facilities**

**PP** Full development of the Proposed Land Use Diagram and other regional development is expected to add to year 2021 traffic volumes along Interstate 80 and State Route 89 (north of Interstate 80). While State Route 89 (north of Interstate 80) is anticipated to operate properly, Interstate 80 is expected to operate deficiently. This would be a **cumulative significant** impact.

**AA** Full development of the Existing Martis Valley General Plan Land Use Map and other regional development is expected to add to year 2021 traffic volumes along Interstate 80 and State Route 89 (north of Interstate 80). While State Route 89 (north of Interstate 80) is anticipated to operate properly, Interstate 80 is expected to operate deficiently. This would be a **cumulative significant** impact.

**AB** Full development of the Alternative 1 Land Use Map and other regional development is expected to add to year 2021 traffic volumes along Interstate 80 and State Route 89 (north of Interstate 80). While State Route 89 (north of Interstate 80) is anticipated to operate properly, Interstate 80 is expected to operate deficiently. This would be a **cumulative significant** impact.

**AC** Full development of the Alternative 2 Land Use Map and other regional development is expected to add to year 2021 traffic volumes along Interstate 80 and State Route 89 (north of Interstate 80). While State Route 89 (north of Interstate 80) is anticipated to operate properly, Interstate 80 is expected to operate deficiently. This would be a **cumulative significant** impact.

***PP Proposed Land Use Diagram***

Traffic volumes are expected to increase on I-80 and SR 89 to the north of I-80 with the implementation of the Proposed Land Use Diagram land uses. Specifically, the 2021 peak-hour traffic volumes along I-80 both east and west of SR 267 are expected to increase by 15 percent with the implementation of the Proposed Land Use Diagram above the volumes that could be expected with no future development in Martis Valley. According to the Interstate 80 Transportation Concept Report, I-80 is expected to operate at LOS F by 2017 with no improvements. Traffic volumes along SR 89 north of I-80 are expected to increase by 9 percent in 2021 with the implementation of the Proposed Land Use Diagram. However, this portion of SR 89 is expected to operate at LOS A under year 2021 conditions.

***AA Existing Martis Valley General Plan Land Use Map***

Traffic volumes are expected to increase on I-80 and SR 89 to the north of I-80 with the implementation of the Existing Martis Valley General Plan Land Use Map. Specifically, the 2021 peak-hour traffic volumes along I-80 both east of west of SR 267 are expected to increase by 20 percent with the implementation of the Existing Martis Valley General Plan Land Use Map above the volumes that could be expected with no future development in Martis Valley. According to the Interstate 80 Transportation Concept Report, I-80 is expected to operate at LOS F by 2017 with no improvements. Traffic volumes along SR 89 north of I-80 are expected to increase by 9 percent in 2021 with the implementation of the Existing Martis Valley General Plan Land Use Map. However, this portion of SR 89 is expected to operate at LOS A under year 2021 conditions.

***AB Alternative 1 Land Use Map***

Traffic volumes are expected to increase on I-80 and SR 89 to the north of I-80 with the implementation of the Alternative 1 Land Use Map. Specifically, the 2021 peak-hour traffic volumes along I-80 east and west of SR 267 are expected to increase by 17 and 18 percent, respectively, with the implementation of the Alternative 1 Land Use Map above the volumes that could be expected with no future development in Martis Valley. According to the Interstate 80 Transportation Concept Report, I-80 is expected to operate at LOS F by 2017 with no improvements. Traffic volumes along SR 89 north of I-80 are expected to increase by 9 percent in 2021 with the implementation of the Alternative 1 Land Use Map. However, this portion of SR 89 is expected to operate at LOS A under year 2021 conditions.

***AC Alternative 2 Land Use Map***

Traffic volumes are expected to increase on I-80 and SR 89 to the north of I-80 with the implementation of the Alternative 2 Land Use Map. Specifically, the 2021 peak-hour traffic volumes along I-80 both east of west of SR 267 are expected to increase by 15 percent with the implementation of the Alternative 2 Land Use Map above the volumes that could be expected with no future development in Martis Valley. According to the Interstate 80 Transportation Concept Report, I-80 is expected to operate at LOS F by 2017 with no improvements. Traffic volumes along SR 89 north of I-80 are expected to increase by 8 percent in 2021 with the implementation of the Alternative 2 Land Use Map. However, this portion of SR 89 is expected to operate at LOS A under year 2021 conditions.

<u>Policies and Implementation Programs</u>

The Martis Valley Community Plan does not contain any policies or implementation programs pertaining to regional highway facilities.

Mitigation Measures

There are currently no programmed improvements or funding for improvements to the mainline of Interstate 80 and such improvements are not under control of the County. Given the unknown nature of the timing and funding of improvements this impact is considered **significant and unavoidable**.

**Impact 4.4.9 Cumulative Roadway Hazards Because of Design or Incompatible Uses**

**PP** Implementation of the Proposed Land Use Diagram is not expected to contribute to significant traffic hazards. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to contribute to significant traffic hazards. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to contribute to significant traffic hazards. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to contribute to significant traffic hazards. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

As identified in Section 4.4.3 and Impact 4.4.3, overall accident rates for the regional roadway system are not unduly high. In addition, there are no specific design features that result in undue accident patterns. Several proposed policies address the need to minimize hazards that could result from poor roadway design or incompatible land uses, such as proposed Policies 5.A.2 and 5.A.4. In addition to these policies, the County maintains standards that govern new street construction and access to ensure that improvements are implemented in accordance with safe design standards. The Martis Valley Community Plan Update is not expected to result in a significant impact on parking capacity on an area-wide basis, as parking supply is a requirement addressed at the individual development project approval level. Therefore, impacts are anticipated to be **less than significant** for PP and Alternatives AA through AC.

Policies and Implementation Programs

New development projects in the Plan area would be required to comply with policies and implementation programs of the Martis Valley Community Plan. Compliance with these Plan policies and implementation programs would provide some mitigation for roadway hazard impacts. The reader is referred to Impact 4.4.3 regarding applicable proposed policies and implementation programs.

Mitigation Measure

None required.

**Impact 4.4.10 Cumulative Conflicts with Transit, Pedestrian and Bicycle Uses**

**PP** Implementation of the Proposed Land Use Diagram is not expected to contribute to conflicts with transit. This is considered a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map is not expected to contribute to conflicts with transit, pedestrian and bicycle uses. This is considered a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map is not expected to contribute to conflicts with transit, pedestrian and bicycle uses. This is considered a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map is not expected to contribute to conflicts with transit, pedestrian and bicycle uses. This is considered a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

As identified in Section 4.4.3 and in Impacts 4.4.5 and 4.4.6, the proposed Community Plan includes several provisions ensuring that adequate facilities are provided and no conflicts with transit, pedestrian and bicycle uses occur. This cumulative impact is considered **less than significant**.

Policies and Implementation Programs

New development projects in the Plan area would be required to comply with policies and implementation programs of the Martis Valley Community Plan. Compliance with these Plan policies and implementation programs would provide some mitigation for conflicts with transit, pedestrian, and bicycle impacts. The reader is referred to Impacts 4.4.5 and 4.4.6 regarding applicable proposed policies and implementation programs.

Mitigation Measures

None required.

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# Section 4.5
# Noise

This section discusses and analyzes the ambient noise characteristics of the Plan area. The information provided in this section is based on the Administrative Draft Background Report of the Martis Valley Community Plan (Placer County, 2000), Truckee Tahoe Airport Master Plan (Truckee Tahoe Airport District, 1998) and technical review by Bollard and Brennan Acoustical Consultants.

### 4.5.1 EXISTING SETTING

BACKGROUND AND TERMINOLOGY

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

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

EFFECTS OF NOISE ON PEOPLE

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 weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to 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 in decibels.

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 ($L_{eq}$) over a given time period (usually 1 hour). The $L_{eq}$ is the foundation of the Day-Night Average Level 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. $L_{dn}$-based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

EXISTING NOISE CONDITIONS IN THE PLAN AREA

The existing noise environment in the Plan Area is defined almost entirely by surface traffic on the local roadway network (e.g., State Route 267) and by aircraft activities associated with the Truckee-Tahoe Airport. Although railroad noise is intermittently audible within portions of the Plan Area during rail passages through Truckee, it does not significantly contribute to the ambient noise environment. While there are no other significant fixed/industrial noise sources identified in the Plan area which significantly contribute to the ambient noise environment, snow-making in isolated locations may have a significant impact. Therefore, the analysis focuses on the effects of traffic, aircraft, and snowmaking noise emissions within the Plan Area.

**Ambient Noise Assessment Methodology**

A combination of visual and noise level measurement surveys, use of existing acoustical literature, and application of accepted noise prediction methodologies were used to quantify the existing ambient noise environment in the project study area.

**Ambient Noise Environment Away from Major Noise Sources**

To quantify the existing ambient noise environment in the project vicinity at locations removed from major noise sources, a short-term ambient noise survey was conducted at 4 locations within the Plan Area on May 3 and 4, 2000. The sites were located within the Northstar-at-Tahoe resort area on Northstar Drive, near the entrance to the Lahontan development on Schaffer Mill Road, along Martis Creek Road near the Martis Creek Reservoir, and east of State Route 267 on Martis Peak Road. The measurements were conducted for 15-minute periods during both daytime and nighttime hours at each site.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the noise level measurement survey. The meters were calibrated before and after use with an LDL Model CA200 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).

The noise level meters were programmed to record the maximum and average noise levels at each site during the survey. The maximum value, denoted $L_{max}$, represents the highest noise level measured at any time during the measurement. The average value, denoted $L_{eq}$, represents the energy average of all of the noise received by the sound level meter microphone during the measurement period. A summary of the noise level measurement results is provided in **Table 4.5-1**.

**TABLE 4.5-1**
**AMBIENT NOISE MONITORING RESULTS**
**MARTIS VALLEY COMMUNITY PLAN AREA, MAY 3-4, 2000**

| | | Measured Sound Level, dBA | | |
|---|---|---|---|---|
| **Location** | **Time** | **Average($L_{eq}$)** | **Maximum($L_{max}$)** | **Day/Night($L_{dn}$)** |
| Martis Peak Road – 300 feet east of SR 267 | Day | 52 | 61 | 51 |
| | Night | 38 | 45 | |
| Northstar-at-Tahoe | Day | 55 | 66 | 54 |
| | Night | 43 | 51 | |
| Martis Creek Reservoir | Day | 51 | 67 | 50 |
| | Night | 37 | 43 | |
| Lahontan 1 | Day | 54 | 70 | 55 |
| | Night | 47 | 61 | |

*Source: Bollard & Brennan, 2000*

The survey results revealed that typical daytime ambient noise levels in areas not directly affected by major noise sources were in the low to mid 50's, with much lower nighttime levels. The estimated $L_{dn}$ based on the short-term noise measurements were in the range of 50 to 55 dB.

**Roadway Traffic Noise Levels**

To describe noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The FHWA model is the analytical method currently favored for highway traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans).

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 $L_{dn}$ 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.

Average daily traffic (ADT) volumes for existing and future conditions were obtained from the traffic analysis prepared for this project. The FHWA Model inputs are contained in **Appendix 4.5**. **Table 4.5-2** shows the predicted traffic noise levels at a reference distance of 100 feet from the roadway centerlines for the Year 2001 conditions, as well as the distances to the $L_{dn}$ contours.

**TABLE 4.5-2**
**YEAR 2001 TRAFFIC NOISE LEVELS**
**($L_{DN}$ AT 100 FEET)**

| | | Distance to $L_{DN}$ Contour | | | |
|---|---|---|---|---|---|
| **Roadway** | **Segment** | **$L_{DN}$** | **70** | **65** | **60** |
| Donner Pass Road (Existing SR 89) | North of I-80 (East) | 64 | 39 | 84 | 180 |
| Donner Pass Road (Existing SR 267) | South of I-80 (East) | 65 | 45 | 97 | 209 |
| Donner Pass Road (Existing SR 267) | East of Bridge Street | 65 | 46 | 99 | 213 |
| Donner Pass Road | West of Bridge Street | 64 | 42 | 90 | 193 |
| Bridge Street (existing SR 267) | South of Donner Pass Road | 65 | 48 | 103 | 223 |
| Brockway Road (existing SR 267) | South of West River Street | 66 | 53 | 114 | 245 |
| Brockway Road (existing SR 267) | South of Palisades Drive | 65 | 48 | 104 | 225 |
| Brockway Road (existing SR 267) | South of Martis Valley Road | 65 | 47 | 101 | 217 |
| SR 267 | South of Airport Road/Schaffer Mill Road | 66 | 55 | 118 | 254 |
| SR 267 | South of Northstar Drive | 65 | 44 | 95 | 204 |
| SR 267 | North of SR 28 | 64 | 37 | 80 | 172 |
| SR 28 | East of SR 267 | 66 | 51 | 111 | 239 |
| SR 28 | West of SR 267 | 64 | 43 | 92 | 198 |
| West River Street | West of SR 267 | 61 | 24 | 52 | 113 |
| Palisades Drive | West of SR 267 | 60 | 22 | 47 | 100 |
| Martis Valley Road | West of SR 267 | 60 | 20 | 43 | 93 |
| Schaffer Mill Road | West of SR 267 | 58 | 16 | 35 | 75 |
| Airport Road | East of SR 267 | 58 | 17 | 37 | 79 |
| Northstar Drive | West of SR 267 | 62 | 28 | 61 | 131 |
| SR 89 South | South of Donner Pass Road | 66 | 57 | 123 | 264 |
| Donner Pass Road | East of SR 89 South | 65 | 48 | 103 | 221 |
| Donner Pass Road | West of SR 89 South | 66 | 54 | 117 | 253 |

*Source: Bollard & Brennan, 2000*

It should be noted that the noise contours shown in **Table 4.5-2** do not account for the effects of local topography, and should therefore be considered conservative estimates of traffic noise exposure within the Plan Area.

**Aircraft Noise Levels**

To assess the potential for noise impacts from aircraft operations at the Truckee-Tahoe Airport, the noise exposure contours contained in the Truckee-Tahoe Airport Master Plan were consulted. Noise contours for the Airport for year 1999 and 2020 are shown in **Figures 4.5-1** and **4.5-2**.

It should be noted that the Airport noise contours represent 24-hour averages of aircraft noise. As a result, individual aircraft overflights of the Plan Area will result in higher instantaneous noise levels than reflected by the noise exposure contours.

### 4.5.2 REGULATORY FRAMEWORK

Local agencies regulate noise within the Martis Valley Plan area. The following discussion contains a summary review of local regulatory policies relative to noise.

LOCAL

**Placer County General Plan**

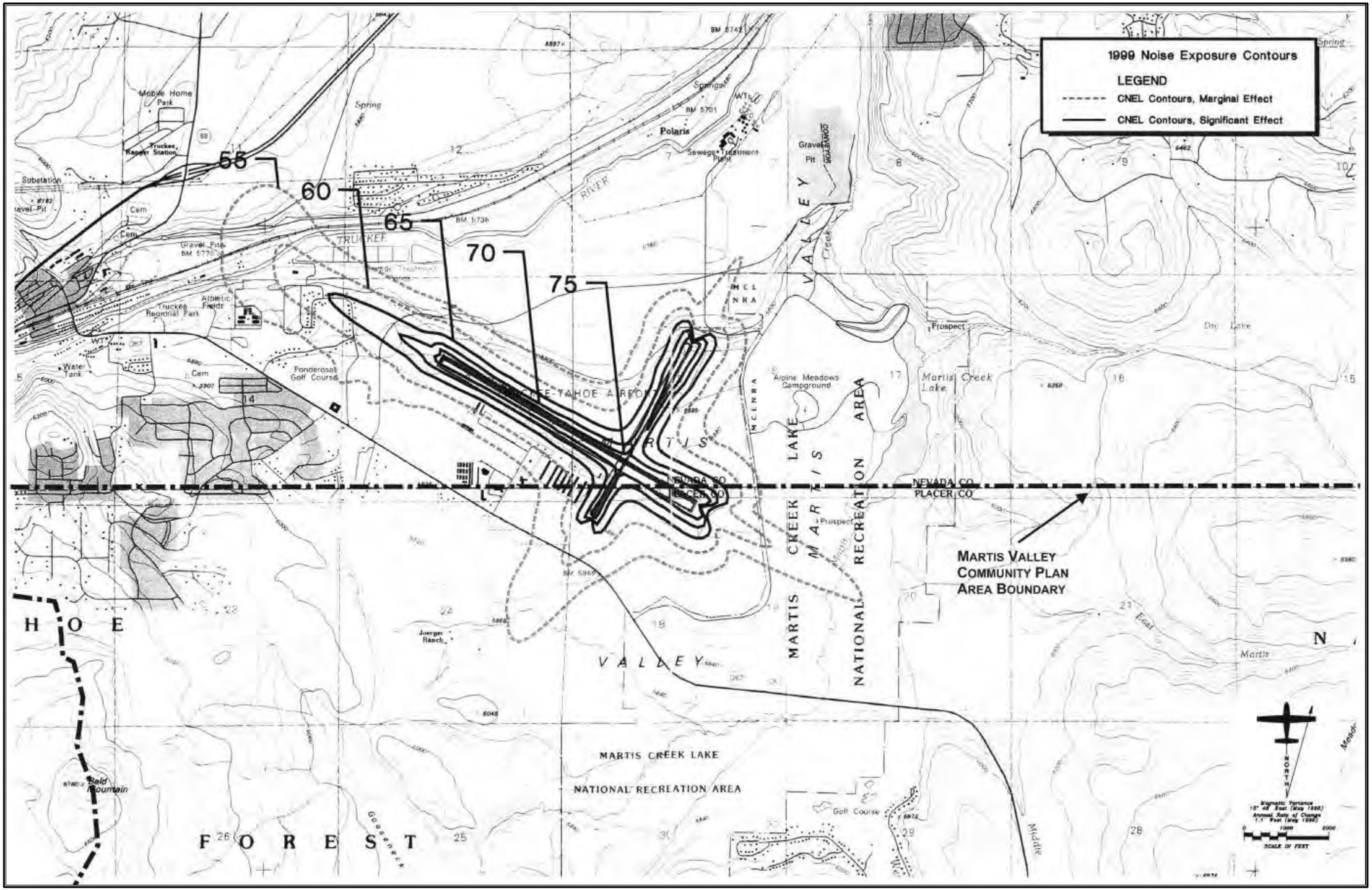
The Placer County General Plan outlines County-wide provisions associated with noise and acceptable levels of noise exposure. The following list identifies General Plan policies that pertain to the Plan area.

Policy 9.A.1 The County shall not allow development of new noise-sensitive uses where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 9-3 as measured immediately within the property line of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in Table 9-3.

Policy 9.A.2 The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 9-3 as measured immediately within the property line of lands designated for noise- sensitive uses.

Policy 9.A.1 The County shall not allow development of new noise-sensitive uses where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 9-3 as measured immediately within the property line of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in Table 9-3.

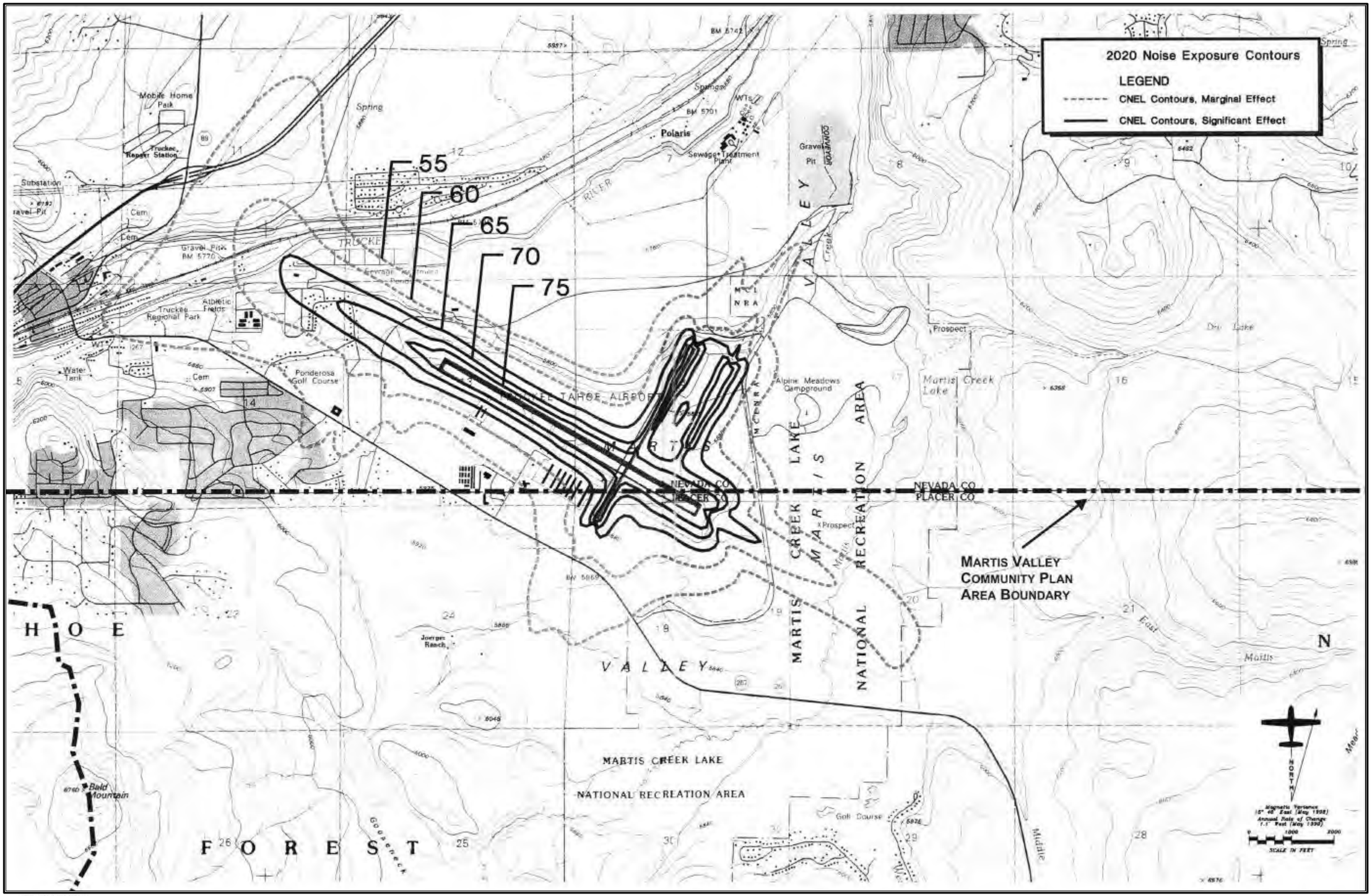
Policy 9.A.2 The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 9-3 as measured immediately within the property line of lands designated for noise- sensitive uses.




PMC
PACIFIC MUNICIPAL CONSULTANTS

SOURCE: TRUCKEE-TAHOE AIRPORT DISTRICT, 1998

FIGURE 4.5-1
TRUCKEE-TAHOE AIRPORT NOISE CONTOURS (1999)




PMC
PACIFIC MUNICIPAL CONSULTANTS

SOURCE: TRUCKEE-TAHOE AIRPORT DISTRICT, 1998

FIGURE 4.5-2
TRUCKEE-TAHOE AIRPORT NOISE CONTOURS (2020)

Policy 9.A.3 The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC).

Policy 9.A.4 Impulsive noise produced by blasting should not be subject to the criteria listed in Table 9-3. Single event impulsive noise levels produced by gunshots or blasting 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 Lcdn or CNEL-C on any given day. These standards shall be applied at the property line of a receiving land use.

Policy 9.A.5 Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 9-3 at existing or planned noise-sensitive uses the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. The requirements for the content of an acoustical analysis are listed in Table 9-4.

Policy 9.A.6 The feasibility of proposed projects with respect to existing and future transportation noise levels shall be evaluated by comparison to Table 9-3.

Policy 9.A.7 The County shall purchase only new equipment and vehicles which comply with noise level performance standards based upon the best available noise reduction technology.

Policy 9.A.8 New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources, including airports, which exceed the levels specified in Table 9-3, unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces to the levels specified in Table 9-3.

Policy 9.A.9 Noise created by new transportation noise sources. including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 9-3 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.

Policy 9.A.10 Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 9-3 or the performance standards of Table 9-5 the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. At the discretion of the County, the requirement for an acoustical analysis may be waived provided that all of the following conditions are satisfied:

- The development is for less than five single-family dwellings or less than 10,000 square feet of total gross floor area for office buildings, churches, or meeting halls;

- The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available. An acoustical

analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources;

- The existing or projected future noise exposure at the exterior of buildings which will contain noise-sensitive uses or within proposed outdoor activity' areas (other than outdoor sports and recreation areas) does not exceed 65 dB $L_{dn}$ (or CNEL) prior to mitigation. For outdoor sports and recreation areas, the existing or projected future noise exposure may not exceed 75 dB $L_{dn}$ (or CNEL) prior to mitigation;

- The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade; and

- Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 9-3 or 9-5. Such measures may include the use of building setbacks, building orientation, noise barriers, and the standard noise mitigation contained in the Placer County Acoustical Design Manual. If closed windows are required for compliance with interior noise level standards, air conditioning or a mechanical ventilation system will be required.

Policy 9.A.11 The County shall implement one or more of the following mitigation measures where existing noise levels significantly impact existing noise-sensitive land uses or where the cumulative increase in noise levels resulting from new development significantly impacts noise-sensitive land uses.

- Rerouting traffic onto streets that have available traffic capacity and that do not adjoin noise-sensitive land uses;

- Lowering speed limits, if feasible and practical;

- Programs to pay for noise mitigation such as low cost loans to owners of noise-impacted property or establishment of developer fees;

- Acoustical treatment of buildings; or

- Construction of noise barriers.

Policy 9.A.12 Where noise mitigation measures are required to achieve the standards of Tables 9-1 and 9-3, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been incorporated into the project.

Policy 9.B.1 The County shall require that new noise-sensitive land uses established next to existing industrial areas be responsible for self-mitigating noise impacts from industrial activities.

Policy 9.B.2 The County shall apply noise standards in a manner consistent with encouraging the retention, expansion, and development of new businesses pursuant to Goal 1.N. and Policy I.N.2.

Policy 9.B.3 Because many industrial activities and processes necessarily produce noise which will likely be objectionable to nearby non-industrial land uses, existing and potential future industrial noise emissions shall be accommodated in all land use decisions.

Policy 9.B.4 Whenever noise exposure standards herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.

**TABLE 9-3**
**ALLOWABLE $L_{DN}$ NOISE LEVELS WITHIN SPECIFIED ZONE DISTRICTS**
**APPLICABLE TO NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES**

| Zone District of Receptor | Property Line of Receiving Use | Interior Space |
|---|---|---|
| Residential Adjacent to Industrial (c) | 60 | 45 |
| Other Residential (d) | 50 | 45 |
| Office/Professional | 70 | 45 |
| Transient Lodging | 65 | 45 |
| Neighborhood Commercial | 70 | 45 |
| General Commercial | 70 | 45 |
| Heavy Commercial | 75 | 45 |
| Limited Industrial | 75 | 45 |
| Highway Service | 75 | 45 |
| Shopping Center | 70 | 45 |
| Industrial | _ | 45 |
| Industrial Park | 75 | 45 |
| Industrial Reserve | _ | _ |
| Airport | _ | 45 |
| Unclassified | _ | _ |
| Farm | _ | _ |
| Agricultural Exclusive | _ | _ |
| Forestry | _ | _ |
| Timberland Preserve | 70 | _ |
| Recreation and Forestry | _ | _ |
| Open Space | _ | _ |
| Mineral Reserve | _ | _ |

*Notes for Table 9-3:*

- *Except where noted otherwise, noise exposures will be those which occur at the property line of the receiving use.*
- *Where existing transportation noise levels exceed the standards of this table, the allowable $L_{DN}$ shall be raised to the same level as that of the ambient level.*
- *If the noise source generated by, or affecting, the uses shown above consists primarily of speech or music, of if the noise source is impulsive in nature. the noise standards shown above shall be decreased by 5 dB.*
- *Where a use permit has established noise level standards for an existing use, those standards shall supersede the levels specified in Table 9-3 and Table 9-5. Similarly, where an existing use which is not subject to a use permit causes noise in excess of the allowable levels in Tables 9-3 and 9-5, said excess noise shall be considered the allowable level. If a new development is proposed which will be affected by noise from such an existing use, it will ordinarily be assumed that the noise levels already existing or those levels allowed by the existing use permit, whichever are*

*greater, are those levels actually produced by the existing use.*

- *Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state of the art (e) at the time of expansion. In no case will expansion of an existing industrial operation be cause to decrease allowable noise emission limits. Increased emissions above those normally allowable should be limited to a one-time 5 dB increase at the discretion of the decision making body.*
- *The noise level standards applicable to land uses containing incidental residential uses, such as caretaker dwellings at industrial facilities and homes on agriculturally zoned land, shall be the standards applicable to the zone district, not those applicable to residential uses.*
- *Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.*

*(a) Overriding policy on interpretation of allowable noise levels: Industrial-zoned properties are confined to unique areas of the County, and are irreplaceable. Industries which provide primary wage-earner jobs in the County, if forced to relocate, will likely be forced to leave the County. For this reason, industries operating upon industrial zoned properties must be afforded reasonable opportunity to exercise the rights/privileges conferred upon them by their zoning. whenever the allowable noise levels herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.*

*Where an industrial use is subject to infrequent and unplanned upset or breakdown of operations resulting in increased noise emissions, where such upsets and breakdowns are reasonable considering the type of industry, and where the industrial use exercises due diligence in preventing as well as correcting such upsets and breakdowns, noise generated during such upsets and breakdowns shall not be included in calculations to determine conformance with allowable noise levels.*

*(b Interior spaces are defined as any locations where some degree of noise-sensitivity exists. Examples include all habitable rooms of residences, and areas where communication and speech intelligibility are essential, such as classrooms and offices.*

*(c) Noise from industrial operations may be difficult to mitigate in a cost-effective manner. In recognition of this fact, the exterior noise standards for residential zone districts immediately adjacent to industrial, limited industrial, industrial park, and industrial reserve zone districts have been increased by 10 dB as compared to residential districts adjacent to other land uses.*

*For purposes of the Noise Element, residential zone districts are defined to include the following zoning classifications: AR, R-l, R-2, R-3, FR, RP, TR-l, TR-2, TR-3, and TR-4.*

*(d) Where a residential zone district is located within an -SP combining district, the exterior noise level standards are applied at the outer boundary of the -SP district. If an existing industrial operation within an -SP district is expanded or modified, the noise level standards at the outer boundary of the -SP district may be increased as described above in these standards.*

*Where a new residential use is proposed in an -SP zone, an Administrative Review Permit is required, which may require mitigation measures at the residence for noise levels existing and/or allowed by use permit as described under 'NOTES," above, in these standards.*

*(e) State of the art should include the use of modern equipment with lower noise emissions, site design, and plant orientation to mitigate offsite noise impacts, and similar methodology.*

*(f) Normally, agricultural uses are noise insensitive and will be treated in this way. However, conflicts with agricultural noise emissions can occur where single-family residences exist within agricultural zone districts. Therefore, where effects of agricultural noise upon residences located in these agricultural zones is a concern, an $L_{DN}$ of 70 dB will be considered acceptable outdoor exposure at a residence.*

**TABLE 9-4**
**REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS**
**AN ACOUSTICAL ANALYSIS PREPARED PURSUANT TO POLICY 9.A.5 SHALL:**

1. Be the financial responsibility of the applicant.
2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
4. Estimate existing and projected cumulative (20 years) noise levels in terms of $L_{DN}$ or CNEL and/or the standards of Table 9-3, and compare those levels to the policies in this section. Noise prediction methodology must be consistent with the *Placer County Acoustical Design Manual.*
5. Recommend appropriate mitigation to achieve compliance with the policies and standards of this section, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses, where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
6. Estimate noise exposure after the prescribed mitigation measures have been implemented.
7. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

**TABLE 9-5**
**MAXIMUM ALLOWABLE NOISE EXPOSURE**
**TRANSPORTATION NOISE SOURCES**

| | Outdoor Activity Areas (a) | Interior Spaces | |
|---|---|---|---|
| **Land Use** | **$L_{dn}$/CNEL** | **$L_{dn}$/CNEL** | **$L_{eq}$, dB (b)** |
| Residential | 60(c) | 45 | _ |
| Transient Lodging | 60(c) | 45 | _ |
| Hospitals, Nursing Homes | 60(c) | 45 | _ |
| Theaters, Auditoriums, Music Halls | _ | _ | 35 |
| Churches, Meeting Halls | 60(c) | _ | 40 |
| Office Buildings | _ | _ | 45 |
| Schools, Libraries, Museums | _ | _ | 45 |
| Playgrounds, Neighborhood Parks | 70 | _ | _ |

*(a) Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.*

*(b) As determined for a typical worst-case hour during periods of use.*

*(c) Where it is not possible to reduce noise in outdoor activity areas to 60 $L_{dn}$/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.*

**Martis Valley General Plan**

The Martis Valley General Plan contains a brief section on noise that generally identifies the major noise sources in the area. However, no specific goals or policies pertaining to noise were identified within that document.

### 4.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

A noise impact of the proposed Martis Valley Community Plan Update would be considered significant if it would result in any of the following actions based on the following criteria:

1) Exposure of persons to or generation of noise levels in excess of standards established in the Placer County General Plan or noise ordinance, the Martis Valley Community Plan, and applicable standards of other affected agencies (e.g., Town of Truckee and Truckee Tahoe Airport District);

2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels without the project as set forth in **Table 4.5-3**; or

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project.

**TABLE 4.5-3**
**SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE**

| Ambient Noise Level Without Project, $L_{dn}$ | 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: Bollard & Brennan, 2000*

**Table 4.5-3** is based upon recommendations made in August 1992 by the Federal Interagency Committee on Noise (FICON) to provide 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, these criteria have been applied to other sources of noise similarly described in terms of cumulative noise exposure metrics such as the $L_{dn}$. This metric is generally applied to transportation noise sources, and defines noise exposure in terms of average noise exposure during a 24-hour period with a penalty added to noise that occurs during the nighttime. According to Table 9-6, an increase in the traffic noise level of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB $L_{dn}$.

METHODOLOGY

A combination of use of existing literature, and application of accepted noise prediction and sound propagation algorithms, were used to predict changes in ambient noise levels resulting from development within the Plan Area. Specific noise sources evaluated in this section include traffic, construction, aircraft, and common noise sources associated with the land uses types of land use designations proposed within the project area. Potential noise impacts of each of these major noise sources are described below.

**Traffic Noise Impact Assessment Methodology**

Traffic noise impacts are assessed by comparing both the predicted future traffic noise levels of the project alternatives and current Community Plan to existing traffic noise levels and to the standards of significance.

Traffic Noise Prediction Model

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The FHWA model is the analytical method currently favored for highway traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans).

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 Leq 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.

FHWA Traffic Noise Prediction Model Inputs

Average daily traffic volumes were provided by LSC Transportation Consultants for existing conditions as well as the Proposed Land Use Diagram (PP) and project alternatives. The major project alternatives are described below:

PP Proposed Land Use Diagram

AA Existing Martis Valley General Plan Land Use Map

AB Alternative 1 Land Use Map

AC Alternative 2 Land Use Map

Consistent with Section 4.4 (Transportation/Circulation), the traffic projections and corresponding noise modeling was done for two roadway scenarios:

1. Proposed roadway (no Schaffer Mill Road connection); and

2. All connections option (Northstar and Palisades connection).

To determine the relative differences between each of the roadway scenarios for each project alternative, the predicted traffic noise level at a standardized distance of 100 feet from each roadway centerline was computed using the data in **Appendix 4.5**, and the traffic noise levels were compared against traffic noise levels predicted for the existing roadway network.

The predicted traffic noise levels at a representative distance of 100 feet from the roadway centerlines are contained in **Appendix 4.5**. In general, the **Appendix 4.5** data indicate that there is no appreciable difference in noise levels predicted on the Martis Valley Community Plan Area roadway network between the proposed roadway and the all connections option.

More specifically, **Appendix 4.5** shows that the noise levels are marginally lower on the existing Plan Area roadways with the construction of the Palisades and Northstar connectors than without. Because the differences in traffic noise levels between the sub-alternatives is basically negligible, as indicated by **Appendix 4.5**, this analysis focuses on the worst-case condition, which is the projected future traffic noise levels with the existing roadway configuration (proposed roadway).

To assess traffic noise impacts of the project alternatives at the discrete roadway level, the data contained in **Appendix 4.5** can be used, as it illustrates the traffic noise levels at a reference distance of 100 feet for each major Alternative and the two roadway scenarios.

**Noise Impact Assessment Methodology for Noise-Producing Uses Within the Plan Area**

There are a variety of noise sources associated with future development within the Plan Area which have to potential to create noise levels in excess of the Placer County General Plan noise standards or result in annoyance at existing and future noise-sensitive developments in the project vicinity. Such uses/noise sources include, but are not limited to, commercial loading docks associated with grocery stores and other stores/shops, neighborhood parks, and snowmaking systems at ski resorts.

At the Community Plan level, detailed site and grading plans associated with these types of noise sources have not yet been developed. As a result, it is not feasible to identify specific noise impacts associated with these sources. Rather, the potential for these sources to generate excessive or annoying noise levels is identified.

**Aircraft Noise Impact Assessment Methodology**

Noise impacts associated with operations at the Truckee-Tahoe Airport could result if noise-sensitive land uses are proposed within the airports noise impact boundaries (noise contours). Development proposals within the 55 dB CNEL contour will be reviewed with respect to noise, just as would development proposals for noise-sensitive land uses within the impact contours for major roadways. The adopted future noise contours for the Truckee-Tahoe Airport are incorporated into this document by reference, and indicate the locations of the noise impact zone.

**Construction Noise Impact Assessment Methodology**

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generate maximum noise levels, as indicated in **Table 4.5-4**, ranging from 85 to 90 dB at a distance of 50 feet.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

**TABLE 4.5-4**
**CONSTRUCTION EQUIPMENT NOISE**

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

*Source: Bollard & Brennan, 2000*

### Impact 4.5.1 Construction Noise Impacts

**PP** Noise associated with construction activities for subsequent development under the Proposed Land Use Diagram would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AA** Noise associated with construction activities for subsequent development under the Existing Martis Valley General Plan Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AB** Noise associated with construction activities for subsequent development under the Alternative 1 Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AC** Noise associated with construction activities for subsequent development under the Alternative 2 Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

#### *PP Proposed Land Use Diagram*

Construction associated with subsequent development under the Community Plan would typically generate maximum noise levels ranging from 85 to 95 dB at a distance of 50 feet. Depending on the timing of buildout of the Plan area, existing and future residents within the Plan area may be exposed to these excessive noise levels. Construction activities would be temporary in nature and would occur during normal daytime working hours (8:00 a.m. to 5:00 p.m.).

#### *AA Existing Martis Valley General Plan Land Use Map*

The Existing Martis Valley General Plan Land Use Map would be exposed to similar construction noise levels and impact as the Proposed Land Use Diagram (PP).

***AB Alternative 1 Land Use Map***

The Alternative 1 Land Use Map would be exposed to similar construction noise levels and impact as the Proposed Land Use Diagram (PP).

***AC Alternative 2 Land Use Map***

The Alternative 2 Land Use Map would be exposed to similar construction noise levels and impact as the Proposed Land Use Diagram (PP).

Policies and Implementation Programs

The Community Plan does not include policies or implementation programs that specifically address construction noise impacts.

Mitigation Measures

The following mitigation measures shall be incorporated into the Martis Valley Community Plan as policies under Goal 10.A of the Noise Section. The following mitigation measures shall apply to the Proposed Land Use Diagram and alternatives AA, AB and AC.

**MM 4.5.1a** As part of subsequent project approvals, the County shall require that construction activities be prohibited on Sundays and federal holidays and limited to daytime hours (6:00 a.m. to 8:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturdays).

**MM 4.5.1b** As part of subsequent project approvals, the County shall require that stationary construction equipment and construction staging areas be setback from existing noise-sensitive land uses. The setback distance will be considered on a case-by-case basis and will be determined by the County as part of subsequent project review.

While implementation of the above mitigation measures would reduce the impact of construction noise, construction noise impacts are expected to be temporary but **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB and AC.

**Impact 4.5.2 Transportation Noise Impacts**

**PP** Anticipated transportation noise increases associated with subsequent development under the Proposed Land Use Diagram would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AA** Anticipated transportation noise increases associated with subsequent development under the Existing Martis Valley General Plan Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AB** Anticipated transportation noise increases associated with subsequent development under the Alternative 1 Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

**AC** Anticipated transportation noise increases associated with subsequent development under the Alternative 2 Land Use Map would result in elevated noise levels that would be in excess of applicable noise standards. This would be a **significant** impact.

### *PP Proposed Land Use Diagram*

Anticipated roadway noise levels under the Proposed Land Use Diagram for year 2021 is shown in **C-2** of **Appendix 4.5**. As shown in **Appendix 4.5**, anticipated traffic noise levels on roadways within the Plan area would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as the two roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

In addition to the roadways listed in **C-2** of **Appendix 4.5**, existing residential land uses north of Schaffer Mill Road that would have a roadway connection under the Proposed Circulation Diagram (all connections option) would experience increased traffic noise as a result of the proposed Palisades Connector.

### *AA Existing Martis Valley General Plan Land Use Map*

Anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map for year 2021 is shown in **C-1** of **Appendix 4.5**. As shown in **Appendix 4.5**, anticipated traffic noise levels on roadways within the Plan area and the Tahoe Basin would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as the two roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

In addition to the roadways listed in **C-1** of **Appendix 4.5**, existing residential land uses north of Schaffer Mill Road that would have a roadway connection under the Proposed Circulation Diagram (all connections option) would experience increased traffic noise as a result of the proposed Palisades Connector.

### *AB Alternative 1 Land Use Map*

Anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map for year 2021 is shown in **C-3** of **Appendix 4.5**. As shown in **Appendix 4.5**, anticipated traffic noise levels on roadways within the Plan area and the Tahoe Basin would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as the two roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

In addition to the roadways listed in **C-3** of **Appendix 4.5**, existing residential land uses north of Schaffer Mill Road that would have a roadway connection under the Proposed Circulation Diagram (all connections option) would experience increased traffic noise as a result of the proposed Palisades Connector.

### *AC Alternative 2 Land Use Map*

Anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map for year 2021 is shown in **C-4** of **Appendix 4.5**. As shown in **Appendix 4.5**, anticipated traffic noise levels on roadways within the Plan area and the Tahoe Basin would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as the two roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

In addition to the roadways listed in **C-4** of **Appendix 4.5**, existing residential land uses north of Schaffer Mill Road that would have a roadway connection under the Proposed Circulation Diagram (all connections option) would experience increased traffic noise as a result of the proposed Palisades Connector.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would help mitigate this impact.

*Policy 10.A.3* *The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC).*

*Policy 10.A.5* *New development of noise-sensitive land uses will not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in Table 10-3, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in Table 10-3.*

**TABLE 10-3**
**MAXIMUM ALLOWABLE NOISE EXPOSURE**
**TRANSPORTATION NOISE SOURCES**

| Land Use | Outdoor Activity Areas[a] $L_{dn}$/CNEL, dB | Interior Spaces | |
|---|---|---|---|
| | | $L_{dn}$/CNEL,dB | $L_{eq}$, dB[b] |
| Residential | 60[c] | 45 | -- |
| Transient Lodging | 65[d] | 45 | -- |
| Hospitals, Nursing Homes | 60[c] | 45 | -- |
| Theaters, Auditoriums, Music Halls | -- | -- | 35 |
| Churches, Meeting Halls | 60[c] | -- | 40 |
| Office Buildings | -- | -- | 45 |
| Schools, Libraries, Museums | -- | -- | 45 |

*a. Outdoor Activity Areas are generally considered to be the back yard or patio or the receiving land use. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.*
*b. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, 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 possible 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. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.*

*Policy 10.A.6* *Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 10-3 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.*

*Policy 10.A.7* *It is anticipated that roadway improvement projects will be needed to accommodate build-out of the community plan. Therefore, existing noise-sensitive uses may be exposed to increased noise levels due to roadway improvement projects as a result of increased roadway capacity, increases in travel speeds, etc. may occur. It may not be practical to reduce increased traffic noise levels consistent with those contained Table 10-3. Therefore, as an alternative, the following criteria may be used as a test of significance for roadway improvement projects:*

*a. 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*

*b. 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*

*c. 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.*

*Policy 10.A.8* *Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 10-3 or the performance standards of Table 10-1, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. At the discretion of the County, the requirement for an acoustical analysis may be waived provided that all of the following conditions are satisfied:*

*a. The development is for less than five single-family dwellings or less than 10,000 square feet in total gross floor area for office buildings, churches, or meeting halls;*

*b. The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available, and it can be determined that the project will not exceed the appropriate criteria contained within Tables 10-1 and 10-3. An acoustical analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources;*

*c. The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade; and*

*d. Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 10-1 or Table 10-3. Such measures may include the use of building setbacks, building orientation, noise barriers, and the standard noise mitigations contained in the Placer County Acoustical Design Manual. If closed windows are required for compliance with interior noise level standards, air conditioning or a mechanical ventilation system will be required.*

**TABLE 10-1**
**EXTERIOR NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES**

| Zone District of Receptor | Exterior Hourly $L_{eq}$, dB | | Interior Hourly $L_{eq}$, dB | |
|---|---|---|---|---|
| | Daytime (7 am to 10 pm) | Nighttime (10 pm to 7 am) | Daytime (7 am to 10 pm) | Nighttime (10 pm to 7 am) |
| Residential Adjacent to Industrial | 60 | 50 | -- | -- |
| Other Residential 1 | 55 | 45 | -- | -- |
| Office/Professional | -- | -- | 45 | 45 |
| Transient Lodging 2 | 60 | 60 | 45 | 45 |
| Hospitals, Nursing Homes | 60 | 50 | – | -- |
| Theaters, Music Halls, Auditoriums | – | – | 35 | 35 |
| Churches, Meeting Halls [2] | 60 | 50 | 45 | 45 |
| Schools, Libraries, Museums [3] | 60 | 50 | 45 | 45 |

1. *Because snowmaking is an integral part of a modern ski area, multi-family residential structures close to ski trails shall be subject only to interior noise level standards as would transient lodging in such locations.*
2. *Where no outdoor activity area exists, only the interior noise level criteria will be applied.*
3. *The exterior noise level criteria only apply at areas, which require good speech articulation such as areas designated for learning.*

a. *Except where otherwise noted, the noise level criteria are applied at the property line of the receiving land use.*
b. *The noise level criteria are generally applied at the first floor receiver locations.*
c. *If the noise source generated by, or affecting the uses shown above consists primarily of speech or music, or if the noise source is impulsive in nature, the noise standards shown above shall be decreased by 5 dB.*
d. *Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state of the art at the time of expansion. In no case will expansion of an existing industrial operation be cause to decrease allowable noise emission limits. Increased emissions above those normally allowable should be limited to a one-time 5 dB increase at the discretion of the decision making body.*
e. *The standards contained are not applied at incidental residential uses of noise generating uses, such as caretaker dwellings on industrial facilities and homes on agriculturally zoned land.*
f. *Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.*
g. *Where an industrial use is subject to infrequent and unplanned upset or breakdown of operations resulting in increased noise emissions, where such upsets and breakdowns are reasonable considering the type of industry, and where the industrial use exercises due diligence in preventing as well as correcting such upsets and breakdowns, noise generated during such upsets and breakdowns shall not be included in calculations to determine conformance with allowable noise levels.*

*New noise-sensitive uses which may be affected by noise sources associated with agricultural operations shall be responsible for mitigating agricultural operations noise levels consistent with this Table. Typical operations associated with agricultural uses shall not be subject to compliance with the criteria contained within this Table at nearby noise-sensitive uses.*

*Policy 10.A.10* *Where noise mitigation measures are required to achieve the standards of Tables 10-1 and 10-3, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.*

*Implementation Programs*

1. *The County shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the project review process and, as may be determined necessary, through the building permit process.*

   *Responsible Agency/Department: Division of Environmental Health, Planning Department, Building Department*
   *Time frame: Ongoing*
   *Funding: Permit fees*

2. *The County shall develop and employ procedures to monitor compliance with the standards of the Noise section of the Plan after completion of projects where noise mitigation measures were required.*

   *Responsible Agency/Department: Division of Environmental Health*
   *Time frame: Ongoing*
   *Funding: Permit fees*

Mitigation Measures

Implementation of the above policies and implementation programs would adequately mitigate future traffic noise impacts on future residential and noise-sensitive land uses in the Plan area. However, there are existing residential land uses within the Plan area, Tahoe Basin and the Town of Truckee that would be exposed to excessive noise levels. Possible mitigations include installation of sound barriers. However, sound barriers (in some cases) would need to be placed in front yards and would be ineffective given the need for openings for driveways. In addition, Placer County does not have the jurisdiction to place sound barriers in the Town of Truckee. Given these conditions, the traffic noise impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

**Impact 4.5.3 Future Stationary Noise Impacts**

**PP** Implementation of the Proposed Land Use Diagram could result in the future development of land uses that generate noise levels in excess of applicable noise standards for non-transportation noise sources. This would be a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map could result in the future development of land uses that generate noise levels in excess of applicable noise standards for non-transportation noise sources. This would be a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map could result in the future development of land uses that generate noise levels in excess of applicable noise standards for non-transportation noise sources. This would be a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map could result in the future development of land uses that generate noise levels in excess of applicable noise standards for non-transportation noise sources. This would be a **less than significant** impact.

**PP – AC Proposed Land Use Diagram and Alternatives AA, AB, and AC**

Implementation of the proposed Community Plan under any of the four land use map alternatives could result in the future development of land uses that generate noise levels in excess of Placer County General Plan noise standards and the Martis Valley Community Plan noise standards for non-transportation noise sources. Such land uses may include commercial and office uses as well as recreational uses (sports fields and new snow-making facilities). However, specific land uses that would locate in the Plan Area are not known at this point in time.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would fully mitigate this impact.

*Policy* 10.A.1 *New development of noise-sensitive uses shall not be allowed where* the noise level due to non-*transportation noise sources will exceed the noise level standards of Table 10-1 as measured immediately within the property line or within a designated outdoor activity area (at the discretion of the Planning Director) of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in Table 10-1.*

*Policy 10.A.2 Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 10-1 as measured immediately within the property line of lands designated for noise-sensitive uses.*

*Policy 10.A.3 The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC).*

*Policy 10.A.4 Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 10-1 at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design. The requirements for the content of an acoustical analysis are given by Table 10-2.*

**TABLE 10-2**
**REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS**

An acoustical analysis prepared pursuant to the Noise Element shall:

1. Be the financial responsibility of the applicant.
2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
4. Estimate existing and projected cumulative (20 years) noise levels in terms of $L_{dn}$ or CNEL and/or the standards of Table 10-1, and compare those levels to the adopted policies of the Noise Element.
5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses.
6. Estimate noise exposure after the prescribed mitigation measures have been implemented.
7. Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures.

Note:
Industrial, light industrial, commercial and public service facilities which have the potential for producing objectionable noise levels at nearby noise-sensitive uses are dispersed throughout the County. 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 |
| 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 |
| Snow -making equipment | |

The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities including lumber mills, 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, ski areas, race tracks, landfills, sand and gravel operations, and athletic fields.

*Policy 10.A.9* *Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 10-3 or the performance standards of Table 10-1, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. At the discretion of the County, the requirement for an acoustical analysis may be waived provided that all of the following conditions are satisfied:*

*a. The development is for less than five single-family dwellings or less than 10,000 square feet of total gross floor area for office buildings, churches, or meeting halls;*

*b. The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available. An acoustical analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources;*

*d. The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade; and*

*e. Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 10-1 or 10-3. Such measures may include the use of building setbacks, building orientation, noise barriers, and the standard noise mitigations contained in the Placer County Acoustical Design Manual. If closed windows are required for compliance with interior noise level standards, air conditioning or a mechanical ventilation system will be required.*

*Policy 10.A.10* *Where noise mitigation measures are required to achieve the standards of Tables 10-1 and 10-3, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.*

*Implementation Programs*

*1. The County shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the project review process and, as may be determined necessary, through the building permit process.*

*Responsible Agency/Department: Division of Environmental Health, Planning Department, Building Department*
*Time frame: Ongoing*
*Funding: Permit fees*

*2. The County shall develop and employ procedures to monitor compliance with the standards of the Noise section of the Plan after completion of projects where noise mitigation measures were required.*

*Responsible Agency/Department: Division of Environmental Health*
*Time frame: Ongoing*
*Funding: Permit fees*

Implementation of the above policies and implementation programs would reduce potential future land use stationary noise impacts to **less than significant**.

Mitigation Measures

None required.

**Impact 4.5.4 Truckee-Tahoe Airport Noise Impacts**

**PP** Subsequent development under the Proposed Land Use Diagram would be exposed to noise associated with the operation of the Truckee-Tahoe Airport. This would be a **significant** impact.

**AA** Subsequent development under the Existing Martis Valley General Plan Land Use Map would be exposed to noise associated with the operation of the Truckee-Tahoe Airport. This would be a **significant** impact.

**AB** Subsequent development under the Alternative 1 Land Use Map would be exposed to noise associated with the operation of the Truckee-Tahoe Airport. This would be a **significant** impact.

**AC** Subsequent development under the Alternative 2 Land Use Map would be exposed to noise associated with the operation of the Truckee-Tahoe Airport. This would be a **significant** impact.

***PP Proposed Land Use Diagram***

As shown in **Figures 4.5-1** and **4.5-2**, future land uses that would be within the designated CNEL noise exposure contour lines for 1999 and 2020 would be limited to Public or Quasi Public, General Commercial, Open Space, Water and Forest Residential. However, due to the number of aircraft arrivals and departures from the Truckee-Tahoe Airport anticipated under the Truckee-Tahoe Airport Master Plan (Truckee-Tahoe Airport District, 1998), the potential for annoyance at future residential land uses will likely occur.

***AA Existing Martis Valley General Plan Land Use Map***

As shown in **Figures 4.5-1** and **4.5-2**, future land uses that would be within the designated CNEL noise exposure contour lines for 1999 and 2020 would be limited to Public, General Commercial, Open Space, and Water. However, due to the number of aircraft arrivals and departures from the Truckee-Tahoe Airport anticipated under the Truckee-Tahoe Airport Master Plan (Truckee-Tahoe Airport District, 1998), the potential for annoyance at future residential land uses will likely occur.

***AB Alternative 1 Land Use Map***

As shown in **Figures 4.5-1** and **4.5-2**, future land uses that would be within the designated CNEL noise exposure contour lines for 1999 and 2020 would be limited to Public or Quasi Public, General Commercial, Open Space, Water and Forest Residential. However, due to the number of aircraft arrivals and departures from the Truckee-Tahoe Airport anticipated under the Truckee-Tahoe Airport Master Plan (Truckee Tahoe-Airport District, 1998), the potential for annoyance at future residential land uses will likely occur.

***AC Alternative 2 Land Use Map***

As shown in **Figures 4.5-1** and **4.5-2**, future land uses that would be within the designated CNEL noise exposure contour lines for 1999 and 2020 would be limited to Public or Quasi Public, General Commercial, Open Space, Water and Forest Residential. However, due to the number

of aircraft arrivals and departures from the Truckee-Tahoe Airport anticipated under the Truckee-Tahoe Airport Master Plan (Truckee-Tahoe Airport District, 1998), the potential for annoyance at future residential land uses will likely occur.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would help mitigate this impact.

*Policy 10.A.3* *The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC).*

*Policy 10.A.5* *New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources, including airports, which exceed the levels specified in Table 10-3, unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces to the levels specified in Table 10-3.*

*Policy 10.A.6* *Noise created by new transportation noise sources shall be mitigated so as not to exceed the levels specified in Table 10-3 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.*

*Policy 10.A.9* *Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 10-3 or the performance standards of Table 10-1, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. At the discretion of the County, the requirement for an acoustical analysis may be waived provided that all of the following conditions are satisfied:*

*a. The development is for less than five single-family dwellings or less than 10,000 square feet in total gross floor area for office buildings, churches, or meeting halls;*

*b. The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available. An acoustical analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources;*

*c. The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade; and*

*d. Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 10-1 or 10-3. Such measures may include the use of building setbacks, building orientation, noise*

*barriers, and the standard noise mitigations contained in the Placer County Acoustical Design Manual. If closed windows are required for compliance with interior noise level standards, air conditioning or a mechanical ventilation system will be required.*

*Policy 10.A.10* *Where noise mitigation measures are required to achieve the standards of Tables 10-1 and 10-3, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.*

*Implementation Programs*

1. *The County shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the project review process and, as may be determined necessary, through the building permit process.*

   *Responsible Agency/Department: Division of Environmental Health, Planning Department, Building Department*
   *Time frame: Ongoing*
   *Funding: Permit fees*

2. *The County shall develop and employ procedures to monitor compliance with the standards of the Noise section of the Plan after completion of projects where noise mitigation measures were required.*

   *Responsible Agency/Department: Division of Environmental Health*
   *Time frame: Ongoing*
   *Funding: Permit fees*

Mitigation Measures

The following mitigation measures shall be incorporated into the Martis Valley Community Plan as policies under Goal 10.A of the Noise Section. The following mitigation measures shall apply to the Proposed Land Use Diagram and alternatives AA, AB and AC.

**MM 4.5.4a** As part of subsequent residential project approvals, the County shall require that navigation easements be granted to the Truckee-Tahoe Airport District as appropriate. The purpose of the easement is to disclose to future residents that they may be exposed to occasional noise from aircraft utilizing the airport.

**MM 4.5.4b** As part of subsequent residential project submittals for land areas within the designated 55 CNEL contour of the Truckee Tahoe Airport, the County shall require that the applicant incorporate mitigation that is sufficient to bring interior noise levels to 45 CNEL.

Implementation of the above mitigation measures and policies and implementation programs of the Community would reduce this impact to **less than significant** for PP and alternatives AA, AB and AC.

### 4.5.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative noise analysis is focused on the Plan Area as well as roadways outside of the Plan Area that were evaluated in **Tables C-1** through **C-4** of **Appendix 4.5**.

**Table 3.0-1** and **Figures 3.0-4, 4.0-1** and **4.0-2** illustrates proposed and conceptual development projects in the Martis Valley area that would contribute to cumulative noise impacts.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

**Impact 4.5.5 Cumulative Traffic Noise Impacts**

**PP** Anticipated transportation noise increases associated with subsequent development under the Proposed Land Use Diagram in year 2021 would contribute to elevated noise levels that would be in excess of applicable noise standards. This would be a **cumulative significant** impact.

**AA** Anticipated transportation noise increases associated with subsequent development under the Existing Martis Valley General Plan Land Use Map in year 2021 would contribute to elevated noise levels that would be in excess of applicable noise standards. This would be a **cumulative significant** impact.

**AB** Anticipated transportation noise increases associated with subsequent development under the Alternative 1 Land Use Map in year 2021 would contribute to elevated noise levels that would be in excess of applicable noise standards. This would be a **cumulative significant** impact.

**AC** Anticipated transportation noise increases associated with subsequent development under the Alternative 2 Land Use Map in year 2021 would contribute to elevated noise levels that would be in excess of applicable noise standards. This would be a **cumulative significant** impact.

***PP Proposed Land Use Diagram***

As described in Impact 4.5.2, anticipated roadway noise levels under the Proposed Land Use Diagram in combination with anticipated development in the Martis Valley area for year 2021 (shown in **C-2** of **Appendix 4.5**) would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

***AA Existing Martis Valley General Plan Land Use Map***

As described in Impact 4.5.2, anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map in combination with anticipated development in the Martis Valley area for year 2021 (shown in **C-1** of **Appendix 4.5**) would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as roadway scenarios described above in the "Methodology" Section. Residential uses within the

Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

***AB Alternative 1 Land Use Map***

As described in Impact 4.5.2, anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map in combination with anticipated development in the Martis Valley area for year 2021 (shown in **C-3** of **Appendix 4.5**) would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

***AC Alternative 2 Land Use Map***

As described in Impact 4.5.2, anticipated roadway noise levels under the Existing Martis Valley General Plan Land Use Map in combination with anticipated development in the Martis Valley area for year 2021 (shown in **C-4** of **Appendix 4.5**) would exceed Placer County General Plan noise standards as well as noise standards set forth in the Community Plan policy document for existing and future residential land uses under the Proposed Circulation Diagram as well as roadway scenarios described above in the "Methodology" Section. Residential uses within the Town of Truckee along impacted roadways would also be exposed to noise levels in excess of Town standards. Commercial and office uses within the Plan area would not be exposed to noise levels in excess of County standards.

Mitigation Measures

Implementation of the policies, implementation programs in the Community Plan would adequately mitigate future traffic noise impacts on future residential and noise-sensitive land uses in the Plan area. However, there are existing residential land uses within the Plan area, Tahoe Basin and the Town of Truckee that would be exposed to excessive noise levels. Possible mitigations include installation of sound barriers. However, sound barriers (in some cases) would need to be placed in front yards and would be ineffective given the need for openings for driveways. In addition, Placer County does not have the jurisdiction to place sound barriers in the Town of Truckee to mitigate its contribution to traffic noise impacts. Given these conditions, the cumulative traffic noise impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

## REFERENCES

Placer County Planning Dept., 1990, *Martis Valley General Plan*.

Placer County Planning Dept., 1994, *Placer County General Plan Update*.

# Section 4.6
# Air Quality

This Section describes the impacts of the project on local and regional air quality. The chapter was prepared using methodologies and significance thresholds consistent with the recommendations of the Placer County Air Pollution Control District. In keeping with these recommendations, the section describes existing air quality, construction-related impacts, direct and indirect emissions associated with the project and the impacts of these emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts.

### 4.6.1 EXISTING SETTING

CLIMATE AND METEOROLOGY

Martis Valley has a Mediterranean climate type, with pronounced summer and winter seasonal variation in temperature and precipitation. Most precipitation occurs from late October through early May with winter precipitation falling as snow. Temperatures variation is relatively high seasonal as well as daily.

The planning area lies within a small air basin defined by mountainous terrain. As with most mountain valleys, Martis Valley is subject to frequent temperature inversions. A temperature inversion is created when a stable mass of warmer air lies above a mass of colder air. Temperature inversions severely limit the vertical mixing of pollutants. When combined with mountainous terrain that restricts horizontal movement or dilution of pollutants, inversion conditions can result in poor ventilation and high concentrations of pollutants.

Temperature inversions in the Martis Valley area are created in 2 ways: radiational cooling and subsidence. Radiation inversions occur on calm, clear nights when the ground cools more rapidly than the air above it. The cooling of the air near the ground creates a ground-based and relatively shallow inversion.

Subsidence inversions result from the compressional heating of layers of the atmosphere by downward motion (subsidence) related to large-scale high-pressure areas. This type of inversion tends to be elevated above ground. The strongest inversions conditions in the local air basin are a result of the combined effects of both types of inversions.

AMBIENT AIR QUALITY STANDARDS

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are concentrations of air pollutants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants.

The federal and California state ambient air quality standards are summarized in **Table 4.6-1**. The federal and state ambient standards were developed to protect public health and welfare. However, the standards were developed independently, using different methods. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and $PM_{10}$.

**TABLE 4.6-1**
**FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | Federal Primary Standard | State Standard |
|---|---|---|---|
| Ozone | 1-Hour | 0.12 ppm | 0.09 ppm |
| | 8-Hour | 0.08 ppm | -- |
| Carbon Monoxide | 8-Hour | 9.0 ppm | 9.0 ppm |
| | 1-Hour | 35.0 ppm | 20.0 ppm |
| Nitrogen Dioxide | Annual | 0.05 ppm | -- |
| | 1-Hour | -- | 0.25 ppm |
| Sulfur Dioxide | Annual | 0.03 ppm | -- |
| | 24-Hour | 0.14 ppm | 0.05 ppm |
| | 1-Hour | -- | 0.5 ppm |
| $PM_{10}$ | Annual | 50 ug/m$^3$ | 30ug/m$^3$ |
| | 24-Hour | 150 ug/m$^3$ | 50 ug/m$^3$ |
| $PM_{2.5}$ | Annual | 15 ug/m$^3$ | -- |
| | 24-Hour | 65 ug/m$^3$ | -- |
| Lead | 30-Day Avg. | -- | 1.5 ug/m$^3$ |
| | Month Avg. | 1.5 ug/m$^3$ | -- |

*ppm = parts per million*
*ug/m$^3$ = Micrograms per Cubic Meter*

The U.S. Environmental Protection Agency in 1997 adopted new national air quality standards for ground-level ozone and for fine Particulate Matter. The existing 1-hour ozone standard of 0.12 PPM will be phased out and replaced by an 8-hour standard of 0.08 PPM. New national standards for fine Particulate Matter (diameter 2.5 microns or less) have also been established for 24-hour and annual averaging periods. The current $PM_{10}$ standards were retained.

Implementation of the new ozone and Particulate Matter standards was delayed by a lawsuit. On February 27, 2001 the Supreme Court unanimously ruled in favor of the Environmental Protection Agency, clearing the way for implementation of the new standards. While the new standards are in effect, the implementation method and schedule have not yet been finalized.

AMBIENT AIR QUALITY

The planning area is within the Placer County Air Pollution Control District. The District operates an air quality monitoring site in Colfax, but not in Martis Valley. The adjacent Northern Sierra Air Quality Management District (NSAQMD) maintains ambient air quality monitoring stations in the Truckee area. Ozone, $PM_{10}$ and $PM_{2.5}$ are measured at the Truckee-Fire Station site. In the 4-year period 1997-2000 no exceedances of the national or state standards for ozone were recorded. (NSAQMD, 2001)

$PM_{10}$ concentrations in Truckee have occasionally exceeded the federal ambient air quality standards and frequently exceed the more stringent state standard. Sampling of $PM_{2.5}$ began in the first quarter of 1999. No exceedances of the federal standards for this pollutant were recorded in the years 1999-2000. Annual maximum PM2.5 concentrations measures in Truckee during 1999 and 2000 were 50.0 and 23.0 micrograms per cubic meter. The annual average concentrations were 9.0 and 8.8 micrograms per cubic meter, also below the ambient standard of 15 micrograms per cubic meter (NSAQMD, 2001).

EXISTING EMISSION SOURCES

Major emission sources in the Martis Valley are motor vehicles, railroads, open burning and residential wood burning. Existing permitted industrial sources in the Truckee area include 2 quarry/mining operations and a concrete batch plant. The major sources of ozone precursors are vehicles. The major sources of Particulate Matter are residential wood burning, open burning (in the summer) and road dust. Construction activities are a seasonal source of Particulate Matter emissions and ozone precursors as well. The dominant source of fine Particulate Matter ($PM_{2.5}$) is combustion.

### 4.6.2 REGULATORY FRAMEWORK

REGIONAL AIR QUALITY PLANNING

Both the federal and state governments have enacted laws mandating the identification of areas not meeting the ambient air quality standards and development of regional air quality plans to eventually attain the standards. Under the federal Clean Air Act, Placer County is considered "Unclassified" or "Attainment" for all pollutants except ozone. For the State standards, the Placer County is "Non-attainment" for $PM_{10}$ and ozone and either "Attainment" or "Unclassified" for other pollutants.

The Town of Truckee and Northern Sierra AQMD have developed a particulate matter air quality management plan for Truckee (Town of Truckee, 1999). The Town of Truckee Town Council initiated this planning effort to analyze particulate matter pollution and take steps to control particulate matter emissions. The urgency of this issue was related to exceedances of the state and federal standards and the possibility of being designated as a federal non-attainment area.

Classification as a non-attainment area sets into motion requirements for development of a plan to reach attainment, which must be developed by the local air districts and submitted to the California Air Resources Board and U.S.E.P.A. for approval. These attainment plans provide for new rules and regulations and other programs designed to reduce emissions. Failure to meet the attainment deadlines could result in increased offset requirements for new industrial sources and potential sanctions, including withholding of federal grants for capacity-expanding transportation projects.

LOCAL AIR DISTRICT

The geographical Martis Valley is a sub-air basin of the Mountain Counties Air Basin. The county line between Nevada County on the north and Placer County on the south bisects this local air basin. Martis Valley is subdivided as to local air pollution agency jurisdiction. The Nevada County portion of the valley is under the jurisdiction of the Northern Sierra Air Quality Management District. The Placer County portion of the valley, the study area, is under the jurisdiction of the Placer County Air Pollution Control District.

The Placer County Air Pollution Control District is the local agency involved in the permitting and regulating of air pollution sources in the study area. District activities with respect to planning are primarily in the form of review of CEQA documents. As a commenting agency, the District has a policy of recommending new residential developments to limit wood-burning and to provide funding for mitigation programs that offset increases in Particulate Matter. (Vintze, 2001)

PLACER COUNTY GENERAL PLAN

The following are Placer County General Plan policies regarding general air quality:

Policy 6.F.1 The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management.

Policy 6.F.2 The County shall develop mitigation measures to minimize stationary source and area source emissions.

Policy 6.F.3 The County shall support the Placer County Air Pollution Control District (PCAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

Policy 6.F.4 The County shall solicit and consider comments from local and regional agencies on proposed project that may affect regional air quality.

Policy 6.F.5 The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

Policy 6F.6 The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

Policy 6.F.7 The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.

Policy 6.F.8 The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision-making body.

Policy 6.F.9 In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.

Policy 6.F.10 The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).

Policy 6.F.11 The County shall apply the buffer standards described on page 20 in Part I of this Policy Document and meteorological analyses to provide separation between possible emission/nuisance sources (such as industrial and commercial uses) and residential areas.

The following are Placer County General Plan policies regarding air quality related to transportation and circulation:

Policy 6.G.1 The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.

Policy 6.G.2 The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

Policy 6.G.3 The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.

Policy 6.G.4 The County shall consider instituting disincentives for single-occupancy vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the Placer County Air Pollution Control District and incorporated into regional plans.

Policy 6.G.5 The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

Policy 6.G.6 The County shall require large new developments to dedicate land for and construct appropriate improvements for park-and-ride lots, if suitably located.

Policy 6.G.7 The County shall require stationary-source projects that generate significant amounts of air pollutants to incorporate air quality mitigation in their design.

MARTIS VALLEY GENERAL PLAN

The 1975 Martis Valley General Plan contains a single policy regarding air quality:

> "*Air quality should receive careful consideration with each development proposal in order to keep air quality at or above extant levels*"

TOWN OF TRUCKEE PARTICULATE MATTER AIR QUALITY MANAGEMENT PLAN

The Particulate Matter Air Quality Management Plan adopted by the Town of Truckee is intended to achieve the air quality goals of the Truckee General Plan:

*Achieve and maintain ambient air quality standards established by the U. S. Environmental Protection Agency and the California Air Resources Board; and minimize public exposure to toxic, hazardous or odoriferous air pollutants.*

*Encourage project design that protects air quality and minimizes direct and indirect emissions of air contaminants.*

Within the Air Quality Management Plan the goal of the Plan is as follows:

*The Town shall achieve and maintain compliance with National Ambient Air Quality Standards for PM10 and PM2.5 as established by the United State Environmental Protection Agency. The Town shall strive to achieve compliance with State Ambient air quality standards for PM10 as established by State law and shall make reasonable progress toward achieving State particulate matter standards.*

The Air Quality Management Plan lists 9 objectives. The following 7 related to control strategies:

*Objective 1: New development will mitigate to the maximum extent feasible its particulate matter emissions from solid fuel burning devices and re-entrained road dust.*

*Objective 2: Particulate matter emissions from solid fuel burning devices and re-entrained road dust represent the Town's greatest opportunity to reduce emission levels since emissions savings (i.e., a reduction of emissions below current levels) can only occur with a reduction of emissions from existing sources. Emissions from these sources will be reduced to the extent necessary to meet the attainment goal of this plan. Control strategies in the near-term should focus on these sources, and all feasible control strategies should be used.*

*Objective 3: The Town will request and encourage Caltrans to optimize their equipment and operational measures for winter road sanding that will reduce re-entrained road dust emissions below current emissions levels. The Town will optimize its equipment and operational measures for winter road sanding to reduce re-entrained road dust emissions to the maximum extent feasible.*

*Objective 4: Financial incentives, public education, and other non-regulatory strategies will be encouraged when feasible. Control strategies that are cost effective and reduce financial burden as much as possible will be encouraged. Cost-effective strategies provide higher emission saving at lower financial expenditures to the public sector and private individuals.*

*Objective 5: Innovative technologies for heating and building energy conservation practices will be encouraged to reduce reliance on solid fuel burning devices and other heating devices which generate particulate matter emissions.*

*Objective 6: The Town Council will coordinate with and encourage the Nevada County and Placer County Board of Supervisors to implement PM control strategies in the Truckee air basin.*

*Objective 7: Control strategies for regulated PM will be coordinated with strategies addressing other air pollutants and air quality issues.*

### 4.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

An air quality impact of the proposed Martis Valley Community Plan Update would be considered significant if it would result in any of the following actions based on the following criteria:

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

2) Result in new emissions exceeding the Placer County Air Pollution Control District's recommended thresholds of significance for either construction or operation. These thresholds are 82 pounds per day for Reactive Organic Compounds (ROC), Nitrogen Oxides ($NO_x$,), Sulfur Oxides ($SO_X$), or $PM_{10}$ and 550 pounds per day for Carbon Monoxide (CO) (Vintze, 2001);

3) Expose sensitive receptors to substantial pollutant concentrations and/or toxic air contaminants;

4) Have the potential to cause localized carbon monoxide levels at nearby intersections to exceed the ambient air quality standards; or

5) Create objectionable odors.

METHODOLOGY

**Construction**

The URBEMIS7G program was applied to project land uses to estimate the total of construction emissions from site grading, equipment exhaust, construction worker vehicle trips and other construction activities. The total construction emission was converted to estimated daily emissions assuming build-out would occur over a 20-year period and construction would be limited to between May 1 to October 15 each year. Default values were assumed for all URBEMIS7G inputs. The URBEMIS7G model output is included in **Appendix 4.6**.

The resulting emissions for each community plan land use alternative, in pounds per day, are shown in **Table 4.6-2**. These emissions are assumed to be seasonal, occurring largely in the summer months and not during the winter.

**TABLE 4.6-2**
**CONSTRUCTION EMISSIONS, POUND PER DAY**

| Alternative | ROG | $NO_x$ | $PM_{10}$ |
|---|---|---|---|
| Proposed Land Use Diagram (PP) (with Mitigation) | 10.4 (10.1) | 80.2 (76.5) | 157.5 (30.9) |
| Existing Martis Valley Community Plan Land Use Map (AA) (with Mitigation) | 12.6 (12.3) | 83.3 (79.5) | 158.1 (31.5) |
| Alternative 1 (AB) (with Mitigation) | 12.5 (12.2) | 83.2 (79.4) | 158.1 (31.5) |
| Alternative 2 (AC) (with Mitigation) | 11.2 (10.9) | 81.3 (77.6) | 157.8 (31.1) |
| PCAPCD Significance Threshold | 82.0 | 82.0 | 82.0 |

*Source: Ballanti, 2002*

### Local-Scale Analysis

Auto traffic generated by land use development and cumulative development would affect local air quality along the local and regional street system. On the local scale the pollutant of greatest interest is carbon monoxide. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

A screening form of the CALINE-4 computer simulation model was applied to 3 surface intersections affected by traffic from anticipated development within the project study areas. These intersections were selected for analysis because they were signalized intersections that would perform at Level of Service D or worse in the future and therefore represent worst-case locations. This included consideration of the Proposed Circulation Diagram and roadway improvement options. A description of the screening procedure and assumptions made in its use are included in **Appendix 4.6**. The results of the carbon monoxide analysis is shown in **Table 4.6-3**, which compares predicted concentrations very near the intersection (within 25 feet) to the state and federal ambient air quality standards.

**TABLE 4.6-3**
**PREDICTED WORST-CASE CO CONCENTRATIONS AT SELECTED INTERSECTIONS, IN PARTS PER MILLION**

| Intersection | Proposed Land Use Diagram (2021) | | Existing MV Community Plan (2021) | | Alternative 1 (2021) | | Alternative 2 (2021) | |
|---|---|---|---|---|---|---|---|---|
| | 1-Hr | 8-Hr | 1-Hr | 8-Hr | 1-Hr | 8-Hr | 1-Hr | 8-Hr |
| Northstar Dr./ S.R. 267 | 7.2 | 4.7 | 8.0 | 5.3 | 7.9 | 5.3 | 8.1 | 5.4 |
| S.R. 267/Airport Road/Schaffer Mill | 9.7 | 6.5 | 10.8 | 7.3 | 10.6 | 7.1 | 10.1 | 6.8 |
| S.R. 267/S.R. 267Bypass/ Joeger/ Brockway | 10.2 | 6.8 | 11.4 | 7.7 | 10.9 | 7.3 | 10.5 | 7.1 |
| Most Stringent Standard | 20.0 | 9.0 | 20.0 | 9.0 | 20.0 | 9.0 | 20.0 | 9.0 |

*Source: Ballanti, 2002*

### Regional Analysis

The project would result in several new sources of air pollutants affecting differing areas. Automobile traffic associated with project land uses would release new emissions along the local and regional roadway system as vehicle exhaust and as re-entrained road dust. Wood burning, combustion of natural gas, other area sources would release pollutants within development sites within the plan area itself.

Each of these sources would vary seasonally. Exhaust emissions from auto traffic would peak in the summer months along with residential occupancy of the plan area. Road dust emissions from traffic, however, would peak during the winter months after application of sand to the highway system. Wood smoke emissions would also peak in the winter months when the demand for space heating is greatest.

Emissions from these sources have been estimated both for summer months and winter months. However, since ozone is a summertime pollutant, emissions of ozone precursors are most significant in the summer months. Similarly, since $PM_{10}$ problems occur primarily in the winter, wintertime emission of this pollutant is of primary importance.

Nitrogen Oxides, one of the precursors of ozone, is a source of nitrogen-containing particulate matter suspected of contributing to atmospheric deposition of nitrogen and eutrophication of Lake Tahoe. The major sources of atmospheric deposition of nitrogen to the lake are emissions from within the Tahoe Basin itself (vehicles, wood burning, etc.) and transport into the Basin from the San Joaquin and Sacramento valleys (Reuter et. al., 2001). While there may be minor sources of atmospheric deposition of nitrogen from emissions in Mountain Counties into the Tahoe Basin, it is difficult to quantify such emissions given the infrequency of necessary wind conditions. Thus, the emissions resulting from subsequent development within the Plan area project is not likely a significant contributor to such condition.

For each project alternative, regional emissions have been calculated using the URBEMIS7G computer program. A description of the URBEMIS7G program and the assumptions made in its use are described in **Appendix 4.6** along with printouts of the results. The URBEMIS7G program provided estimates of emissions from vehicle exhausts, road dust, landscaping equipment, natural gas combustion and commercial products. Emissions from wood burning were calculated separately as described in **Appendix 4.6**.

PROJECT IMPACTS AND MITIGATION MEASURES

**Impact 4.6.1 Construction Air Quality Impacts**

**PP** The potential exists for construction emissions to exceed the PCAPCD's significance thresholds for air pollutants for subsequent development under the Proposed Land Use Diagram. This would be a **significant** impact.

**AA** The potential exists for construction emissions to exceed the PCAPCD's significance thresholds for air pollutants for subsequent development under the Existing Martis Valley General Plan. This would be a **significant** impact.

**AB** The potential exists for construction emissions to exceed the PCAPCD's significance thresholds for air pollutants for subsequent development under the Alternative 1 Land Use Map. This would be a **significant** impact.

**AC** The potential exists for construction emissions to exceed the PCAPCD's significance thresholds for air pollutants for subsequent development under the Alternative 2 Land Use Map. This would be a **significant** impact.

***PP–AC Proposed Land Use Diagram and Alternatives AA through AC***

As shown in **Table 4.6-2**, summertime averaged daily construction emissions for the Proposed Land Use Diagram and land use alternatives would exceed the PCAPCD's significance threshold for $PM_{10}$ without emission controls and mitigation measures. While $NO_x$ and ROG emissions are not expected to be exceeded based on the assumptions for construction activities in the Plan area, the potential exists for these emissions to be exceeded as well, depending on the extent of construction activities for each subsequent project.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would assist in mitigating this impact.

*Policy 9.H.7* *The County shall work with the Placer County Air Pollution Control District (PCAPCD) to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible. The County should include $PM_{10}$ control measures as conditions of approval of subdivision maps, site plans, and grading permits. The County should inform developers of the requirements of the District's $PM_{10}$ mitigation requirements when they apply for a grading permit.*

Implementation of the above policy during the environmental approval process for individual developments would reduce construction emissions. For the purposes of this analysis, the following construction control measures were assumed to be imposed on all development proposals as a result of the implementation of Policy 9.H.7:

- Alternatives to open burning of vegetative material on the project site shall be used. Suitable alternatives are chipping, mulching, or conversion to biomass fuel.
- Contractors shall be responsible for ensuring that adequate dust control measures are implemented during all phases of project development and construction.
- All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.
- All areas (including unpaved roads) with vehicle traffic shall be watered or have a dust palliative applied as necessary for stabilization of dust emissions.
- All on-site vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
- All land clearing, grading, earth moving or excavation activities shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
- All inactive portions of the construction site shall be covered, seeded, or watered until a suitable cover is established or, alternatively, apply dust palliative.
- Paved streets adjacent construction sites shall be swept or washed at the end of each day, or as required to remove excess accumulations of silt and/or mud which may have resulted from activities at the construction site.
- All material transported off-site shall be either sufficiently watered or securely covered to prevent visible dust emissions.
- Properly maintain all mobile and stationary equipment.
- Use District Rule 218 compliant low-VOC coatings (paints and solvents).

In addition to Policy 9.H.7, the following policies would also assist in mitigating construction air quality impacts.

*Policy 9.H.1* *The County shall develop mitigation measures to minimize stationary source, area source, and indirect source emissions.*

*Policy 9.H.2* *The County shall support the Placer County Air Pollution Control District (PCAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and mitigation strategies to more adequately address the air quality impacts of new development.*

*Policy 9.H.5* *The County shall encourage innovative measures, which include offsite mitigation strategies, to reduce air quality impacts. Innovative measures can be identified during a pre-application consultation process and during County staff/applicant negotiation over CEQA mitigation.*

*Policy 9.H.6* *The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.*

*Policy 9.H.8* *The County may require new development projects to submit an air quality analysis. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's current list of Best Available Mitigation Measures and/or the most recent version of the Air Quality Attainment Plan.*

Mitigation Measures

The following mitigation measure shall be added as an implementation program in Section IX of the Natural Resources Section of the Community Plan:

**MM 4.6.1** The County shall require subsequent projects to fully mitigate their construction air pollutant emissions that are in excess of Placer County Air Pollution Control District's thresholds of significance for emissions. This may include the use of low emission construction equipment, particulate matter control measures, and/or participation in Placer County's Air Pollution Control District's offsite mitigation program.

Responsible Agency/Department: Planning Department
Time Frame: On-going
Funding: Application Fees

The URBEMIS7G program was used to recalculate construction emissions using the above program of mitigation associated with Policy 9.H.7. The average daily emissions from construction would be reduced to below PCAPCD significance thresholds for all pollutants for all alternatives. Implementation of Mitigation Measure MM 4.6.1 would reduce temporary

construction impacts by requiring full mitigation of the emissions. However, given the unknown timing and extent of construction activities in the Plan area and Martis Valley, it may not be feasible to fully mitigate all construction emissions. Thus, this impact is considered **significant and unavoidable** for the Proposed Land se Diagram and Alternatives AA, AB, and AC.

**Impact 4.6.2 Local Carbon Monoxide Concentration Impacts**

**PP** Carbon monoxide concentrations (hot spots) at project intersections at build-out under the Proposed Land Use Diagram would not exceed state or federal air quality standards. This would be a **less than significant** impact.

**AA** Carbon monoxide concentrations (hot spots) at project intersections at build-out under the Existing Martis Valley General Plan would not exceed state or federal air quality standards. This would be a **less than significant** impact.

**AB** Carbon monoxide concentrations (hot spots) at project intersections at build-out under the Alternative 1 Land Use Map would not exceed state or federal air quality standards. This would be a **less than significant** impact.

**AC** Carbon monoxide concentrations (hot spots) at project intersections at build-out under the Alternative 2 Land Use Map would not exceed state or federal air quality standards. This would be a **less than significant** impact.

**PP–AC Proposed Land Use Diagram and Alternatives AA through AC**

The screening form of the CALINE-4 dispersion model predicted that concentrations of CO near major intersections within or near the planning area currently meet the ambient air quality standards. Similar predictions for the year 2021 with build-out of each project alternative together with cumulative increases in traffic volumes do not indicate violations of any ambient air quality standard (See **Table 4.6-3**). Since this conservative, worst-case, worst-location analysis does not predict that concentrations would exceed the state or federal standards (35 PPM/20 PPM for the 1-hour averaging time and 9 PPM for the 8-hour averaging time) project impacts on local carbon monoxide concentrations are predicted to be **less than significant** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

Mitigation Measures

None required.

**Impact 4.6.3 Regional Ozone Precursor Emissions**

**PP** Summertime emissions of ozone precursors as a result of subsequent development under the Proposed Land Use Diagram would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

**AA** Summertime emissions of ozone precursors as a result of subsequent development under this alternative would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

**AB** Summertime emissions of ozone precursors as a result of subsequent development under this alternative would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

**AC** Summertime emissions of ozone precursors as a result of subsequent development under this alternative would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

***PP Proposed Land Use Diagram***

Total emissions associated with this alternative are shown in **Table 4.6-4** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). Ozone is a summertime pollutant, so that project impacts on ozone air quality will be a result of summertime emissions. Summertime project emissions of both ROG and NOx exceed the Placer County APCD's significance threshold of 82 pounds per day.

NOx emissions from this alternative represent a possible source of additional nitrogen deposition into Lake Tahoe. Transport of pollutants from the Martis Valley into the Tahoe Basin is an unusual event, but would still contribute to air quality issues in the Basin. Specifically, wind data from Donner Summit show winds from a westerly quadrant (southwest through northwest) occur 63 percent of the time, while winds from a northerly quadrant (northwest through northeast) occur only 3.8 percent of the time (California Department of Water Resources, 2002).

**TABLE 4.6-4**
**PROJECT DIRECT/INDIRECT EMISSIONS IN POUND PER DAY**

| Alternative | Source | ROG | | NOx | | $PM_{10}$ | |
|---|---|---|---|---|---|---|---|
| | | Summer | Winter | Summer | Winter | Summer | Winter |
| Proposed Land Use Diagram (PP) | Vehicle Exhaust/ Road Dust | 425.7 | 447.9 | 1329.5 | 1451.3 | 727.2 | 2562.0 |
| | Landscaping | 8.3 | --- | 0.7 | --- | 0.2 | --- |
| | Wood Burning | --- | 2633.8 | --- | 390.2 | --- | 3004.5 |
| | Natural Gas Combustion | 10.6 | 10.6 | 138.0 | 138.0 | 0.3 | 0.3 |
| | Consumer Products | 386.7 | 386.7 | --- | --- | --- | --- |
| | **Total** | **831.3** | **3479.0** | **1468.2** | **1979.5** | **727.7** | **5566.8** |
| Existing MV Community Plan (AA) | Vehicle Exhaust/ Road Dust | 582.1 | 611.4 | 1790.2 | 1953.2 | 980.7 | 3455.1 |
| | Landscaping | 9.7 | --- | 0.8 | --- | 0.2 | --- |
| | Wood Burning | --- | 3850.3 | --- | 570.4 | --- | 4392.1 |
| | Natural Gas Combustion | 16.8 | 16.8 | 219.6 | 219.6 | 0.4 | 0.4 |
| | Consumer Products | 565.4 | 565.4 | --- | --- | --- | --- |
| | **Total** | **1174.0** | **5043.9** | **2010.6** | **2743.2** | **981.3** | **7847.6** |
| Alternative 1 (AB) | Vehicle Exhaust/ Road Dust | 531.3 | 553.6 | 1656.0 | 1784.3 | 906.5 | 3153.1 |
| | Landscaping | 19.1 | --- | 1.5 | --- | 0.4 | --- |

| Alternative | Source | ROG | | NOx | | $PM_{10}$ | |
|---|---|---|---|---|---|---|---|
| | | Summer | Winter | Summer | Winter | Summer | Winter |
| | Wood Burning | --- | 3525.4 | --- | 522.3 | --- | 4021.6 |
| | Natural Gas Combustion | 15.9 | 15.9 | 205.9 | 205.9 | 0.4 | 0.4 |
| | Consumer Products | 495.7 | 495.7 | --- | --- | --- | --- |
| | **Total** | **1062.0** | **4570.6** | **1863.4** | **2512.5** | **907.3** | **7175.1** |
| Alternative 2 (AC) | Vehicle Exhaust/ Road Dust | 472.7 | 497.6 | 1463.3 | 1597.2 | 800.7 | 2821.0 |
| | Landscaping | 11.3 | --- | 0.9 | --- | 0.2 | --- |
| | Wood Burning | --- | 3071.6 | --- | 455.1 | --- | 3503.9 |
| | Natural Gas Combustion | 12.7 | 12.7 | 165.6 | 165.6 | 0.3 | 0.3 |
| | Consumer Products | 451.0 | 451.0 | --- | --- | --- | --- |
| | **Total** | **947.7** | **4032.9** | **1629.8** | **2217.9** | **801.2** | **6325.2** |

### *AA Existing Martis Valley General Plan Land Use Map*

Total emissions associated with this alternative are shown in **Table 4.6-4** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). Ozone is a summertime pollutant, so that project impacts on ozone air quality will be a result of summertime emissions. Summertime project emissions of both ROG and NOx exceed the Placer County APCD's significance threshold of 82 pounds per day. The existing plan generates higher levels of emissions for ozone precursors than all other land use plan alternatives (PP, AB, and AC). Specifically, the existing Martis Valley Community Plan Land Use Map would generate between 10 and 37 percent more reactive organic gases and between 9 and 35 percent more nitrogen oxides than all 3 land use plan alternatives (PP, AB, and AC) during both summer and winter conditions.

NOx emissions from this alternative represent a possible source of additional nitrogen deposition into Lake Tahoe. However, only a small fraction of the travel generated by Community Plan land uses would be directed towards and into the Lake Tahoe Basin. Specifically, wind data from Donner Summit show winds from a westerly quadrant (southwest through northwest) occur 63 percent of the time, while winds from a northerly quadrant (northwest through northeast) occur only 3.8 percent of the time (California Department of Water Resources, 2002).

### *AB Alternative 1 Land Use Map*

Total emissions associated with this alternative are shown in **Table 4.6-4** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). Ozone is a summertime pollutant, so that project impacts on ozone air quality will be a result of summertime emissions. Summertime project emissions of both ROG and NOx exceed the Placer County APCD's significance threshold of 82 pounds per day.

NOx emissions from this alternative represent a possible source of additional nitrogen deposition into Lake Tahoe. However, only a small fraction of the travel generated by Community Plan

land uses would be directed towards and into the Lake Tahoe Basin. Specifically, wind data from Donner Summit show winds from a westerly quadrant (southwest through northwest) occur 63 percent of the time, while winds from a northerly quadrant (northwest through northeast) occur only 3.8 percent of the time (California Department of Water Resources, 2002).

### *AC Alternative 2 Land Use Map*

Total emissions associated with this alternative are shown in **Table 4.6-4** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). Ozone is a summertime pollutant, so that project impacts on ozone air quality will be a result of summertime emissions. Summertime project emissions of both ROG and NOx exceed the Placer County APCD's significance threshold of 82 pounds per day.

NOx emissions from this alternative represent a possible source of additional nitrogen deposition into Lake Tahoe. However, only a small fraction of the travel generated by Community Plan land uses would be directed towards and into the Lake Tahoe Basin. Specifically, wind data from Donner Summit show winds from a westerly quadrant (southwest through northwest) occur 63 percent of the time, while winds from a northerly quadrant (northwest through northeast) occur only 3.8 percent of the time (California Department of Water Resources, 2002).

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies would help mitigate this impact.

*Policy 9.H.1* *The County shall develop mitigation measures to minimize stationary source, area source, and indirect source emissions.*

*Policy 9.H.4* *The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of countywide indirect and area wide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.*

*Policy 9.H.5* *The County shall encourage innovative measures, which include offsite mitigation strategies, to reduce air quality impacts. Innovative measures can be identified during a pre-application consultation process and during County staff/applicant negotiation over CEQA mitigation.*

*Policy 9.H.6* *The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.*

*Policy 9.H.8* *The County may require new development projects to submit an air quality analysis. Based on this analysis, the County shall require*

*appropriate mitigation measures consistent with the PCAPCD's current list of Best Available Mitigation Measures and/or the most recent version of the Air Quality Attainment Plan.*

*Policy 9.H.9* *The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways for the vast majority of time. This includes traffic signals and traffic signal coordination, parallel roadways, and intra-and inter-neighborhood connections where reductions in overall emissions can be achieved.*

*Policy 9.H.10* *The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.*

*Policy 9.H.11* *The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.*

*Policy 9.H.12* *The County shall consider instituting disincentives for single-occupancy vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the Placer County Air Pollution Control District and incorporated into regional plans.*

*Policy 9.H.13* *The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall either operate their own or pay its fair share of the cost of transit equipment and facilities required to serve new projects.*

*Policy 9.H.14* *The County shall require new developments to dedicate land for and construct appropriate improvements for park-and-ride lots, if suitably located.*

Implementation of the above policies during the environmental approval process for individual developments would reduce ozone precursor emissions. The implementation of land use/design measures and transportation programs have the potential to reduce impact by 15-30 percent. The implementation of off-site mitigation and/or imposition of mitigation offset fees (9.H.6) would result in further emission reductions, but the actual amount of emission reductions would depend on the off-site program developed for the Martis Valley.

Mitigation Measures

The following would apply to the Proposed Land Use Diagram and Alternatives AA, AB and AC.

**MM 4.6.3** The following language shall be added to policy 9.H.6:

"County staff will develop, with the advice of the Placer County APCD, a mitigation fee program for indirect sources similar to that in use in western Placer County. Mitigation targets will be identified, appropriate off-site mitigation programs developed, and equitable fees established."

This mitigation measure, together with the other air quality policies would reduce ozone precursor impacts, but it is unlikely that impacts could be reduced by such a degree that the PCAPCD threshold of significance would not be exceeded. After mitigation, impacts of the project on ozone precursor emissions would be **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB and AC.

**Impact 4.6.4 Regional $PM_{10}$ Emissions**

**PP** Project-related summertime emissions of $PM_{10}$ for the Proposed Land Use Diagram would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

**AA** Project-related summertime emissions of PM10 for the Existing Martis Valley General Plan Land Use Map would exceed the Placer County APCD's thresholds of significance. This impact would be a **significant** impact.

**AB** Project-related summertime emissions of PM10 for the Alternative 1 Land Use Map would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

**AC** Project-related summertime emissions of PM10 for the Alternative 2 Land Use Map would exceed the Placer County APCD's thresholds of significance. This would be a **significant** impact.

***PP Proposed Land Use Diagram***

Total emissions associated with this alternative are shown in **Table 4.6-4** for the $PM_{10}$. $PM_{10}$ is primarily a wintertime problem in the Martis Valley. The bulk of the emissions are from wood burning and road dust. Road dust impacts would occur a few days following a major snowstorm (after the snowmelt and before the roads are swept), and would occur primarily off-site along the major roads that are sanded. This impact would contribute to ambient PM concentrations through the Plan area. Wood burning emissions also occur primarily in the winter months. Wintertime project emissions of $PM_{10}$ exceed the Placer County APCD's significance threshold of 82 pounds per day. According to the Urbemis Analysis, summertime PM emissions would be above thresholds under project build-out.

***AA Existing Martis Valley General Plan Land Use Map***

Total emissions associated with this alternative are shown in **Table 4.6-4** for the $PM_{10}$. $PM_{10}$ is primarily a wintertime problem in the Martis Valley. The bulk of the emissions are from wood burning and road dust. Road dust impacts would occur a few days following a major snowstorm (after the snowmelt and before the roads are swept), and would occur primarily off-site along the major roads that are sanded. This impact would contribute to ambient PM concentrations through the Plan area. Wood burning emissions also occur primarily in the winter months. Wintertime project emissions of $PM_{10}$ exceed the Placer County APCD's significance threshold of

82 pounds per day. According to the Urbemis Analysis, summertime PM emissions would be above thresholds under project build-out.

### *AB Alternative 1 Land Use Map*

Total emissions associated with this alternative are shown in **Table 4.6-4** for the $PM_{10}$. $PM_{10}$ is primarily a wintertime problem in the Martis Valley. The bulk of the emissions are from wood burning and road dust. Road dust impacts would occur a few days following a major snowstorm (after the snowmelt and before the roads are swept), and would occur primarily off-site along the major roads that are sanded. This impact would contribute to ambient PM concentrations through the Plan area. Wood burning emissions also occur primarily in the winter months. Wintertime project emissions of $PM_{10}$ exceed the Placer County APCD's significance threshold of 82 pounds per day. According to the Urbemis Analysis, summertime PM emissions would be above thresholds under project build-out.

### *AC Alternative 2 Land Use Map*

Total emissions associated with this alternative are shown in **Table 4.6-4** for the $PM_{10}$. $PM_{10}$ is primarily a wintertime problem in the Martis Valley. The bulk of the emissions are from wood burning and road dust. Road dust impacts would occur a few days following a major snowstorm (after the snowmelt and before the roads are swept), and would occur primarily off-site along the major roads that are sanded. This impact would contribute to ambient PM concentrations through the Plan area. Wood burning emissions also occur primarily in the winter months. Wintertime project emissions of $PM_{10}$ exceed the Placer County APCD's significance threshold of 82 pounds per day. According to the Urbemis Analysis, summertime PM emissions would be above thresholds under project build-out.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan, which are listed below. Compliance with these plan policies and implementation programs would help mitigate this impact.

*Policy 9.H.1* *The County shall develop mitigation measures to minimize stationary source, area source, and indirect source emissions.*

*Policy 9.H.4* *The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of countywide indirect and area wide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.*

*Policy 9.H.5* *The County shall encourage innovative measures, which include offsite mitigation strategies, to reduce air quality impacts. Innovative measures can be identified during a pre-application consultation process and during County staff/applicant negotiation over CEQA mitigation.*

*Policy 9.H.6* *The County shall require project-level environmental review to include identification of potential air quality impacts and designation of*

*design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.*

*Policy 9.H.8* *The County may require new development projects to submit an air quality analysis. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's current list of Best Available Mitigation Measures and/or the most recent version of the Air Quality Attainment Plan.*

Mitigation Measures

Implementation of the above policies and Mitigation Measure MM 4.6.3 during the environmental approval process for individual developments would reduce $PM_{10}$ emissions. The requirement that particulate matter emissions from new development should be offset through on-site or off-site mitigation strategies could reduce the net impact of the project to a level that is less-than-significant. However, since there are no details regarding how this would be implemented the impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

### 4.6.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

SETTING

The cumulative air quality analysis take into account the immediate air quality conditions associated with the Martis Valley area as well as the Mountain Counties Air Basin and the Tahoe Basin.

**Table 3.0-1** and **Figures 3.0-4, 4.0-1,** and **4.0-2** illustrates proposed and conceptual development projects in the Martis Valley area that would contribute to cumulative air quality impacts.

IMPACTS AND MITIGATION MEASURES

**Impact 4.6.5 Cumulative Air Quality Impacts**

**PP** Anticipated development and operational effects associated with subsequent development under the Proposed Land Use Diagram in would contribute local and regional air pollution emissions. This would be a **cumulative significant** impact.

**AA** Anticipated development and operational effects associated with subsequent development under the Existing Martis Valley General Plan Land Use Map would contribute local and regional air pollution emissions. This would be a **cumulative significant** impact.

**AB** Anticipated development and operational effects associated with subsequent development under the Alternative 1 Land Use Map in would contribute local and regional air pollution emissions. This would be a **cumulative significant** impact.

**AC** Anticipated development and operational effects associated with subsequent development under the Alternative 2 Land Use Map in would contribute local and regional air pollution emissions. This would be a **cumulative significant** impact.

### *PP Proposed Land Use Diagram*

As described in Impacts 4.6.1, 4.6.3 and 4.6.4, subsequent development under the Proposed Land Use Diagram in combination with anticipated development in the Martis Valley area and the region would contribute to excessive air pollution levels that could impact the ability for Placer County, Nevada County, Town of Truckee and the Tahoe Basin to meet mandated local, state and federal air quality standards.

### *AA Existing Martis Valley General Plan Land Use Map*

As described in Impacts 4.6.1, 4.6.3 and 4.6.4, subsequent development under the Existing Martis Valley General Plan Land Use Map in combination with anticipated development in the Martis Valley area and the region would contribute to excessive air pollution levels that could impact the ability for Placer County, Nevada County, Town of Truckee and the Tahoe Basin to meet mandated local, state and federal air quality standards.

### *AB Alternative 1 Land Use Map*

As described in Impacts 4.6.1, 4.6.3 and 4.6.4, subsequent development under the Alternative 1 Land Use Map in combination with anticipated development in the Martis Valley area and the region would contribute to excessive air pollution levels that could impact the ability for Placer County, Nevada County, Town of Truckee and the Tahoe Basin to meet mandated local, state and federal air quality standards.

### *AC Alternative 2 Land Use Map*

As described in Impacts 4.6.1, 4.6.3 and 4.6.4, subsequent development under the Alternative 2 Land Use Map in combination with anticipated development in the Martis Valley area and the region would contribute to excessive air pollution levels that could impact the ability for Placer County, Nevada County, Town of Truckee and the Tahoe Basin to meet mandated local, state and federal air quality standards.

*Policies and Implementation Programs*

Policies and Implementation Programs that would provide some mitigation are described under Impacts 4.6.1, 4.6.3 and 4.6.4.

Mitigation Measures

Implementation of the policies, implementation programs in the Community Plan and identified mitigation measures would assist in mitigating the Community Plan's contribution to cumulative air quality impacts. However, Community Plan air pollutant air emissions are expected to exceed Placer County Air Pollution Control District standards even with implementation of these measures. Given these conditions, the cumulative air quality impact is considered **significant and unavoidable** for the Proposed Land Use Diagram and Alternatives AA, AB, and AC.

**REFERENCES**

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# SECTION 4.7
# HYDROLOGY AND WATER QUALITY

This section discusses and analyzes the surface hydrology, groundwater, and water quality characteristics of the Plan area. The information provided in this section is based on the Martis Valley Ground Water Management Plan by the Placer County Water Agency (1998), Ground Water Availability in the Martis Valley Ground Water Basin (Nimbus, 2001), Water Quality Assessment & Modeling Report by the Desert Research Institute (2001), and technical review by Geosolutions.

### 4.7.1 EXISTING SETTING

SURFACE WATER

The study area (Plan area) includes approximately 35 square miles of land generally bounded by Placer/Nevada County line to the north, Highway 89 to the west, northwesterly boundary to the Lake Tahoe Basin to the south and the California/Nevada state line to the east. Long narrow valleys typify the Martis Valley area with gentle, and moderate to steep sloping hillsides that bound them on either side. The topography of the Plan area is part of the Truckee Basin that ranges from nearly flat valley floors in the central portion of the region to gentle to steep sloping terrain along eastern and southern boundaries of the Plan area. **Figure 4.7-1** illustrates the existing topography and surface hydrology of the Martis Valley Community Plan area.

Surface water resources in the Plan area are part of the greater Truckee River watershed and includes a network of streams, a seasonal lake, and reservoir. Runoff from precipitation is the primary source of surface water supply, although there are numerous springs within the area. Surface water is not the main source of domestic water supply in the Plan area, but Truckee River watershed surface waters are the main source of domestic water for the downstream communities of Reno and Sparks, Nevada.

Martis Creek, Juniper Creek, Gooseneck Lake, and Martis Creek Lake are the main surface hydrological features in the Plan area (see **Figure 4.7-2**). Martis Creek and its tributaries including West Martis, Middle Martis, and East Martis Creeks, and the first and second order streams of Juniper Creek exhibit dendritic drainage patterns throughout the Plan area. The dendritic pattern is a stream pattern characterized by irregular branching in many directions. This pattern is common in terrain underlain by massive rocks or flat-lying strata. In such situations the differences in rock resistance are so slight that their control of the directions in which valleys grow headward is negligible. Such is the case throughout most of the Plan area that is underlain by relatively young andesite rocks. Also, most of the erosional debris including boulders, cobbles, gravel, sand, silt and clays are composed of andesitic materials.

The Martis Creek drainage system includes approximately 46 miles of channels that drain an area approximately 39.6 square miles in size. The portion of Juniper Creek that is located within the planning area has slightly less than six miles of channel and drains an area approximately 3.3 square miles in size. Gooseneck Lake receives only intermittent surface water flows that makes the Martis Creek Lake the principal surface water storage facility in the Martis Valley.

In a memorandum prepared by the Placer County Water Agency (PCWA) titled "Technical Memorandum Regarding Surface Water Availability in Martis Valley," dated June 11, 2001, the total amount of surface water that may become available to the Truckee River basin once the Truckee River Operating Agreement (TROA) is implemented would be 10,000 acre-feet (AF) per year. But this allocation cannot be fulfilled until Public Law 101-618 (PL 101-618) is fully implemented. Therefore the chances of acquiring a State Water Board permit for diversion of surface water from the Truckee River would be unlikely at this time. PL 101-618 has special provisions relevant to water resource allocation to the Truckee River basin.

An amount of surface and groundwater equal to 32,000 AF per year has been allocated for the Truckee River basin and of this amount the maximum annual diversion of surface water from the Truckee River would be limited to not more than 10,000 AF per year.

In the past, those who wished to divert surface waters in California could do so by using one of the following mechanisms: 1) riparian water right; 2) pre – 1914 appropriative water right; or 3) permit issued by the State Water Board for post –1914 appropriative rights. The State Water Board estimates that there are over 100 water rights of record in the Truckee River Basin that allow use of nearly 10,000 AF of water per year in California. Of these, 13 of the largest diverters hold rights to over 95 percent of the total volume of water. The State Water Board also estimated that some of the diversions may not be accurate and may no longer exist because current diversions of surface water from the Truckee River Basin are more likely in the range between 2,500 to 4,000 AF annually. Since the federal act has allocated only 10,000 AF annually an estimated additional 6,000 to 7,500 AF annually may become available for use in the basin. With this information, the State Water Board estimate of 6,000 AF of surface water will be available once TROA is approved.

**Precipitation and Climate**

Precipitation in the Martis Valley area is dependent mainly on both climate and topography. Regional climate in the winter months is dominated by westerly on-shore flows of moist marine air from the Pacific Ocean. In the summer months, relatively stable high-pressure cells are found over the area. Because of the area's high elevation the local climate is characterized by cold, wet winters and short mild summers. Mean temperatures at the Truckee Ranger Station range from an average minimum of 14.7 degrees Fahrenheit in January to an average of 81.8 degrees Fahrenheit in August.

About 75 percent of the annual precipitation is received in the winter months. Much of the precipitation falls as snow or mixed rain and snow as a result of orographic storms during the winter and early spring months from November to April. Summer time precipitation is primarily associated with convection cell thunderstorms. West of Truckee the higher elevations along the crest of the Sierra Nevada mountains generate a distinct rain shadow to the east of its main ridge and over the Plan area. This reaction causes a variation in precipitation from approximately 40 inches a year in the western portion of the Martis Valley region at the Donner Memorial State Park to approximately 23 inches each year in the eastern part of the region at Boca.

Both water in the Truckee River and groundwater recharge depend heavily on the melting of the snowpack on the mountains when temperatures rise in late spring and early summer or because of melting as a direct response to large warm rainfalls on large winter snowpacks. Within the upper Truckee River basin the runoff for the spring snowmelt period from April through June typically ranges from 50 to 65 percent of the total annual runoff. This period also accounts for the majority of groundwater recharge in the Martis Valley basin.

**Flooding**

A vast majority of the Plan area, per the Federal Emergency Management Agency (FEMA) via their National Flood Insurance Program, is in a Zone X designation – "Areas determined to be outside 500 year floodplain". While most of the Plan area is dominated by terrain not prone to flooding, there are low lying areas along Martis Creek that are subject to 100-year floods (see **Figure 4.7-3** for approximate 100-year floodplain boundaries). Because of this condition FEMA has classified several hundred acres of land along Martis Creek into a Zone A floodplain category – "Special Flood Hazard area (100-year flood)". The size of this acreage is

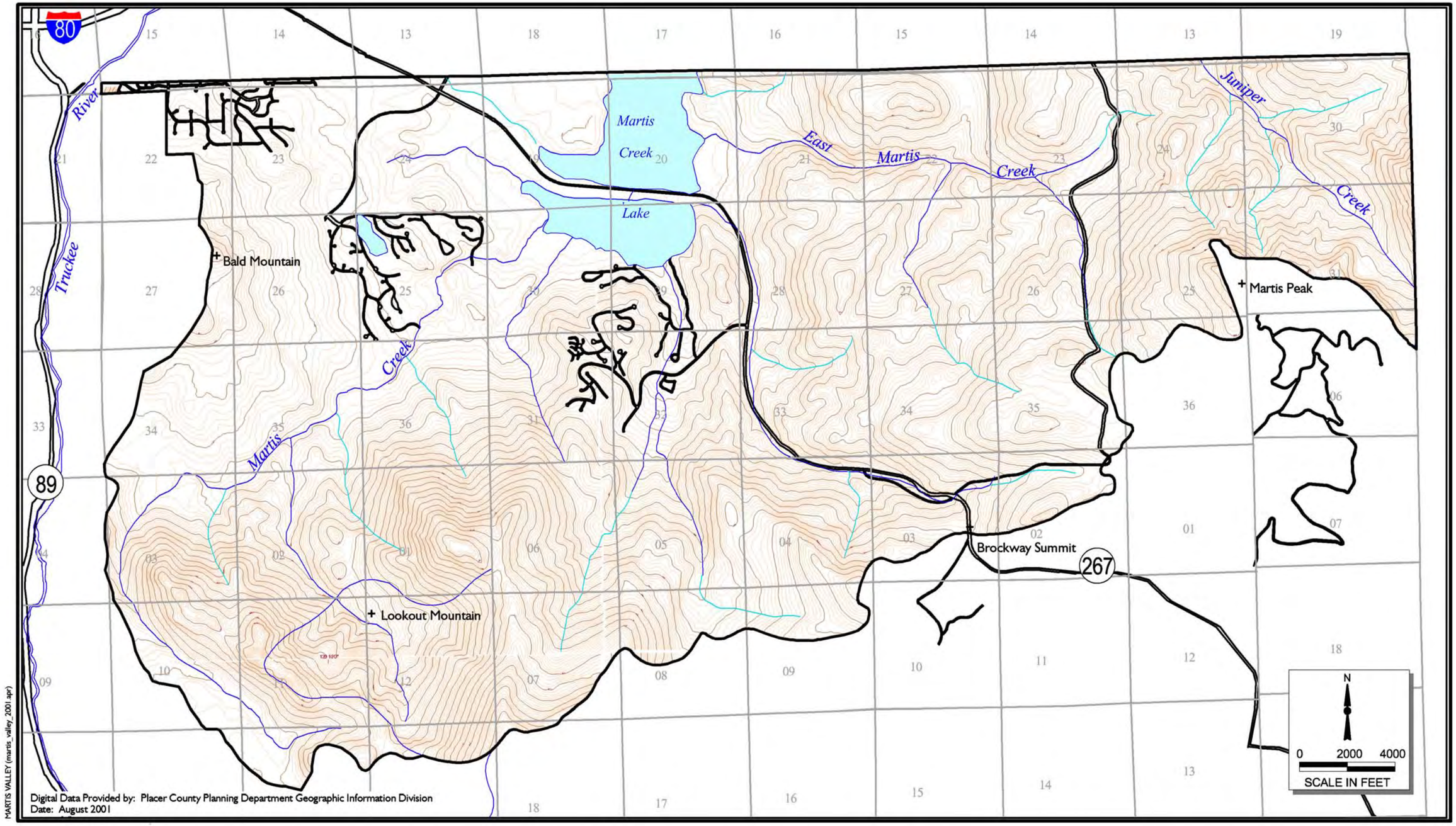


FIGURE 4.7-1
TOPOGRAPHICAL & HYDROLOGICAL FEATURES

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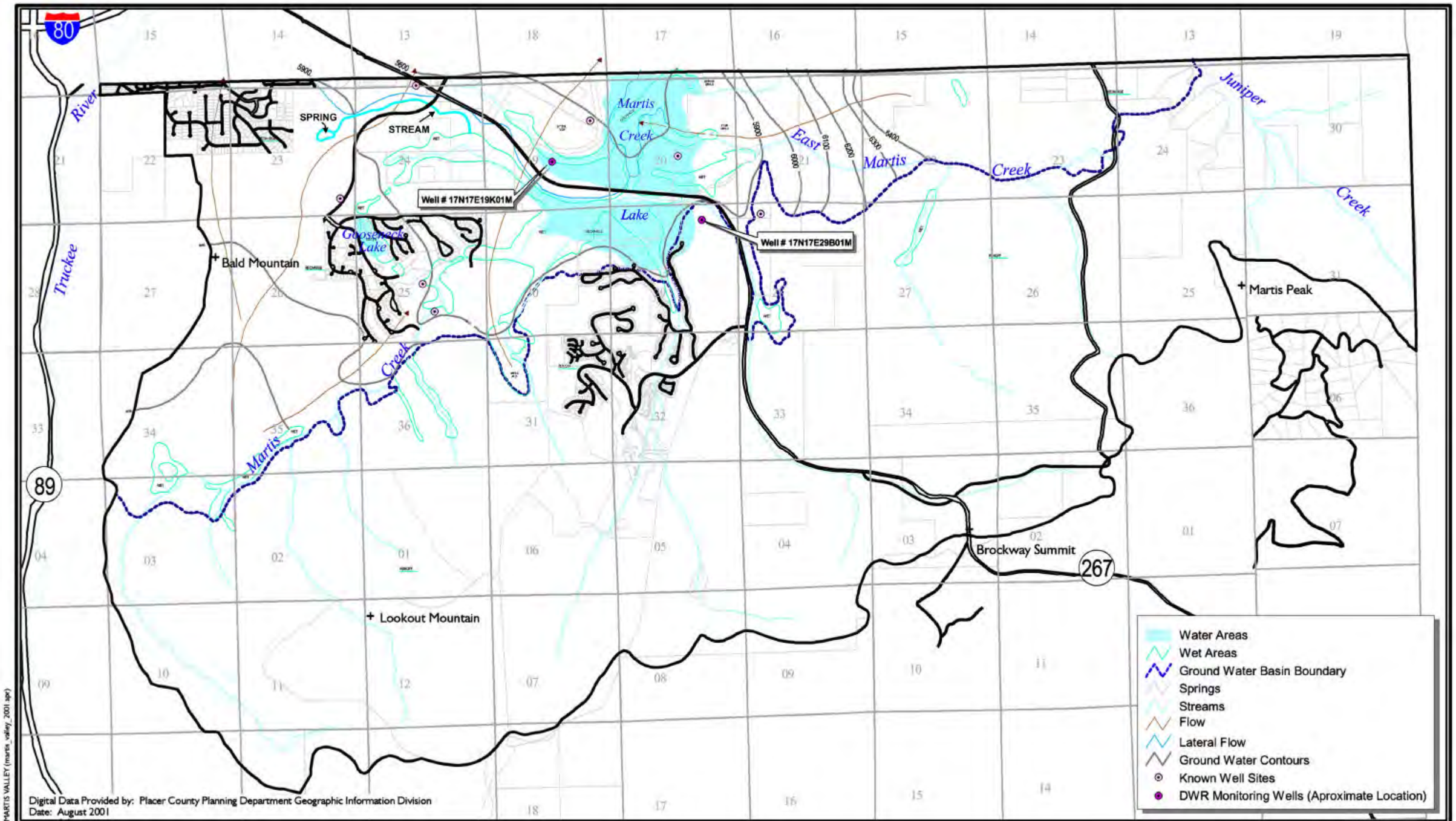


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FIGURE 4.7-2
HYDROLOGICAL FEATURES

approximately 1,300 acres and it is located mostly in Sections 19, 20, 29, & 30, in T 17 N, R 17 E. It is located up stream from Martis Creek Lake and in an area where drainage channels of the Martis, West Martis, Middle Martis and East Martis Creeks converge. A smaller strip of land along both sides of Martis Creek in low lying terrain is also classified as Zone A.

The agency with jurisdiction over aspects of stormwater management in Placer County is the Placer County Flood Control And Water Conservation District. The District was formulated to ensures the effects of flooding are minimized through, among others, the implementation of a program that ensures appropriate design of new proposed projects within the County. Major components of the program include:

- Maintain major drainage facilities including primarily stream channels, and construction of detention and retention basins;
- Provide technical support to local governments;
- Perform regional drainage studies including master drainage plans, and implement the regional projects and programs delineated therein;
- Provide advisory to local governments;
- Gather information and data on flooding events; and,
- Coordinate flood reduction activities with adjacent jurisdictions.

Goals of the District, as reflected by their Stormwater Management Manual, are centered around a level of protection that utilize criterion based on the 100-year flood to minimize property damage, injury and loss of life. These goals are to:

- Provide protection from periodic inundation which could result in loss of life and property;
- Protect and enhance natural resources belonging to the stream environment;
- Prevent significant erosion and adverse effects on water quality;
- Provide a regional approach to stormwater management which is both internally consistent and consistent with other community goals and plans;
- Achieve maximum use of resources through multiple compatible uses; and,
- Assure orderly growth and development and minimize its adverse effects.

The regional master plan is regarded as one of the most cost effective means of achieving stormwater management goals. Floodplain management is an important component in the overall stormwater management strategy. To achieve its objective, the District has advised the County to ensure the use of pre- and post- project HEC-1 and HEC-2 studies by applicants of proposed projects for 10-year and 100year storm events. These studies will help ensure that post project stormwater discharge rates do not exceed natural flow rates prior to development. Because most projects will increase impervious surface areas and channel contained runoff through enclosed drainage system(s) to points of discharge, the discharge rate of stormwater will certainty increase without the use of appropriately sized and designed detention/retention basins. Therefore, a major component to the District's stormwater management strategy is the

use of detention and/or retention basins to temporarily store large volumes of runoff while releasing this runoff to the surrounding environment at a much lower than normal discharge rate. With the utilization of detention and/or retention basins on future development and the presence and proposed use of Martis Creek Reservoir, the possible threat by flooding within Martis Creek drainage and Truckee River system due to proposed developments in the Plan Area appear to be low.

WATER QUALITY

Quality of surface waters is generally excellent in the upper reaches of the Plan area's stream network with few contaminants and nutrients. The Lahontan II Environmental Impact Report states that "grazing, which is presumably the source of elevated coliform levels in Martis Creek, is the only notable existing land use in the watershed that has perceivably affected runoff quality". However, the Tahoe-Truckee Sanitation Agency, which samples Martis Creek water twice monthly at 2 separate locations downstream of Martis Creek Lake, reports that fecal-coliform levels do not support the presumption that grazing has affected runoff quality. In fact, fecal coliform levels during a monitoring period that lasted for 11 months from May 4, 1999 to April 3, 2000, did not exceed a value equal to 20 percent of the water quality objective for this constituent, as established by the Lahontan Regional Water Quality Control Board. As part of the water quality study commissioned by the Lahontan Region Water Quality Control (RWQCB) associated with establishing the Total Maximum Daily Load (TMDL) for sediment for the Truckee River Watershed, suspended sediment loads for Martis Creek were estimated at 635 tons in 1997 (Desert Research Institute, 2001). Per the DRI, their proposed future target for TMDL from Martis Creek drainage is 446 tons. Therefore, existing sediment loads must be decreased by 189 tons in order to achieve the desired objective.

Currently, the Truckee River is a listed waterway on California's Clean Water Act Section 303(d) list due to sediment. The Lahontan Regional Water Quality Control Board is currently working on establishing the TMDL for the Truckee River in order to identify reductions of sediment delivery into the river and to bring the waterway into attainment with applicable water quality standards. The Division of Hydrologic Sciences, Desert Research Institute was retained by the RWQCB to prepare the Water Quality Assessment and Modeling of the California Portion of the Truckee River Basin (July 2001) in order to provide technical data for the development of the TMDL. The Water Quality Assessment and Modeling of the California Portion of the Truckee River Basin identifies that the Little Truckee, Prosser and Donner creeks are the major waterway contributors of suspended sediment to the Truckee River.

The study also identifies that the northern and central land areas of the Plan area along Martis Creek have varying sediment load potential (from 0.001 to 0.12 tons per square mile x 10^ -3), and that areas closer to the Truckee River affect in-stream sediment concentrations the greatest and land areas of higher elevations (typically with steep slopes) produce higher sediment loads per unit area.

On June 17, 2001, the Martis Fire started and ultimately burned approximately 14,500 acres of land locate north and northeast of the Plan area. Reports indicate the fire was fast moving and therefore did not cause much "high intensity burning" of the forest. In areas where the fire burned hot and destruction was complete the soils should be artificially protected. This effort can be accomplished by covering the ground with pine needles and erosion can be slowed through the felling of dead trees horizontally across slopes, spreading of straw wattles, reseeding, and placement of loose rock dams in creeks that drain up gradient watershed areas burnt in the fire.

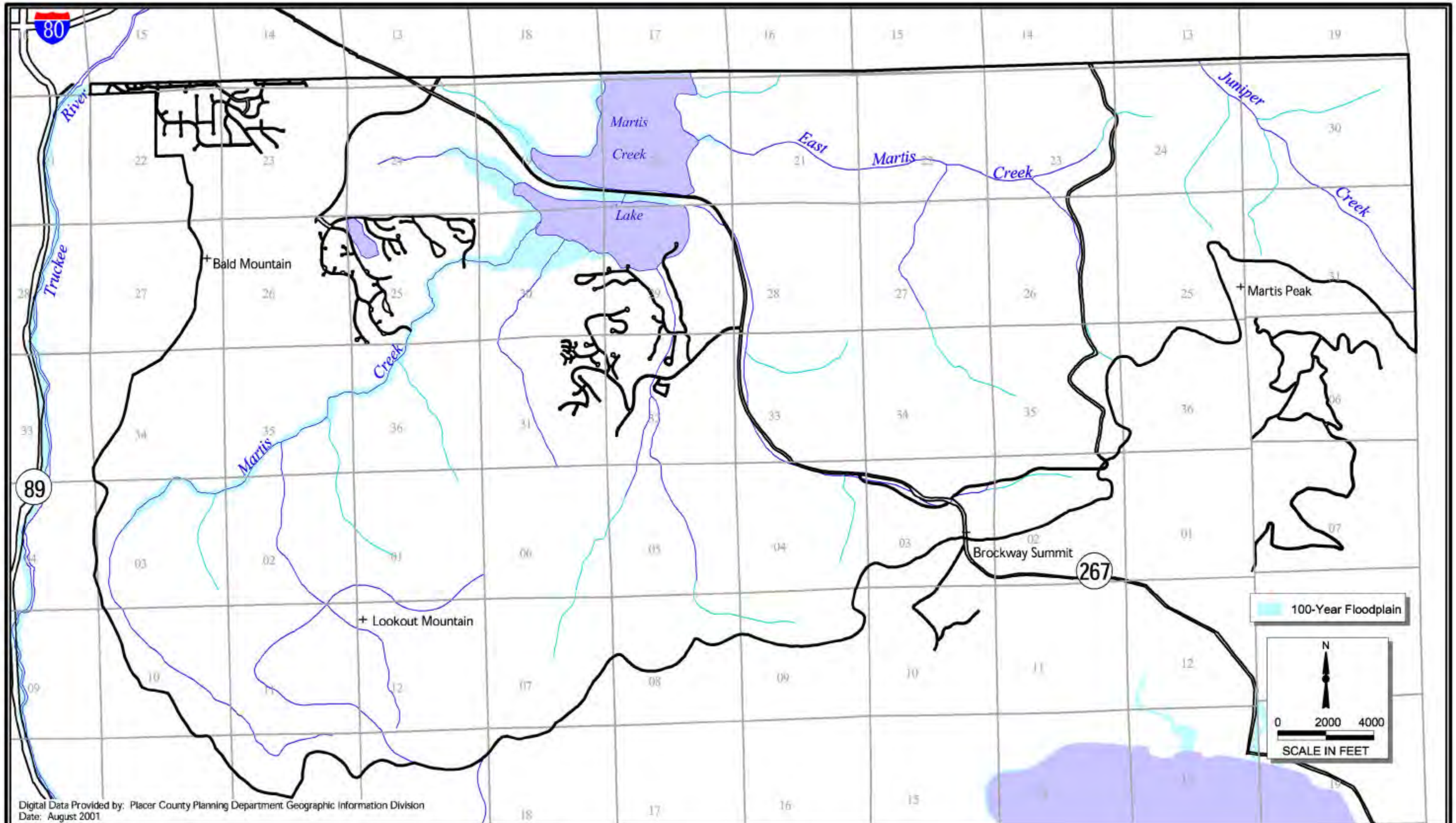


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FIGURE 4.7-3
100-YEAR FLOODPLAIN

The fire remained mostly within the Bronco and Gray Creek watersheds that are located mostly between Floriston, CA to the northwest and Mount Rose, Nevada, to the southeast. Both drainage systems are located northeast of the Juniper Creek drainage that is located in the easterly portion of the Plan area. Therefore, damage sustained in the 2 watershed areas should have little to no effect on surface water quality in the Juniper Creek drainage or to the quality of water in other drainage systems in the Plan area and the Lake Tahoe basin. Precipitation that falls into the Plan area does not flow south, but northward into Martis and Juniper Creek drainage systems, then further northward to the Truckee River. However, the effects of the Martis Fire will add to current sediment issues with the Truckee River downstream of the Plan area.

According to a representative of the Tahoe National Forest, Nevada City Ranger District work to restore the burnt areas in Bronco and Gray Creek watersheds was initiated during 2001. Restoration efforts varied between the 2 watershed areas because of differences in terrain. In the Bronco Creek watershed terrain was less severe and more able to hold intermediate soils located on subtle hillsides. Therefore, restoration included reseeding of grasses by helicopter, orienting fallen trees horizontally to help prevent down slope flows of surface waters, and placement of hay waffles on the ground for protection of exposed soils from splash erosion by rain drops. Also, the falling of brown pine needles from trees in areas where the fire traveled fast across the ground has helped cover large areas of the ground surface. In Gray Creek the terrain is much steeper with hillsides between 30 to 50 percent. Overlying soils are thin and acidic thus not as amenable for the growth of vegetation. Even movement of forestry crews across this terrain would cause severe disturbance of soils and initiate their transport down slope. Therefore, restoration efforts in this watershed has mostly involved the placement of loose rock dams in creek channels, natural germination of existing seeds in soils, natural covering of the ground by pine needles falling from burned trees, and protection of soils by natural accumulation of snow cover. According to the agency's implementation leader, the proposed restoration program was completed by September of 2001 in both drainage systems.

GROUNDWATER

**Groundwater Resources in Martis Valley**

The Ground Water Availability in the Martis Valley Ground Water Basin report (Nimbus, 2001) provides the most recent data regarding groundwater resources in the Martis Valley Ground Water Basin (Basin) (see **Figure 4.7-4**).

This report was the result of assessing an accumulation of geologic and hydrogeologic data that had been collected during other previous studies dating back as far as the early 1970s. The purpose of this report was to evaluate the Basin with a water balance approach to estimate the amount of groundwater available in the Basin without changing the amount of groundwater in storage over the long term.

In this report, the Basin was defined as a low lying area about 57 square miles in size and completely contained within a larger watershed area of approximately 167 square miles. Faults controlled the development of the Basin. Downward movement along these faults has progressed within an outline surrounding high angle normal faults. These structures roughly define the sides to the Basin. The extension of the earth's crust within this part of the Basin and Range Province has served as the driving mechanism that has developed the area's horst and graben terrain.

Downward movement of the Basin's floor, comprised of Cretaceous-Jurassic plutonic and metamorphic rocks and Miocene volcanics, has resulted in the deposition of sediments and intermediate to mafic lavas, tuffs and volcaniclastic materials of late Miocene to Quaternary age within the evolving depression. Drilling logs indicate these deposits are over 1,000 feet thick and are now host to unconfined and confined aquifers of the Basin.

Sediments that fill the Basin were deposited in fluctuating lacustrine and river environments that had persisted throughout much of Basin's +/- 7 million years of development. As a result, spatial continuity in their inherent engineering and hydrogeologic characteristics must be limited thus ensuring these materials to be both anisotropic and heterogeneous. In addition to the variable conditions in which these sediments were deposited the basin also received periodic intervals when various types of igneous materials were laid down. Volcanic processes were responsible for deposition of these volcanic materials on ancient terrain that must have controlled the direction and extent the lava flowed from their vents. Geochemistry also made a contribution to the extent these flows could migrate overland. Lava with intermediate compositions would be more localized versus the ultramafic flows that are known to travel great distances.

Nimbus studied the Basin's detailed hydrogeology to enable the generalization of its subsurface characteristics. The hydrogeologic characteristics were approximated and enable their performance of relevant evaluations that could then be based upon assumptions the aquifer is isotropic and homogeneous. With this approach, trends could be approximated and placed into categories with averaged values that could closely represent actual in-situ conditions or measured responses. From their report, Nimbus provided the following overview of hydrogeologic estimates for the Basin:

1) Volume of sedimentary and volcanic materials filling in the Basin's 1,000 foot deep depression is estimated to be approximately 9,680,000 acre-feet (AF);

2) Volume of groundwater in storage beneath the surface of the Basin is 484,000 AF;

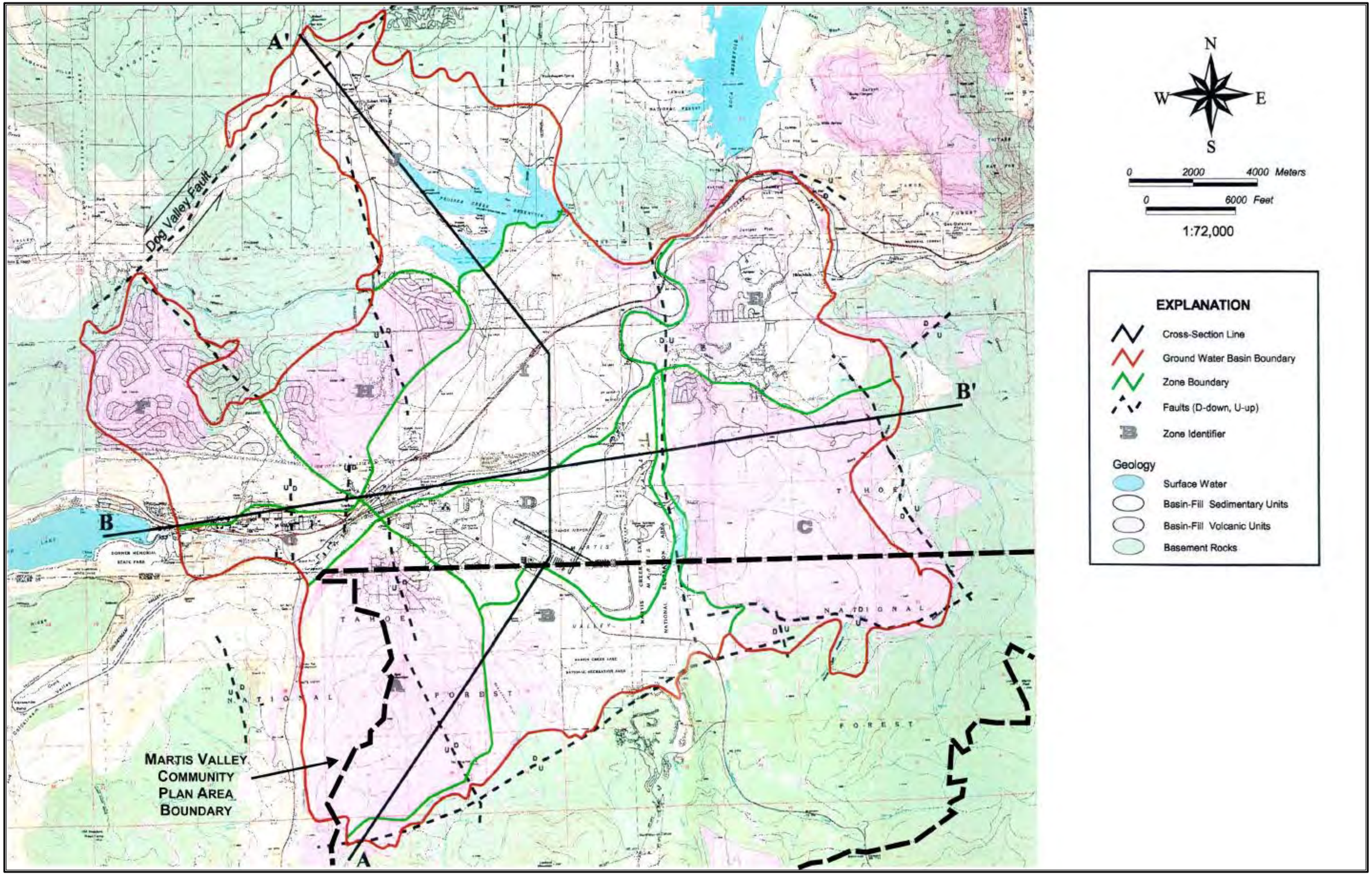
3) Storage coefficient or storativity (S) for the Basin is based on unconfined aquifer conditions and given a value of 0.05 or 5 percent (values can range between 1 percent to 30 percent). Specific storage typically used for confined aquifers was not mentioned, but these values typically range between 0.001 percent to 0.1 percent and may be relevant to the deeper confined aquifer.

4) Basin wide averaged (assumed weighted to area) recharge efficiency was estimated at 25.3 percent with an annual recharge rate of 23,744 AF from precipitation. This recharge efficiency is up from 19.6 percent utilized during previous studies by others.

5) In a normal rainfall year approximately 24,700 AF of groundwater in Basin is available without changing the amount in storage over the long term.

6) Total average annual groundwater flux through the Basin is 34,598 AF.

Total annual groundwater extraction from the Basin is currently 7,252 AF. This extraction is from artificial methods originating from numerous municipal production wells, various industries, and many residential wells. Therefore, approximately an additional 17,448 AF of groundwater is currently available for extraction each year from the underlying aquifer beneath the basin without changing the amount of water in storage.

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Source: Nimbus, 2001

Figure 4.7-4
Martis Valley Ground Water Basin

The Ground Water Availability in the Martis Valley Ground Water Basin Report identifies two general aquifers in the Basin consisting of an upper aquifer and the middle/lower aquifer. However, geologic conditions in the subsurface vary throughout the Basin that results in varying sized water-bearing formations, which occur at varying depths. Boring data from the installation of wells in the general vicinity of Schaffer Mill Road and the Truckee-Tahoe Airport have all identified water bearing formations (sediments associated with the Lousetown Formation and Truckee Formation) and non-bearing formations (lava associated with the Lousetown Formation Volcanics) associated with the upper and middle/lower aquifers at varying depths and thickness (GeoTrans, 2000). In addition, the Ground Water Availability in the Martis Valley Ground Water Basin Report identifies that there is a continuous clay member at the base of the upper aquifer that limits the transfer of groundwater based on well data from the Tahoe-Truckee Sanitation Agency (Nimbus, 2001). However, some interaction between these aquifers is assumed to occur.

The upper aquifer system is fed by year-round infiltration from flowing creeks and precipitation, and in turn, this aquifer feeds waterways (Truckee River) and local springs and wetland areas from groundwater discharge. The middle/lower aquifer begins at depths ranging from approximately 200 to 800 feet below ground surface level and is the primary aquifer utilized for domestic water use (Nimbus, 2001). The Ground Water Availability in the Martis Valley Ground Water Basin Report identifies that hydrogeologic and water level data indicates that the middle/lower aquifer responds as a confined aquifer.

**Groundwater Quality**

**Table 4.7-1** identifies groundwater for wells currently operating in Martis Valley based on the results of the Report on Groundwater Resource Potential Eaglewood Subdivision (GeoTrans, 2000). Test results showed that these elements or compounds were detected in the ground water samples, but at concentrations below maximum contaminant levels (MCLs) established by California Drinking Water Standards. The GeoTrans report points out that arsenic and radon concentration in the local ground water are a water quality concern in Martis Valley. The existing EPA MCL for arsenic is 0.05 milligrams per liter (mg/L), whereas MCL values have not been set for radon at this time. The EPA is considering lowering the arsenic MCL to 0.005 mg/L. A value of 0.02 mg/L has also been recommended. The EPA is proposing a radon MCL of 300 pico-curies per liter (pCi/L). However, each State has the ability to implement an alternative MCL of 4,000 pCi/L as long as the State incorporates a public education program.

Elevated arsenic concentrations in ground water were identified in the Southside Hydrogeologic Test Hole, the Martis Valley Test Hole, and the Brockway well. Ground water from the Southside Hydrogeologic Test Hole exceeds California Drinking Water Standards for arsenic (0.05 mg/L) and manganese (0.05 mg/L) at concentrations of up to 0.063 mg/L and 0.090 mg/L, respectively. Ground water from the Brockway well does not exceed current drinking water standards for arsenic, but exceeds the EPA proposed drinking water standard (0.005 mg/L) with a concentration of 0.046 mg/L. Higher arsenic concentrations are inherent in ground water produced from volcanic rocks, as evidenced in the Southside Hydrogeologic Test Hole, and could also be attributed to long ground water residence times within these rocks as suggested in the Brockway well.

### 4.7.2 REGULATORY FRAMEWORK

FEDERAL

**Clean Water Act (CWA)**

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water-quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges, subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites", subparagraph (a);
- Specify the disposal sites for such permits, subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas", subparagraph (c);
- Specify type of and conditions for non-prohibited discharges, subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs, subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs, subparagraph (i);
- Ensure public availability of permits and permit applications, subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section, subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations, subparagraph (s).

The California State Water Resources Control Board and RWQCB's enforce the federal Clean Water Act, including administration of NPDES permits for various discharges into waterways.

## TABLE 4.7-1
## WATER QUALITY DATA FOR MARTIS VALLEY WELLS

Selected water quality (mg/l)

| well | date | TDS | Ca | Mg | Na | K | SO4 | Cl | HCO3 | Fe | Mn | As | Radon | NO3-N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MCL | 1000 | none | 125 | none | none | 500 | 500 | none | 0.3 | 0.05 | 0.05(1) | none(2) | 10 |
| Lahontan 1 | 09/22/1996 | 120 | 17 | 12 | 6 | 3 | nd | nd | 130 | 0.06 | nd | 0.003 | 0.1 | 0.2 |
| Lahontan 2 | 09/22/1996 | 120 | 17 | 12 | 5 | 3 | nd | nd | 120 | 0.22 | nd | nd | 0.22 | 0.9 |
| Lahontan Irrig | 02/07/2000 | 84 | | 9.2 | | | 0.3 | 0.5 | | <0.05 | <0.002 | <0.002 | 3.4 | 0.2 |
| Airport #2 | 06/29/1979 | 97 | 13 | 4.4 | 3.9 | 1 | 0.3 | 3.1 | 60 | 0.03 | 0.03 | 0.005 | | 0.34 |
| | 1981 | | | | | | | | | | | 0.005 | | 0.34 |
| Brockway (3) | spring 2000 | | | | | | | | | <0.05-55 | **0.012-1.2** | 0.01-0.046 | | |
| Southside #1 | 10/13/1994 | | 13 | 9.2 | 3.8 | 1.2 | <0.5 | 2.3 | 88 | **0.3** | **0.5** | <0.004 | <1.0 | 0.3 |
| | 1981 | 106 | 11.8 | 9.3 | 3.5 | 1 | 0.1 | 2.4 | 89 | 0.02 | 0.01 | 0.005 | | 0.04 |
| Southside #2 | 10/13/1994 | | 13.6 | 10.3 | 3.9 | 1.4 | 0.6 | 3.8 | 93 | **4.3** | **0.2** | 0.01 | | 0.5 |
| | 1981 | 112 | 13.2 | 9.7 | 3.1 | 1 | 0.1 | 2.3 | 95 | **4.1** | 0.03 | 0.005 | | 0.52 |
| Martis Valley | | | | | | | | | | | | | | |

(1) current standards
(2) current standards
(3) interval sampling
nd=non detect
radon units are pCi/l. Some values are reported as total alpha
bold results are at or exceed drinking water standards

*Source: GeoTrans, Inc., 2000.*

The new NPDES Stormwater Phase II is a far-reaching federally mandated program requiring installation of Best Management Practices (BMPs) to improve non-point source pollution of stormwater runoff. Among other requirements, after March 10, 2003 the law will require installation of BMPs for water quality control for long term (post-construction) improvement in water quality runoff from development projects. The six elements of the Phase II permit would consist of the following:

1) Public Education and Outreach on Storm Water Impacts

2) Public Involvement/Participation

3) Illicit Discharge Detection and Elimination

4) Construction Site Storm Water Runoff Control

5) Post-Construction Storm Water Management in New Development and Redevelopment

6) Pollution Prevention / Good Housekeeping for Municipal Operations

RWQCB's are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including Martis Creek. In the Martis Valley, the RWQCB is responsible for protecting surface and groundwaters from both point and non-point sources of pollution. Water quality objectives for Martis Creek were established by the RWQCB and are listed in its Basin Plan (discussed below).

**Federal Emergency Management Agency (FEMA)**

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

**Public Law 101-618 (Truckee-Carson-Pyramid Lake Water Settlement Act)**

In addition to the limits of water availability resulting from the physical characteristics of the Martis Valley Basin, there are legal limitations that may affect the amount of water that can be used within the Plan area. Primary among these legal limitations is the Truckee-Carson-Pyramid Lake Settlement Act (P.L. 101-618, or "Settlement Act"), passed by Congress in 1990.

The Settlement Act was aimed at resolving long-standing disputes over the sharing of the water resources of the Tahoe and Truckee River Basins. The disputes involved conflicting claims of entitlement by the Pyramid Lake Paiute Tribe of Indians, whose reservation is in Nevada; by the State of Nevada and its water users; by Sierra Pacific Power Company, the water supplier to the growing cities of Reno and Sparks; by the United States, which delivers Truckee River water for irrigation of the Truckee-Carson Irrigation District and for fishery purposes; and by the State of California and its water users. These disputes have rendered the States of Nevada and California

unable to manage and administer their water right laws to permit appropriation of water within the Truckee River watershed for almost 30 years.

In the 1990 Settlement Act, Congress established an allocation of water between the 2 states, but provided that the allocation would not become effective until an operating agreement, the "Truckee River Operating Agreement" or "TROA" was signed by the 5 disputing parties. At this time, the basic principles of the TROA have been negotiated, although it cannot be finalized or executed until an Environmental Impact Statement (federal) and an Environmental Impact Report (California) are completed and certified. Nevertheless, in its Martis Valley Groundwater Management Plan, dated October 6, 1998, PCWA has assumed the future execution and implementation of TROA and the applicability of the Settlement Act's allocation and restrictions. This Martis Valley Community Plan will likewise assume that the Settlement Act and TROA is a limiting factor in future water supply development.

The Settlement Act's allocation of water for use in California in the Truckee River watershed outside of the Lake Tahoe basin is 32,000 acre feet per year of gross diversion, of which no more than 10,000 acre feet can be taken from surface streams. In the TROA negotiation, the parties have agreed that consumptive uses would consume 55 percent of the allowable gross diversion of 32,000 acre feet; and therefore that a cap should be set on consumptive uses at 17,600 acre feet per year (Draft TROA, Section 6.E.2.).

In addition to the gross allocation of 32,000 acre feet (net depletion of 17,600 acre feet per year) of water to the Truckee River Basin, the Settlement Act imposes conditions on the manner in which water may be taken for use, and establishes a mechanism for resolving further interstate disputes concerning groundwater availability in the Martis Valley, should one arise. New wells are required to be located so as to minimize any short-term reductions in surface flows.

In the TROA negotiations, the parties have agreed that the Settlement Act's well siting limitation should be implemented by establishing minimum setbacks from surface streams, outside of which wells would be deemed to comply with the Settlement Act's requirements. Well setbacks from the Truckee River and lakes that are 500 feet from the centerline or high water mark; from perennial streams, lakes thereon and springs, 200 feet; and from intermittent streams and springs, 50 feet, would satisfy the Settlement Act's restrictions.

Finally, while the Settlement Act allows Nevada users to take water in California for use in the State of Nevada so long as it is not needed in California, the Act prohibits Nevada users from taking California groundwater if the extraction would cause the groundwater basin's safe yield to be exceeded. The United States Geological Survey was named by the Settlement Act to perform as arbiter in the limited circumstance of an interstate dispute over safe yield. Because this provision of the Settlement Act arises only with respect to interstate use of groundwater, it has no application to groundwater availability for use within California under the Martis Valley Community Plan.

<u>Water Availability for Future Development</u>

In the past, those who wished to divert surface waters in California could do so by 1 of the following mechanisms: (1) riparian right; (2) pre-1914 appropriative water right; or (3) obtaining a permit from the State Water Resources Control Board ("SWRCB") for a post-1914 appropriative right. The SWRCB has estimated that there are over 100 water rights of record in the Truckee River Basin that allow use of nearly 10,000 acre feet of water per year in California. Of these, 13 of the largest diverters hold rights to over 95 percent of the total face value of these water rights.

The SWRCB has also estimated that some of the diversion records may not be accurate, and that some of the rights may no longer be valid.

Current gross diversions reported in the Truckee River Basin are more likely in the range of 2,500 to 4,000 acre feet annually, of which approximately 2,200 acre feet is by public water purveyors. Based upon the SWRCB's records, therefore, it estimates that an additional 6,000 to 7,000 acre feet annually may become available once TROA is implemented. PCWA has adopted a conservative estimate of 6,000 acre feet of surface water potentially available for future use.

The availability of groundwater has been investigated by Nimbus Engineers. Based upon 30 years of hydrologic data, which included both years of severe drought and multiple years of prolonged drought, Nimbus estimated that approximately 24,700 acre feet of groundwater could be pumped annually without long-term loss of groundwater storage.

Current annual groundwater extraction from the Basin is estimated to be 7,252 acre feet. This extraction is by artificial methods including numerous municipal production wells, various industries' wells, and many residential wells. Therefore, approximately 17,448 acre feet of groundwater is available for extraction annually without adversely affecting the long-term storage of the basin. Because this estimate was arrived at in consideration of a lengthy period of record that included serious and prolonged drought, and because the volume in storage in the groundwater basin is so great, the Nimbus estimate of yearly pumpage can be considered a long-term reliable supply in all year types.

Under reliable estimates by the SWRCB and Nimbus, therefore, the total water supply available to meet future development is 23,448 acre feet of water (gross diversion or extraction), of which no more than 6,000 acre feet should be obtained from surface water sources until the estimate can be refined following execution and implementation of TROA.

STATE

**Regional Water Quality Control Board, Lahontan Region (LRWQCB)**

The RWQCB issues permits for activities that could cause impacts to surface waters and groundwater in the project area. Surface water and groundwater objectives of the LRWQCB are set forth in the Water Quality Control Plan for the Lahontan Region (Basin Plan). Chapter 3 of the Basin Plan includes general water quality objectives for all surface water and groundwater features for a variety of constituents and establishes the following specific criteria for Martis Creek at its confluence with the Truckee River:

**TABLE 4.7-2**
**WATER QUALITY OBJECTIVES FOR MARTIS CREEK**

| Objective (mg/L except as noted) [1,2] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **TDS** | **Cl** | **$SO_4$** | **P** | **B** | **$NO_3$-N** | **N** | **TKN** | **Fe** |
| 150 | 25.0 | 8.0 | 0.05 | - | 1.00 | 1.45 | 0.45 | 0.40 |

*[1] Values shown are mean of monthly mean for the period of record.*
*[2] Objectives are as mg/L and are defined as follows:*
*B: Boron* — *Cl: Chloride*
*N: Nitrogen, total* — *NO3-N: Nitrogen as Nitrate*
*TKN: Nitrogen, total Kjeldahl* — *P: Phosphorus, total*

In addition, Chapter 4 of the Basin Plan prohibits the discharge of earthen materials into the 100-year floodplain Truckee River Hydrologic Unit (which includes Martis Creek and associated tributaries). However, exemptions may be granted by the LRWQCB that fall within the following categories of new projects:

(1) projects solely intended to reduce or mitigate existing sources of erosion or water pollution, or to restore the functional value to previously disturbed floodplain areas;

(2) bridge abutments, approaches, or other essential transportation facilities identified in an approved general plan;

(3) projects necessary to protect public health or safety or to provide essential public services;

(4) projects necessary for public recreation; or

(5) projects that will provide outdoor public recreation within portions of the 100-year floodplain that have been substantially altered by grading and/or filing activities which occurred prior to June 26, 1975.

In addition to meeting one of the following categories, the project must be consistent with findings set forth in Chapter 4 as well as LRWQCB Resolution 6-93-08.

LOCAL

**Placer County Water Agency Martis Valley Groundwater Management Plan**

The Placer County Water Agency has established the Martis Valley Groundwater Management Plan (1998). The Groundwater Management Plan (GMP) area is roughly half of the Martis Valley Community Plan Area. The GMP is pursuant to California State AB 3030 (codified into California Water Code Sections 10750, *et seq.*), which allows local agencies to develop groundwater management plans where the local agency service area overlies a state designated groundwater basin. The GMP acknowledges groundwater availability data that was available in 1998 (i.e. the interim safe yield determination by Truckee Donner Public Utility District in the late 1970s), but did not specifically establish standards associated with this data. The GMP identified the following direction regarding groundwater management:

1) Monitoring groundwater levels and quality;

2) Evaluating or reevaluating of safe yield; and

3) Coordinating management of the Martis Valley Groundwater Basin with other local agencies.

Subsequent to the GMP, the Ground Water Availability in the Martis Valley Ground Water Basin Report (Nimbus, 2001) has identified that there is 24,700 acre-feet annually of groundwater in Martis Valley available that can be utilized without changing the volume of groundwater in storage in Martis Valley over the long term. This report updates the 1970s work conducted by TDPUD and takes advantage of increased knowledge of the Martis Valley hydrogeology and professional hydrogeologist experience compared to that available the late 1970s.

### PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

The Place County Flood Control & Conservation District was formed by legislative resolution on Senate Bill 1312 and made effective on August 23rd, 1984. Formulation and guidance of the District was guided by a consensus of other participating local government agencies including the Placer Resource Conservation District and Soil Conservation Services. Objective of the District is to reducing the effects of flooding by maintenance of drainage basins, use of detention/retention basins, technical support, perform studies, advise, collect data and coordinate with adjacent jurisdictions. This District is the agency with jurisdiction over aspects of stormwater management within the Plan Area.

### Martis Valley General Plan Provisions Associated with Hydrological Resources

The Martis Valley General Plan (1990) "constitutes a more specific and definitive section of the Placer County General Plan." Policies are separated into subsections of Environmental Resource Policies and Community Development & Transportation Policies. Policies associated with hydrological resources include:

*Environmental Resource Policies*

1) Management of timber and watershed lands;

2) Preservation of riparian vegetation and timber lands;

3) Retention/protection of stream environment zones; maintenance of streamflows;

4) Maintenance of groundwater recharge areas;

5) Retention of existing Basin water quality;

6) Determination of the effects of land use on groundwater levels and quality, including effects on riparian vegetation and wetlands;

7) Continuation of water quality management and monitoring programs.

*Community Development and Transportation Policies*

1) Flexibility to adjust the location of residential developments;

2) Establishment of a single entity to control water and sewage facilities and services.

### Placer County General Plan

The Placer County General Plan outlines a County-wide drainage and flood management program to prevent flooding, protect soils from erosion, and minimize impacts on existing drainage facilities. The County also recognizes the value in groundwaters as a potential source of potable water and will implement policies that will ensure the preservation and safe use of this resource. The following list identifies General Plan policies that pertain to projects in Placer County and in the Plan area.

Policy 4.C.1 The County shall require proponents of new development to demonstrate the availability of a long-term, reliable water supply. The County shall require

written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy. Where the County will approve groundwater as the domestic water source, test wells, appropriate testing, and/or report(s) from qualified professionals will be required substantiating the long-term availability of suitable groundwater.

Policy 4.C.11 The County shall protect the watersheds of all bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.

Policy 4.C.13 In implementation of groundwater use policies, the County will recognize the significant differences between groundwaters found in bedrock or "hardrock" formations of the foothill/mountain region and those groundwaters found in the alluvial aquifers of the valley. The County should make distinctions between these water resources in its actions.

Policy 4.E.1 The County shall encourage the use of natural stormwater drainage systems to preserve and enhance natural features.

Policy 4.E.2 The County shall support efforts to acquire land or obtain easements for drainage and other public uses of floodplains where it is desirable to maintain drainage channels in a nature state.

Policy 4.E.3 The County shall consider using stormwater of adequate quality to replenish local groundwater basins, restore wetlands and riparian habitat, and irrigate agricultural lands.

Policy 4.E.4 The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual.

Policy 4.E.5 The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.

Policy 4.E.6 The County shall continue to support the programs and policies and the watershed flood control plans developed by the Flood Control and Water Conservation District.

Policy 4.E.7 The County shall prohibit the use of underground storm drain systems in rural and agricultural areas, unless no other feasible alternatives are available for conveyance of stormwater from new development or when necessary to mitigate flood hazards.

Policy 4.E.8 The County shall consider recreational opportunities and aesthetics in the design of stormwater ponds and conveyance facilities.

Policy 4.E.9 The County shall encourage good soil conservation practices in agricultural and urban areas and carefully examine the impact of proposed urban developments with regard too drainage courses.

Policy 4.E.10 The County shall strive to improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices (BMPs).

Policy 4.E.11 The County shall require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County.

Policy 4.E.12 The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.

Policy 4.E.13 The County shall require that new development conforms with the applicable programs, policies, recommendations, and plans of the Placer County Flood Control and Water Conservation District.

Policy 4.E.14 The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.

Policy 4.E.15 The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm sewers, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California regional Water quality Control Board, Placer County Division of Environmental Health, Placer County Department of Public Works, Placer County Flood Control and Water Conservation District).

Policy 4.E.16 The County shall strive to protect domestic water supply canal systems from contamination resulting from spillage or runoff.

Policy 4.E.17 The County shall wherever feasible, require that proponents of new projects encase, or otherwise protect from contamination, domestic water supply canals where they pass through developments with lot sizes of 2.3 acres or less; where subdivision roads are constructed within 100 feet upslope or upstream from canals; and within all commercial, industrial, institutional, and multi-family developments.

Policy 4.E.18 The County shall require that proponents of new projects fence domestic water supply canals where they pass through development with lot sizes between 2.3 and 4.6 acres; and on a case-by-case basis as determined by the entity responsible for the canal. This fencing shall be installed inside the project property line, and the proponent or subsequent landowner shall be responsible for fence maintenance. Said fencing shall be designed to impede pedestrian trespass of the canal area and to impede any dumping of materials into the canal.

Policy 4.F.1 The County shall require that arterial roadways and expressways, residences, commercial and industrial uses and emergency facilities be protected, at a minimum, from a 100-year storm event.

Policy 4.F.2 The County shall recognize floodplains as a potential public resources to be managed and maintained for the public's benefit.

Policy 4.F.3 The County shall continue to work closely with the U.S. Army Corps of Engineers, the resource conservation district, the Federal Emergency Management Agency, the State Department of Water Resources, and the Placer County Flood Control District, in defining existing and potential flood problem areas.

Policy 4.F.4 The County shall require evaluation of potential flood hazards prior to approval of development projects. The County shall require proponents of new developments to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully-developed, unmitigated runoff conditions.

Policy 4.F.5 The County shall attempt to maintain natural conditions within the 100-year floodplain of all rivers and streams except under the following circumstances:

a. Where work is required to manage and maintain the stream's drainage characteristics and where such work is done in accordance with the Placer County Flood Damage Prevention Ordinance, California Department of Fish and Game regulations, and Clean Water Act provisions administered by the U.S. Army Corps of Engineers; or

b. When facilities for the treatment of urban runoff can be located in the floodplain, provided that there is no destruction of riparian vegetation.

Policy 4.F.6 The County shall continue to coordinate efforts with local, state, and federal agencies to achieve adequate water quality and flood protection.

Policy 4.F.7 The County shall cooperate with the Placer County Flood Control and Water Conservation District, surrounding jurisdictions, the cities in the county, and other public agencies in the planning and implementing regional flood control improvements.

Policy 4. F.8 The County shall, where possible, view flood waters as a resource to be used for waterfowl habitat, aquifer recharge, fishery enhancement, agricultural water supply, and other suitable uses.

Policy 4.F.9 The County shall continue to implement floodplain zoning and undertake other actions required to comply with state floodplain requirements, and to maintain the County's eligibility under the Federal Flood Insurance Program.

Policy 4.F.10 The County shall preserve or enhance the aesthetic qualities of natural drainage courses in their natural or improved state compatible with flood control requirements and economic, environmental, and ecological factors.

Policy 4.F.11 To the extent that funding is available, the County shall work to solve flood control problems in areas where existing development has encroached in a floodplain.

Policy 4.F.12 The County shall promote the use of natural or non-structural flood control facilities, including off-stream flood control basins to preserve and enhance creek corridors.

Policy 4.F.13 The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.

Policy 4.F.14 The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County's Land Development Manual.

Policy 6.A.1 The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species. Based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

a. Reasonable use of the property would otherwise be denied;

b. The location is necessary to avoid or mitigate hazards to the public;

c. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or

d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

Policy 6.A.2 The County shall require all development in the 100-year floodplain to comply with the provisions of the Placer County Flood Damage Prevention Ordinance.

Policy 6.A.3 The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;

b. Replace riparian vegetation (on-site, in-kind);

c. Restore another section of creek (in-kind); and/or,

d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).

Policy 6.A.4 Where creek protection is required or proposed, the County should require public and private developments to:

a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;

b. Designate such easement or dedication areas (as described in a. above) as open space;

c. Protect creek corridors and their habitat value by actions such as: 1) providing an adequate creek setback, 2) maintaining creek corridors in an essentially natural state, 3) employing creek restoration techniques where restoration is needed to achieve a natural creek corridor, 4) utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas, 5) prohibiting the planting of invasive, non-native plants (such as vinca major or eucalyptus) within creek corridors or creek setbacks, and 6) avoiding tree removal within creek corridors;

d. Provide recreation and public access near creeks consistent with other General Plan policies;

e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and, 2) temporary vegetation sufficient to stabilize disturbed areas.

f. Provide for long-term corridor maintenance by providing a guaranteed financial commitment to the County which accounts for all anticipated maintenance activities.

Policy 6.A.5 The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

Policy 6.A.6 The County shall require that natural watercourses are integrated into new development in such a way that they are accessible to the public and provide a positive visual element.

Policy 6.A.7 The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

Policy 6.A.8 Where the stream environment zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.

Policy 6.A.9 The County shall require that newly created parcels include adequate space outside of watercourses' setback areas to ensure that property owners will not place improvements (e.g., pools, patios, and appurtenant structures), within areas that require protection.

Policy 6.A.10 The County shall protect groundwater resources from contamination and further overdraft by pursuing the following efforts:

a. Identifying and controlling sources of potential contamination;

b. Protecting important groundwater recharge areas;

c. Supporting major consumptive use of groundwater aquifer(s) in the western part of the county only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area.

Policy 6.A.11 Open space located in watersheds, which serve reservoirs is important to the adequate performance of those reservoirs for their intended purposes and should be preserved and protected. The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect.

Policy 6.A.12 The County shall encourage the protection of floodplain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

Policy 6.B.1 The County shall support the "no net loss" policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

Policy 6.B.2 The County shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve "no net loss" through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible minimization of impacts on the resource; or (3) compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare,

threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.

Policy 6.B.3 The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

Policy 6.B.5 The County shall require developments that affect a wetland to employ avoidance, minimization, and/or compensatory mitigation techniques. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind; (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and, (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses. The County shall continue to implement and refine criteria for determining when an alternation to a wetland is considered a less-than-significant impact under CEQA.

### 4.7.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

A hydrologic or flooding impact of the proposed Martis Valley Community Plan Update would be considered significant if it would result in any of the following actions based on the following criteria:

1) Generate substantial stormwater runoff and/or alter surface water drainage patterns that would result in an increased severity of flooding within the Plan area or downstream;

2) Significantly degrade surface water and groundwater quality directly or indirectly;

3) Substantially deplete groundwater resources to such an extent that it would impact existing surface water features that rely on groundwater; or

4) Conflict with applicable local, state and/or federal policies and standards associated with water resources.

METHODOLOGY

The hydrology and water quality analysis is based on: 1) a review of published information, reports and plans regarding regional hydrology, climate, and geology; 2) consultation with agency representatives; and 3) analysis by Geosolutions. The analysis takes into account the density and type of land uses proposed under each of the three land use map options under consideration, as well as proposed and anticipated development in the Plan area and Martis Valley as a whole (future golf courses under application, conceptual ski terrain expansions). The reader is referred to **Table 3.0-1** and Section 4.0 (Introduction to the Analysis and Assumptions Used) regarding assumed land uses and development conditions in Martis Valley.

The project-level analysis focuses on water quality and drainage impacts on water features in the Plan area and the immediate area. Section 4.7.4 (Cumulative Setting, Impacts and

Mitigation Measures) addresses the project's contribution to cumulative impacts associated with the Truckee River Basin in relation to other development proposed in the Martis Valley area.

**Impact 4.7.1 Construction Water Quality Impacts**

**PP** Construction activities associated with subsequent development under the Proposed Land Use Diagram could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AA** Construction activities associated with subsequent development under the Existing Martis Valley General Plan Land Use Map could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AB** Construction activities associated with subsequent development under the Alternative 1 Land Use Map could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

**AC** Construction activities associated with subsequent development under the Alternative 2 Land Use Map could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways. This would be a **significant** impact.

***PP Proposed Land Use Diagram***

Construction associated with subsequent development under the Community Plan would consist of substantial grading and vegetation removal activities that would increase soil erosion rates on the areas proposed for development. This will result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). In rainy periods during the summer season grading operations may impact the surface runoff by increasing the amount of silt and debris carried by runoff. Areas with uncontrolled concentrated flow would experience loss of material within the graded areas and this could potentially impact the downstream water quality of Martis Creek and the Truckee River. As shown in **Table 3.0-2**, approximately 4,300 acres of the Plan area is anticipated to be substantially disturbed with urban levels of development under this land use map option, which includes proposed project sites such as Eaglewood, Northstar Village, and Hopkins Ranch. This estimate does not take into account proposed and conceptual ski terrain expansions by Northstar-at-Tahoe. Martis Creek was estimated to carry approximately 635 tons of suspended sediment load (Desert Research Institute, 2001), and this level of development could increase this load. It should be noted that a majority of the land area proposed for development under the Proposed Land Use Diagram consists of gentle slope conditions and tends to avoid drainage channel areas.

Refueling and parking of construction equipment and other vehicles onsite during construction may result in spills of oil, grease, or related pollutants that may discharge into Plan area drainages. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery close to Martis Creek could cause water quality degradation.

Measures included in subsequent grading plans for development projects would be required to comply with County Grading Ordinance to help eliminate erosion potential and water quality degradation in Martis Creek. Future development would also be subject to review by the LRWQCB for compliance with NPDES requirements as well as with the Water Quality Control Plan for the Lahontan Region (Basin Plan). Based on review of the Proposed Land Use Diagram, it would appear that subsequent development under the Proposed Land Use Diagram would

require waterway crossings that would require the approval of an exemption by the LRWQCB to the waste discharge prohibitions set forth in Chapter 4 of the Basin Plan.

### *AA Existing Martis Valley General Plan Land Use Map*

Construction associated with subsequent development under the Existing Martis Valley General Plan Land Use Map would consist of a similar level of land disturbance as the Proposed Land Use Diagram associated with substantial grading and vegetation removal activities that would increase soil erosion rates on the areas proposed for development. This will result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). In rainy periods during the summer season grading operations may impact the surface runoff by increasing the amount of silt and debris carried by runoff. Areas with uncontrolled concentrated flow would experience loss of material within the graded areas and this could potentially impact the downstream water quality of Martis Creek and the Truckee River. As shown in **Table 3.0-3**, approximately 4,900 acres of the Plan area is anticipated to be substantially disturbed with urban levels of development under this land use map option, which includes proposed project sites such as Eaglewood, Northstar Village, and Hopkins Ranch. This estimate does not take into account proposed and conceptual ski terrain expansions by Northstar-at-Tahoe.

### *AB Alternative 1 Land Use Map*

Construction associated with subsequent development under the Alternative 1 Land Use Map would consist of a similar level of land disturbance as the Proposed Land Use Diagram associated with substantial grading and vegetation removal activities that would increase soil erosion rates on the areas proposed for development. This will result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). In rainy periods during the summer season grading operations may impact the surface runoff by increasing the amount of silt and debris carried by runoff. Areas with uncontrolled concentrated flow would experience loss of material within the graded areas and this could potentially impact the downstream water quality of Martis Creek and the Truckee River. As shown in **Table 3.0-4**, approximately 3,700 acres of the Plan area is anticipated to be substantially disturbed with urban levels of development under this land use map option, which includes proposed project sites such as Eaglewood, Northstar Village, and Hopkins Ranch. This estimate does not take into account proposed and conceptual ski terrain expansions by Northstar-at-Tahoe.

### *AC Alternative 2 Land Use Map*

Construction associated with subsequent development under the Alternative 2 Land Use Map would consist of a similar level of land disturbance as the Proposed Land Use Diagram associated with substantial grading and vegetation removal activities that would increase soil erosion rates on the areas proposed for development. This will result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). In rainy periods during the summer season grading operations may impact the surface runoff by increasing the amount of silt and debris carried by runoff. Areas with uncontrolled concentrated flow would experience loss of material within the graded areas and this could potentially impact the downstream water quality of Martis Creek and the Truckee River. As shown in **Table 3.0-5**, approximately 3,500 acres of the Plan area is anticipated to be substantially disturbed with urban levels of development under this land use map option, which includes proposed project sites such as Eaglewood, Northstar Village, and Hopkins Ranch. This estimate does not take into account proposed and conceptual ski terrain expansions by Northstar-at-Tahoe.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan that are listed below. Compliance with these Plan policies and implementation programs would provide some mitigation to construction water quality impacts.

*Policy 6.E.3* *The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.*

*Policy 6.E.10* *The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.*

*Policy 6.E.11* *The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm sewers, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California Regional Water Quality Control Board, Placer County Division of Environmental Health, Placer County Department of Public Works, Placer County Flood Control and Water Conservation District). Storm sewers are prohibited from connecting directly or indirectly to the TTSA sewer system.*

*Policy 9.D.1* *The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species (see discussion of sensitive habitat buffers in Part 1 of the PCGP).*

*In some cases, buffers shall be required which are substantially larger than noted above. Conversely, based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. In addition, the County may allow exceptions, such as in the following cases:*

*a. Reasonable use of the property would otherwise be denied;*

*b. The location is necessary to avoid or mitigate hazards to the public.*

*c. The location is necessary for the repair of roads, bridges, trails or similar infrastructure; or*

*d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement*

*Policy 9.D.2* *The County shall require that any permitted disturbance in the 100-year floodplain comply with the provisions of the Placer County Flood Damage Prevention Ordinance and any other existing regulations.*

*Policy 9.D.3* *The County shall require development projects proposing to encroach (where it has been determined to be appropriate) into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:*

*a. Avoid the disturbance of riparian vegetation;*

*b. Replace riparian vegetation (on-site, in-kind);*

*c. Restore another section of creek (in-kind) and/or;*

*d. Pay a mitigation fee for restoration elsewhere (e.g. wetland mitigation banking program).*

*Policy 9.D.4* *The County shall require public and private development to address creeks and riparian corridors as follows:*

*a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;*

*b. Designate such easement or dedication areas (as described in a. above) as open space;*

*c. Protect creek corridors and their habitat value by actions such as: 1) providing an adequate creek setback, 2) maintaining creek corridors in an essentially natural state, 3) employing creek restoration techniques where restoration is needed to achieve a natural creek corridor, 4) utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas, 5) prohibiting the planting of invasive, non-native plants (such as vinca major and eucalyptus) within creek corridors or creek setbacks, and 6) avoiding tree removal within creek corridors;*

*d. Provide recreation and public access near creeks consistent with other General Plan policies;*

*e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1)turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall*

*be left in place until disturbed areas are stabilized with permanent vegetation that will prevent the transport of sediment off site; and/or 2) temporary vegetation is established sufficient to stabilize disturbed areas, and;*

*f. Provide for long-term creek corridor maintenance.*

*Policy 9.D.5* *The County shall continue to require the use of feasible and practical Best Management Practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for recreational development.*

*Policy 9.D.7* *The County shall prohibit grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.*

*Policy 9.D.8* *Where the stream environment zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.*

*Policy 9.D.9* *The County shall encourage the preservation and protection of open space located in watersheds, which serve reservoirs due to its importance in the adequate performance of those reservoirs for their intended purposes.*

*The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. For Martis Valley, this includes Martis Creek Lake.*

*Policy 9.D.10* *The County shall encourage the protection of flood plain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.*

*Policy 9.F.2* *The County shall require that natural open space buffers be maintained in non-riparian areas adjacent to drainage swales and creeks to reduce erosion and to aid in the natural filtration of runoff waters flowing into these waterways. The buffers shall meet the standards contained in the PCGP unless a larger buffer is warranted based on site-specific field work.*

*Policy 9.F.5* *The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.*

*Implementation Programs*

*Geology*

3. *Continue to enforce the Placer County Grading Ordinance to ensue that areas of slope instability are adequately investigated and that any development incorporates appropriate design provisions to prevent landsliding.*

   *Responsible Agency/Department: Department of Public Works*
   *Time Frame: On-going*
   *Funding: Permit Fees/Plan Review Fees*

4. *Require the preparation of drainage plans that direct runoff and drainage away from unstable slopes for construction is hillside areas.*

   *Responsible Agency/Department: Department of Public Works*
   *Time Frame: On-going*
   *Funding: Permit Fees/Plan Review Fees*

6. *During the review of private development projects, required site specific studies shall include soil reports, slope analyses, grading plans, and erosion control and rehabilitation plans during environmental review, or at the first available opportunity, as needed.*

   *Responsible Agency/Department: Development Review Committee*
   *Time Frame: On-going*
   *Funding: Permit fees/Plan Review Fees*

7. *Through environmental review and project approval, avoid development on highly erosive soils and most slopes over 20%, if possible, and in all locations, slopes over 30%. Where development does occur in these areas, require the application of BMPs.*

   *Responsible Agency/Department: Development Review Committee*
   *Time Frame: On-going*
   *Funding: Permit Fees.*

8. *Continue the program of monitoring mitigation measures that relate to accelerated erosion and attendant problems.*

   *Responsible Agency/Department: Department of Public Works*
   *Time Frame: On-going*
   *Funding: Permit Fees/General Fund*

*Water Resources*

10. *The County shall inform the public and prospective developers about those sections of the California Fish and Game Code that apply to diversion or obstruction of stream channels and pollution of waterways with detrimental material. This shall be done through distribution of educational materials with building permits and as a part of project review.*

*Responsible Agency/Department: Planning Department*
*Time Frame: On-going*
*Funding: General Fund*

*15. BMPs are structural and non-structural practices proven effective in soil erosion control and management of surface runoff. Eroding soils and surface water runoff transport pollutants, particularly plan nutrients and sediments, to the area's rivers and streams. Turf herbicides, pesticides, fertilizers, oil and grease contribute to the problem. Declines in water quality are directly attributable to the flow of non-point source pollutants into streams, rivers, and lakes. BMPs shall be implemented with every development project in the Martis Valley. The goal is to [1] stabilize the soil, [2] prevent erosion, and [3] divert runoff from impervious surfaces into infiltration systems. Within the Martis Valley, temporary BMPs are required while construction is underway and permanent BMPs are required to be in place prior to the development project being completed. Both temporary and permanent BMPs must be graphically shown on project plans.*

*Responsible Agency/Department: Department of Public Works*
*Time Frame: On-going*
*Funding: Permit Fees*

*18. Include mitigation measures for new development projects adopted pursuant to the Lahontan Regional Water Quality Control Board's requirements and permits issued under Section 404 of the Federal Clean Water Act.*

*Responsible Agency/Department: Development Review Committee*
*Time Frame: On-going*
*Funding: Permit Fees*

Mitigation Measures

The following mitigation measures shall be incorporated into the Martis Valley Community Plan as policies under Goal 9.D of Natural Resources Section. The following mitigation measures shall apply to the Proposed Land Use Diagram and alternatives AA, AB and AC.

**MM 4.7.1a** The County shall require that each subsequent project applicant shall prepare a spill prevention and countermeasure plan describing measures to ensure proper collection and disposal of all pollutants handled or produced on the site during construction, including sanitary wastes, cement, and petroleum products. The plan shall be incorporated into project improvement plans.

**MM 4.7.1b** The County shall require each subsequent project clearly identify specific water quality control measures for Plan area waterways during construction activities. Water quality control features shall demonstrate that the water quality controls will ensure no increase in sediment or other pollutant loads in waterways and that storm water discharges are in compliance with all current requirements of the Lahontan Regional Water Quality Control Board (e.g., Water Quality Control Plan for the Lahontan Region).

**MM 4.7.1c** Subsequent development activities in the Plan area shall avoid disturbing or altering existing wetlands, natural waterway courses or channel conditions. Exceptions to this policy would include minor stream crossings and

improvements to the waterway that enhance the waterways natural condition to convey water and improvement water quality. Exceptions will be considered on a case-by-case basis by the County and the RWQCB and must be in compliance with the Water Quality Control Plan for the Lahontan Region (Basin Plan).

Implementation of the above policies, implementation programs and mitigation measures would mitigate construction water quality impacts to a **less than significant** level for the Proposed Land Use Diagram and alternatives AA, AB and AC.

**Impact 4.7.2 Operational Surface Water Quality Impacts**

**PP** Implementation of the Proposed Land Use Diagram could result in direct and indirect surface water quality impacts from operation of various land uses in the Plan area. This would be a **significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map could result in direct and indirect surface water quality impacts from operation of various land uses in the Plan area. This would be a **significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map could result in direct and indirect surface water quality impacts from operation of various land uses in the Plan area. This would be a **significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map could result in direct and indirect surface water quality impacts from operation of various land uses in the Plan area. This would be a **significant** impact.

***PP Proposed Land Use Diagram***

As described under Impact 4.7.1, subsequent development under the Proposed Land Use Diagram would result in substantial development and alteration of approximately 4,300 acres of the Plan area. Direct surface water quality impacts could occur from the following general land use activities in the Plan area:

- **Residential:** Maintenance of yards associated with the use of fertilizers, herbicides and pesticides and motor vehicle operation and maintenance.
- **Commercial:** Maintenance of landscape area associated with the use of fertilizers, herbicides and pesticides and motor vehicle operation and maintenance.
- **Recreation:** Maintenance of golf courses associated with the use of fertilizers, herbicides and pesticides (currently there are two existing golf courses in the and three proposed in the Plan area). Hiking, mountain biking, off-road vehicle use on un-paved roads and trails and ski terrain maintenance resulting in sedimentation of waterways.
- **Roadway Maintenance:** Snow removal activities (e.g., application of sand to roadways).

Runoff would typically contain oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), nutrients, sediment and other pollutants. Precipitation during the early portion of the wet season (November to April) displaces these pollutants into the stormwater runoff resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff, containing peak pollutant levels, is referred to as the "first flush" of storm events. It is

estimated that during the rainy season, the first flush of heavy metals and hydrocarbons would occur during the first five inches of seasonal rainfall.

The amount and type of runoff generated by the various projects would be greater than that under existing conditions due to increases in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and "first flush" roadway contaminants such as heavy metals, oil, grease, as well as an increase in nutrients (i.e., fertilizers), and other chemicals from landscaped areas. These constituents would result in water quality impacts to onsite and offsite drainage flows to Martis Creek and it tributaries as well as the Truckee River.

In addition to direct surface water quality impacts, subsequent development under the Proposed Land Use Diagram would result in indirect surface water quality impacts associated with human domestic pet intrusion into wetlands and waterways in the Plan area as well as add to wastewater effluent discharges to the Truckee River by the Tahoe-Truckee Sanitation Agency Water Reclamation Plant (the environmental effects of Water Reclamation Plant expansion has been addressed in the Tahoe-Truckee Sanitation Agency Water Reclamation Plant Expansion Project EIR [State Clearinghouse No. 98052005]).

***AA Existing Martis Valley General Plan Land Use Map***

As described under Impact 4.7.1, subsequent development under the Existing Martis Valley General Plan Land Use Diagram would result in substantial development and alteration of approximately 4,900 acres of the Plan area. Direct and indirect surface water quality impacts could occur from the following general land use activities in the Plan area similar to the Proposed Land Use Diagram.

***AB Alternative 1 Land Use Map***

As described under Impact 4.7.1, subsequent development under the Alternative 1 Land Use Map would result in substantial development and alteration of approximately 3,700 acres of the Plan area. Direct and indirect surface water quality impacts could occur from the following general land use activities in the Plan area similar to the Proposed Land Use Diagram.

***AC Alternative 2 Land Use Map***

As described under Impact 4.7.1, subsequent development under the Alternative 2 Land Use Map would result in substantial development and alteration of approximately 3,500 acres of the Plan area. Direct and indirect surface water quality impacts could occur from the following general land use activities in the Plan area similar to the Proposed Land Use Diagram.

<u>Policies and Implementation Programs</u>

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan that are listed below. Compliance with these Plan policies and implementation programs would help mitigate this impact.

*Policy 6.E.6* *The County shall improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other Best Management Practices (BMPs).*

*Policy 6.E.8* *The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.*

*Policy 6.E.10* *The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.*

*Policy 6.E.11* *The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm sewers, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California Regional Water Quality Control Board, Placer County Division of Environmental Health, Placer County Department of Public Works, Placer County Flood Control and Water Conservation District). Storm sewers are prohibited from connecting directly or indirectly to the TTSA sewer system.*

*Policy 9.D.1* *The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species (see discussion of sensitive habitat buffers in Part 1 of the PCGP).*

*In some cases, buffers shall be required which are substantially larger than noted above. Conversely, based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. In addition, the County may allow exceptions, such as in the following cases:*

*a. Reasonable use of the property would otherwise be denied;*

*b. The location is necessary to avoid or mitigate hazards to the public.*

*c. The location is necessary for the repair of roads, bridges, trails or similar infrastructure; or*

*d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.*

*Policy 9.D.4* *The County shall require public and private development to address creeks and riparian corridors as follows:*

*a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development)*

*shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;*

*b. Designate such easement or dedication areas (as described in a. above) as open space;*

*c. Protect creek corridors and their habitat value by actions such as: 1) providing an adequate creek setback, 2) maintaining creek corridors in an essentially natural state, 3) employing creek restoration techniques where restoration is needed to achieve a natural creek corridor, 4) utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas, 5) prohibiting the planting of invasive, non-native plants (such as vinca major and eucalyptus) within creek corridors or creek setbacks, and 6) avoiding tree removal within creek corridors;*

*d. Provide recreation and public access near creeks consistent with other General Plan policies;*

*e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas are stabilized with permanent vegetation that will prevent the transport of sediment off site; and/or 2) temporary vegetation is established sufficient to stabilize disturbed areas, and;*

*f. Provide for long-term creek corridor maintenance.*

*Policy 9.D.5* *The County shall continue to require the use of feasible and practical Best Management Practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for recreational development.*

*Policy 9.D.9* *The County shall encourage the preservation and protection of open space located in watersheds, which serve reservoirs due to its importance in the adequate performance of those reservoirs for their intended purposes.*

*The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. For Martis Valley, this includes Martis Creek Lake.*

*Policy 9.D.10* *The County shall encourage the protection of flood plain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.*

*Policy 9.F.1* *The County shall encourage the preservation and enhancement of natural open space within the riparian areas of the watercourses and drainageways found in the Martis Valley as one means of minimizing the adverse effects of land development upon the chemical and physical quality of waters therein.*

*Policy 9.F.2* *The County shall require that natural open space buffers be maintained in non-riparian areas adjacent to drainage swales and creeks to reduce erosion and to aid in the natural filtration of runoff waters flowing into these waterways. The buffers shall meet the standards contained in the PCGP unless a larger buffer is warranted based on site-specific field work.*

*Policy 9.F.5* *The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.*

*Implementation Programs*

*Stormwater Drainage*

1. *Review development projects for compliance with the goals, policies and specific discussions contained in the Public Facilities and Services section and throughout the Plan.*

   *Responsible Agency/Department: Board of Supervisors, Planning Commission, Land Development Departments*
   *Time frame: Ongoing*
   *Funding: Application fees*

16. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement and fund current and future watershed management, water quality protection, and water conservation plans of the Placer County Flood Control and Water Conservation District.*

    *Responsible Agency/Department: Board of Supervisors, Department of Public Works*
    *Time frame: Ongoing*
    *Funding: Development Fees, General Fund*

17. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.*

    *Responsible Agency/Department: Board of Supervisors, Department of Public Works*

*Time frame: Ongoing*
*Funding: Development Fees, General Fund*

*18. The County shall develop brochures and other methods to educate the public and developers regarding the potential impacts of development on drainage, flooding, and water quality.*

*Responsible Agency/Department: Department of Public Works, Flood Control and Water Conservation District, Department of Environmental Health*
*Time frame: Ongoing*
*Funding: General Fund*

*Water Resources*

*15. BMPs are structural and non-structural practices proven effective in soil erosion control and management of surface runoff. Eroding soils and surface water runoff transport pollutants, particularly plan nutrients and sediments, to the area's rivers and streams. Turf herbicides, pesticides, fertilizers, oil and grease contribute to the problem. Declines in water quality are directly attributable to the flow of non-point source pollutants into streams, rivers, and lakes. BMPs shall be implemented with every development project in the Martis Valley. The goal is to [1] stabilize the soil, [2] prevent erosion, and [3] divert runoff from impervious surfaces into infiltration systems. Within the Martis Valley, temporary BMPs are required while construction is underway and permanent BMPs are required to be in place prior to the development project being completed. Both temporary and permanent BMPs must be graphically shown on project plans.*

*Responsible Agency/Department: Department of Public Works*
*Time Frame: On-going*
*Funding: Permit Fees*

*18. Include mitigation measures for new development projects adopted pursuant to the Lahontan Regional Water Quality Control Board's requirements and permits issued under Section 404 of the Federal Clean Water Act.*

*Responsible Agency/Department: Development Review Committee*
*Time Frame: On-going*
*Funding: Permit Fees*

<u>Mitigation Measures</u>

The following mitigation measures shall apply to the Proposed Land Use Diagram and Alternatives AA, AB and AC.

The following mitigation measure shall be incorporated into the Martis Valley Community Plan as policies under Goal 6.E of the Public Facilities & Services Section.

**MM 4.7.2a** The County shall require that each subsequent project develop a surface water quality control program to be incorporated into the project's storm water drainage system design. This program would specify the design of planned water quality facilities to be used in the project's drainage system, including details and methods for intercepting and improving surface water quality as well as maintenance of facilities. Water quality control features

shall demonstrate that the water quality controls will ensure no increase in sediment or other pollutant loads in waterways and that storm water discharges are in compliance with all current requirements of the Lahontan Regional Water Quality Control Board.

The following mitigation measures shall be incorporated into the Martis Valley Community Plan as policies under Goal 9.D of the Natural Resources Section.

**MM 4.7.2b** In addition to the setback requirements set forth in Policy 9.D.1, subsequent projects will be conditioned to prohibit application of fertilizers, pesticides and herbicides within waterway corridors and wetland areas. Exact buffer distances from waterways and wetlands for chemical application shall be determined on a case-by-case basis based on technical analysis of the project and in consultation with the County and the Lahontan Regional Water Quality Control Board.

**MM 4.7.2c** The County will require that future golf courses be designed to reduce the threat to surrounding waterways and wetland areas. Specifically by minimizing total acreage of managed turf, the need for fertilizers and chemicals would be minimized and the size of natural areas would be maximized. Natural areas would promote wildlife habitat and provide buffers to the environment from higher trafficked areas. Landscaped areas shall be restricted to only greens, tees, and fairways. The golf courses shall be designed to retain natural surface drainage patterns with buffer areas and will control and divert runoff away from greens, tee, fairways and other managed turf areas to prevent leaching and erosion of chemicals applied in these areas.

The County shall also require proper chemical management (i.e., Chemical Application Management Plans [CHAMP]) for the operation of new golf courses. New golf courses shall utilize appropriate chemical management objectives via direct application of procedures that ensure water quality objectives are meet as defined by the Lahontan Regional Water Quality Control Board and California Inland Surface Waters Plan. Specific water quality objectives for new golf courses shall ensure the biostimulatory substances, floating materials, oil and grease, pesticides and sediment shall not be in sufficient concentrations to cause a nuisance, adversely affect the beneficial uses of on-site surface waters, runoff or groundwater or exceed water quality criteria set forth in the Water Quality Control Plan for the Lahontan Region (Basin Plan). Water quality objectives for nine types of element/compounds is set by the Lahontan Regional Water Quality Control Board and are presented in the Basin Plan.

The CHAMP or similar management plan shall incorporate the following:

- A description of golf course design features that prevent direct discharges of surface runoff into stream channels and groundwater.
- A description of chemicals authorized for use and approved within the State of California, along with guidelines for their application. Guidelines shall include restrictions on their use near drainage systems. Chemicals include fertilizers, herbicides, fungicides, insecticides and rodenticides.

- Guidelines on the application of fertilizers and soil amendments that take into consideration the physical characteristics and nutrient content of the soil on the golf course site.
- Guidelines for the irrigation of the golf course that take into consideration the field capacity of soil types and the timing with chemical applications.
- A water quality monitoring program that includes sampling would be timed with the application of soil amendments or on a regularly scheduled basis. This monitoring program shall also be implemented with consideration of the RWQCB water quality objectives for the Martis Creek at its confluence the Truckee River.
- Chemical storage requirements and chemical spill response and chemical inventory response plans would be prepared and implemented.
- Pesticide concentrations shall not be allowed to accumulate in bottom sediments or aquatic life, nor can chlorinated hydrocarbon pesticides be found at detectable concentrations in surface waters. Maximum Concentration Levels (MCL), per the Water Quality Goals for California Inland Surface Water for Human Health and Freshwater Aquatic Life Protection shall be met for waters in golf course lakes and other surface water bodies including streams and springs. Also, groundwaters shall not contain any chemical contaminants derived from operations in excess of the MCLs specified for domestic drinking water supplies in the CCR, Title 22, Division 4, Chapter 15 for the turf management chemical compounds including, but not limited to, 2,4-D, Atazine, Bentazon, Carbofuran, Glyphosate and Simazine.

**MM 4.7.2d** The County shall require that subsequent development projects provide open fencing and signage restricting area residents from intruding in waterway and wetland areas and providing information regarding the sensitivity of these resources to include requirements for domestic pet control.

**MM 4.7.2e** The County shall require that snow storage areas shall be located outside of areas that drain directly into waterways, except where storm drainage and treatment facilities are provided.

Implementation of the above policies, implementation programs, and mitigation measures would reduce impacts to surface water quality resulting from urban runoff to **less than significant** for the Proposed Land Use Diagram and alternatives AA through AC.

**Impact 4.7.3 Groundwater Quality Impacts**

**PP** Implementation of the Proposed Land Use Diagram could result in the degradation of groundwater quality resulting from future land uses. This would be a **potentially significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map could result in the degradation of groundwater quality resulting from future land uses. This would be a **potentially significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map could result in the degradation of groundwater quality resulting from future land uses. This would be a **potentially significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map could result in the degradation of groundwater quality resulting from future land uses. This would be a **potentially significant** impact.

***PP Proposed Land Use Diagram***

Development of various projects would urbanize certain zones in the Plan area and these areas would generated runoff that would contain oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), other household pollutants, and nutrients (i.e., fertilizers), and other chemicals from landscaped areas. Rural residential development in areas designated Forest (F) may utilize individual septic systems that could also contribute to groundwater quality impacts if such systems are not properly designed**.** If annual runoff generated from urbanize areas went untreated and were allowed to discharge to areas that support natural settings an estimated 25.3 percent of this volume of water could infiltrate into the subsurface and ultimately recharge the underlying aquifer and negatively impact the natural quality of groundwater.

***AA Existing Martis Valley Community Plan Land Use Map***

The Existing Martis Valley Community Plan Land Use Map would result in a similar design as the Proposed Land Use Diagram. This alternative also has the potential to result in groundwater quality impacts.

***AB Alternative 1 Land Use Map***

The Alternative 1 Land Use Map would result in a similar design as the Proposed Land Use Diagram. This alternative also has the potential to result in groundwater quality impacts.

***AC Alternative 2 Land Use Map***

The Alternative 2 Land Use Map would result in a similar design as the Proposed Land Use Diagram. This alternative also has the potential to result in groundwater quality impacts.

<u>Policies and Implementation Programs</u>

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan that are listed below. Compliance with these Plan policies and implementation programs would help mitigate this impact.

*Policy 6.C.6* *The County shall protect the watersheds of all surface and subsurface bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.*

*Policy 6.D.1* *The County shall limit the expansion of all but large lot (10 acres+) developments to areas where community wastewater treatment systems can be provided.*

*Policy 6.D.5* *The County shall permit on-site sewage treatment and disposal on parcels larger than 1 acre where access to a wastewater treatment facility is not available and all current County and State regulations can be met, parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards. Where the County will approve individual on-site sewage treatment and disposal, appropriate hydrologic/geologic testing and reporting by a qualified professional, will be required.*

*Policy 6.D.6* *The County shall require that the on-site treatment, development, operation, maintenance and monitoring of disposal systems complies with the requirements and standards of the County Division of Environmental Health and the Lahontan Regional Water Quality Control Board.*

*Policy 6.D.7* *The County shall facilitate extension of septic tank effluent pumping (STEP) service or conventional wastewater collection service to areas with failing on-site systems.*

*Policy 9.D.1* *The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species (see discussion of sensitive habitat buffers in Part 1 of the PCGP).*

*In some cases, buffers shall be required which are substantially larger than noted above. Conversely, based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. In addition, the County may allow exceptions, such as in the following cases:*

*a. Reasonable use of the property would otherwise be denied;*

*b. The location is necessary to avoid or mitigate hazards to the public.*

*c. The location is necessary for the repair of roads, bridges, trails or similar infrastructure; or*

*d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.*

*Policy 9.D.4* *The County shall require public and private development to address creeks and riparian corridors as follows:*

*a. Preserve creek corridors and creek setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development)*

*shall be located to optimize resource protection. If a creek is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;*

*b. Designate such easement or dedication areas (as described in a. above) as open space;*

*c. Protect creek corridors and their habitat value by actions such as: 1) providing an adequate creek setback, 2) maintaining creek corridors in an essentially natural state, 3) employing creek restoration techniques where restoration is needed to achieve a natural creek corridor, 4) utilizing riparian vegetation within creek corridors, and where possible, within creek setback areas, 5) prohibiting the planting of invasive, non-native plants (such as vinca major and eucalyptus) within creek corridors or creek setbacks, and 6) avoiding tree removal within creek corridors;*

*d. Provide recreation and public access near creeks consistent with other General Plan policies;*

*e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas are stabilized with permanent vegetation that will prevent the transport of sediment off site; and/or 2) temporary vegetation is established sufficient to stabilize disturbed areas, and;*

*f. Provide for long-term creek corridor maintenance.*

*Policy 9.D.5* *The County shall continue to require the use of feasible and practical Best Management Practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for recreational development.*

*Policy 9.D.9* *The County shall encourage the preservation and protection of open space located in watersheds, which serve reservoirs due to its importance in the adequate performance of those reservoirs for their intended purposes.*

*The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. For Martis Valley, this includes Martis Creek Lake.*

*Policy 9.D.10* *The County shall encourage the protection of flood plain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.*

*Policy 9.F.1* *The County shall encourage the preservation and enhancement of natural open space within the riparian areas of the watercourses and drainageways found in the Martis Valley as one means of minimizing the adverse effects of land development upon the chemical and physical quality of waters therein.*

*Policy 9.F.2* *The County shall require that natural open space buffers be maintained in non-riparian areas adjacent to drainage swales and creeks to reduce erosion and to aid in the natural filtration of runoff waters flowing into these waterways. The buffers shall meet the standards contained in the PCGP unless a larger buffer is warranted based on site-specific field work.*

*Policy 9.F.5* *The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.*

*Implementation Programs*

*Water Supply & Delivery*

8. *The County should identify precise locations of severe groundwater contamination or overdrafting. The County shall work with water users in these areas to investigate methods for shifting to reliance on surface water supplies or other appropriate solutions.*

   *Responsible Agency/Department: Health Department, Department of Public Works*
   *Time frame: As needed*
   *Funding: General Fund or other identified source*

12. *As part of the groundwater monitoring and modeling program employed by the Environmental Health Division, the locations where polluted groundwaters are discovered shall be reported to the appropriate water purveyor.*

    *Responsible Agency/Department: Division of Environmental Health*
    *Time frame: On-going*
    *Funding: General Fund*

13. *Where study shows that groundwater can likely be used without adversely affecting quality or quantity, require that appropriate monitoring programs be established.*

    *Responsible Agency/Department: Division of Environmental Health*
    *Time frame: On-going*
    *Funding: Impact fees*

*Sewage Collection, Treatment and Disposal*

14. *Pursuant to County Ordinance (Chapter 4, Subchapter 1, Section 4.45), require that as part of the environmental review process, each new development proposing to use onsite sewage disposal systems be required to provide appropriate soils testing and study, and be required to provide acceptable preliminary onsite sewage disposal system designs.*

    *Responsible Agency/Department: Division of Environmental Health*
    *Time frame: On-going*
    *Funding: Permit fees*

15. *Where testing cannot establish acceptable onsite sewage system designs, require reduced density by elimination of lots which cannot sustain onsite sewage disposal systems.*

    *Responsible Agency/Department: Division of Environmental Health*
    *Time frame: On-going*
    *Funding: Permit fees*

*Stormwater Drainage*

1. *Review development projects for compliance with the goals, policies and specific discussions contained in the Public Facilities and Services section and throughout the Plan.*

    *Responsible Agency/Department: Board of Supervisors, Planning Commission, Land Development Departments*
    *Time frame: Ongoing*
    *Funding: Application fees*

16. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement and fund current and future watershed management, water quality protection, and water conservation plans of the Placer County Flood Control and Water Conservation District.*

    *Responsible Agency/Department: Board of Supervisors, Department of Public Works*
    *Time frame: Ongoing*
    *Funding: Development Fees, General Fund*

17. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.*

    *Responsible Agency/Department: Board of Supervisors, Department of Public Works*
    *Time frame: Ongoing*
    *Funding: Development Fees, General Fund*

*18. The County shall develop brochures and other methods to educate the public and developers regarding the potential impacts of development on drainage, flooding, and water quality.*

*Responsible Agency/Department: Department of Public Works, Flood Control and Water Conservation District, Department of Environmental Health*
*Time frame: Ongoing*
*Funding: General Fund*

*Water Resources*

*15. BMPs are structural and non-structural practices proven effective in soil erosion control and management of surface runoff. Eroding soils and surface water runoff transport pollutants, particularly plan nutrients and sediments, to the area's rivers and streams. Turf herbicides, pesticides, fertilizers, oil and grease contribute to the problem. Declines in water quality are directly attributable to the flow of non-point source pollutants into streams, rivers, and lakes. BMPs shall be implemented with every development project in the Martis Valley. The goal is to [1] stabilize the soil, [2] prevent erosion, and [3] divert runoff from impervious surfaces into infiltration systems. Within the Martis Valley, temporary BMPs are required while construction is underway and permanent BMPs are required to be in place prior to the development project being completed. Both temporary and permanent BMPs must be graphically shown on project plans.*

*Responsible Agency/Department: Department of Public Works*
*Time Frame: On-going*
*Funding: Permit Fees*

*18. Include mitigation measures for new development projects adopted pursuant to the Lahontan Regional Water Quality Control Board's requirements and permits issued under Section 404 of the Federal Clean Water Act.*

*Responsible Agency/Department: Development Review Committee*
*Time Frame: On-going*
*Funding: Permit Fees*

Mitigation Measures

The following mitigation measures shall be incorporated into the Martis Valley Community Plan as policies under Goal 9.D of the Natural Resources Section. The following mitigation measures shall apply to the Proposed Land Use Diagram and alternatives AA, AB and AC.

**MM 4.7.3** Future land uses that are anticipated to utilize hazardous materials or waste shall be required to provide adequate containment facilities to ensure that surface water and groundwater resources are protected from accidental releases. This shall include double-containment, levees to contain spills, and monitoring wells for underground storage tanks, as required by local, state and federal standards.

Implementation of the above policies, implementation programs, and mitigation measure as well as mitigation measures MM 4.7.2a through e would reduce impacts to groundwater quality resulting from urban runoff to **less than significant** for the Proposed Land Use Diagram and alternatives AA through AC.

### Impact 4.7.4 Groundwater Recharge Areas Impacts

**PP** Implementation of the Proposed Land Use Diagram would result in the increase of impervious surfaces in the Plan area. However, this increase in impervious surfaces is not expected to substantially impact groundwater recharge. This would be a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map would result in the increase of impervious surfaces in the Plan area. However, this increase in impervious surfaces is not expected to substantially impact groundwater recharge. This would be a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map would result in the increase of impervious surfaces in the Plan area. However, this increase in impervious surfaces is not expected to substantially impact groundwater recharge. This would be a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map would result in the increase of impervious surfaces in the Plan area. However, this increase in impervious surfaces is not expected to substantially impact groundwater recharge. This would be a **less than significant** impact.

***PP-AC Proposed Land Use Diagram and Alternatives AA through AC***

Development of the Plan area under the Proposed Land Use Diagram and alternatives AA through AC would result in an increase in impervious surfaces that could potentially limit the ability of groundwater recharge to occur from infiltration of precipitation. However, a majority of the land area planned for development is located within Sections 5, 6, 21, 23, 26, 27, 28, and 31 through 36, which are located in areas of shallow bedrock consisting of lava, tuff, breccia and volcaniclastic deposits ranging from andesite to basalt (see **Figure 4.7-4**). Test pits and well data in these areas verify that the depth to volcanic bedrock generally ranges from at the surface to 50 feet below the ground surface, with the depth to bedrock increasing from west to east (Black Eagle, 1999; GeoTrans, 2000). Near surface groundwater encountered in these areas is generally limited to localized perched and upper aquifer groundwater conditions that do not appear to be substantially tied to the middle/lower aquifer, but do provide for diversion of groundwater to the northern and eastern portions of the Basin. Given these geologic conditions, these areas do not substantially contribute directly to groundwater recharge of the middle/lower aquifer. More favorable geologic conditions for groundwater recharge are located in Sections 19, 20, and a portion of 29 (see **Figure 4.7-4**). As shown in **Figures 3.0-5** through **3.0-8**, a majority of this area is proposed to be designated as open space, which would not be significantly impacted by the placement of impervious surfaces.

As shown below, the implementation of the Proposed Land Use Diagram and alternatives AA through AC would also designate the majority of the Plan area as open space or a low intensity land use type that would not result in a substantial amount of impervious surface (i.e., Forest and Forest Residential).

**TABLE 4.7-3**
**LAND AREA TO REMAIN IN OPEN SPACE OR A LOW INTENSITY USE[1]**

| Land Use Map | Acreage In Open Space or Low Intensity Use in Acres | Percentage of Total Plan Area |
|---|---|---|
| Proposed Land Use Diagram (PP) | 21,484 | 84% |
| Existing Martis Valley General Plan (AA) | 20,840 | 82% |
| Alternative 1 (AB) | 22,184 | 87% |
| Alternative 2 (AC) | 22,256 | 87% |

[1] *Low intensity use includes the following land use designations: Forest, Forest Residential, Recreation, Water, and Valley Residential.*

In addition to the low amount of land area anticipated to be developed, the intensity of land uses proposed are low intensity with the majority of residential development (approximately 12 to 16 percent of the total land area of the Plan area under the land use map alternatives) ranging from 0.4 to 5 dwelling units per acre.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan that are listed below. Compliance with these Plan policies and implementation programs would further ensure that groundwater recharge is not impacted.

*Policy 6.C.6* *The County shall protect the watersheds of all surface and subsurface bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.*

*Policy 9.D.9* *The County shall encourage the preservation and protection of open space located in watersheds, which serve reservoirs due to its importance in the adequate performance of those reservoirs for their intended purposes.*

*The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. For Martis Valley, this includes Martis Creek Lake.*

*Policy 9.D.10* *The County shall encourage the protection of flood plain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.*

*Implementation Programs*

*Water Resources*

12. *The County shall cooperate with the Placer County Water Agency and Truckee Donner Public Utility District in the preparation and implementation of a comprehensive surface and groundwater management program to ensure the long-term protection and maintenance of surface and groundwater resources. This water management program shall include at least the following elements:*

    a. *County leadership of the process and a commitment to its integrity and inclusiveness;*

    b. *Coordination and cooperation with other public and private agencies, organizations, and groups that have an interest in water resources management in the county or surrounding areas.*

    c. *An inventory of water supply and quality information and demand estimates, using as much available information as possible, with the objective of creating an easily accessible, comprehensive, and regularly updated database that can be shared by water management agencies;*

    d. *Identification, documentation, and prioritization of the most significant water supply sources and pressing local water quality management problems;*

    e. *Identification of existing ongoing water management and regulatory polices, programs, and standards by the various agencies and organizations with an interest in water resources management;*

    f. *Recognition and incorporation of ongoing compatible water management efforts into a comprehensive approach to water resources management to implement the goals and policies of this General Plan;*

    g. *Identification of any regulatory or policy "gaps" that can and should be addressed by the County;*

    h. *Application of sound water resources management principles, including watershed land use management, wetlands and vegetation management, non-point source pollution control, waste disposal monitoring and controls,*

    i. *Application of sustainable multiple-use water management principles and incorporation of diverse and potentially compatible land use objectives, including provision of open space and recreation opportunities, watershed and habitat protection, flood control, and water provision to meet future recreational, ecological, and community development needs; and*

    j. *Utilization of innovative and alternative funding mechanisms form sources outside of the County.*

    *Responsible Agency/Department: PCWA, TDPUD, Environmental Health Department, Planning Department, Public Works Department*

*Time Frame: FY 2002 and beyond*
*Funding: Cooperative MOU with other agencies/private grants/impact fees/General Fund*

Given the geologic conditions, proposed policies and implementation programs and proposed land use layouts under the Proposed Land Use Diagram and Alternatives AA through AC, the impact is considered **less than significant**.

Mitigation Measures

None required.

**Impact 4.7.5 Increased Groundwater Usage Impacts**

**PP** Implementation of land uses under the Proposed Land Use Diagram would increase groundwater usage in Martis Valley, which could adversely impact groundwater resources as well as interactions between groundwater and surface water. This would be a **potentially significant** impact.

**AA** Implementation of land uses under the Existing Martis Valley General Plan Land Use Diagram would increase groundwater usage in Martis Valley, which could adversely impact groundwater resources as well as interactions between groundwater and surface water. This would be a **potentially significant** impact.

**AB** Implementation of land uses under the Alternative 1 Land Use Map would increase groundwater usage in Martis Valley, which could adversely impact groundwater resources as well as interactions between groundwater and surface water. This would be a **potentially significant** impact.

**AC** Implementation of land uses under the Alternative 2 Land Use Map would increase groundwater usage in Martis Valley, which could adversely impact groundwater resources as well as interactions between groundwater and surface water. This would be a **potentially significant** impact.

***PP Proposed Land Use Diagram***

The groundwater impact discussion is divided into two discussion areas provided below and include groundwater resources and interactions between groundwater and surface water.

*Groundwater Resources*

**Table 4.7-4** summarizes Placer County Water Agency water demand estimates for buildout under the Proposed Land Use Diagram.

**TABLE 4.7-4**
**WATER DEMAND ESTIMATES FOR THE PROPOSED LAND USE DIAGRAM**

| Land Use Designation | Acres | Dwelling Units | GPD/ DU | GPD/ Acre | Acre Feet/ Year | Depletion Factor (%) | Net Depletion Acre Feet/Year |
|---|---|---|---|---|---|---|---|
| General Commercial | 39 | | | 2,600 | 114 | 8% | 9 |
| Residential[1] | 21,254 | 8,524 | 500 | | 4,773 | 34% | 1,623 |
| High Density Residential (10-15 du/ac) | 18 | 108 | 300 | | 36 | 34% | 12 |
| Tourist/Resort Commercial (15 du/ac)[3] | 49 | 588 | 300 | | 198 | 34% | 67 |
| Professional Office | 6 | | | 2,600 | 17 | 8% | 1 |
| Public /Quasi Public | 31 | | | 2,600 | 90 | 8% | 7 |
| Open Space[2] | 3,660 | | | | 3,085 | Varies | 2,007 |
| Water | 509 | | | 0 | 0 | 0 | |
| ***Total*** | | ***9,220*** | | | ***8,313*** | | ***3,726*** |

[1] *"Residential" includes Forest, Medium Density Residential, Low Density Residential, Rural Residential and Forest Residential as designated in Table 3.0-2.*

[2] *Open space water demands include the existing 18-hole golf course at Northstar-at-Tahoe, the existing 18-hole golf course at Lahontan, the existing 9-hole golf course at Lahontan 2, the proposed 18-hole golf course at Hopkins Ranch, the proposed 18-hole golf course at Eaglewood, the conceptual 9- and 18-hole golf courses anticipated at Siller Ranch, the conceptual 18-hole golf course at Waddle Ranch, current snow-making at Northstar-at-Tahoe, conceptual snow-making at Siller Ranch and agriculture and wetlands water use at Lahontan.*

[3] *Since residential development would generate the most water demand, it is assumed the entire acreage is committed to residential.*

*Source: Toy, 2002; Antonucci, 2001*

In addition to buildout under the Proposed Land Use Diagram, the remaining portions of Martis Valley (Town of Truckee, Nevada County) are expected to generate a water demand of approximately 13,000 to 14,000 acre-feet annually (Antonucci, 2001). Thus, the total water demand for Martis Valley (both Placer and Nevada County) at buildout is anticipated to be approximately 21,000 to 22,000 acre-feet annually. The availability of groundwater has been investigated by Nimbus Engineers. Based upon thirty years of hydrologic data, which included both years of severe drought and multiple years of prolonged drought, Nimbus estimated that approximately 24,700 acre feet of groundwater could be pumped annually without long-term loss of groundwater storage. In addition to groundwater resources, up to 6,000 acre feet of surface water may be available following execution and implementation of TROA. Thus, there are adequate water resources available to serve the Proposed Land Use Diagram as well as buildout of the Martis Valley area.

*Interactions Between Groundwater and Surface Water*

As identified previously and in the Ground Water Availability in the Martis Valley Ground Water Basin report, the groundwater conditions in Martis Valley does appear to result in discharges to surfaces as evidenced by monitoring data along the Truckee River as well as the existence of springs and seeps in the Plan area (e.g., Northstar-at-Tahoe, west of Siller Ranch, Eaglewood). Existing and future groundwater production for domestic use are expected to utilize the middle/lower aquifer. While it is assumed that there is some interaction between the upper aquifer and middle/lower aquifer, this interaction appears to be limited given the geologic conditions in the Plan area. Specifically, boring data from the installation of wells in the general vicinity of Schaffer Mill Road and the Truckee-Tahoe Airport have all identified water bearing

formations (sediments associated with the Lousetown Formation and Truckee Formation) and non-bearing formations (lava associated with the Lousetown Formation Volcanics) associated with the upper and middle/lower aquifers at varying depths and thickness (GeoTrans, 2000). In addition, the Ground Water Availability in the Martis Valley Ground Water Basin Report identifies that there is a continuous clay member at the base of the upper aquifer that limits the transfer of groundwater based on well data from the Tahoe-Truckee Sanitation Agency and also identifies that hydrogeologic and water level data indicates that the middle/lower aquifer responds as a confined aquifer (Nimbus, 2001). Given these conditions and that future development and anticipated well facilities under the Proposed Land Use Diagram would be located in areas where geologic conditions generally do not favor direct interactions between the upper aquifer and the middle/lower aquifer, it is anticipated that potential impacts to Plan area surface water features from increased groundwater production would be minimal. Groundwater discharge reductions to the Truckee River would be offset by increased discharges of approximately 11,000 acre-feet annually from the Tahoe-Truckee Sanitation Agency's plant expansion as well as improved timing and magnitude of seasonal river flows and enhanced flows for consumptive, environmental and fishery uses associated with the implementation of TROA.

### *AA Existing Martis Valley General Plan Land Use Map*

The groundwater impact discussion is divided into two discussion areas provided below and include groundwater resources and interactions between groundwater and surface water.

*Groundwater Resources*

**Table 4.7-5** summarizes Placer County Water Agency water demand estimates for buildout under the Existing Martis Valley General Plan Land Use Map.

**TABLE 4.7-5**
**WATER DEMAND ESTIMATES FOR THE EXISTING MARTIS VALLEY GENERAL PLAN LAND USE MAP**

| Land Use Designation | Acres | Dwelling Units | GPD/ DU | GPD/ Acre | Acre Feet/ Year | Depletion Factor (%) | Net Depletion Acre Feet/Year |
|---|---|---|---|---|---|---|---|
| General Commercial | 26 | | | 2,600 | 76 | 8% | 6 |
| Residential[1] | 18,267 | 10,607 | 500 | | 5,940 | 34% | 2,020 |
| High Density Residential (15.2 du/ac) | 6 | 73 | 300 | | 25 | 34% | 9 |
| Ski-Based Commercial (15 du/ac)[3] | 84 | 1,008 | 300 | | 339 | 34% | 115 |
| Public Service | 83 | | | 2,600 | 242 | 8% | 19 |
| Recreation | 130 | | | 50 | 7 | 80% | 6 |
| Open Space[2,1] | 6,439 | | | | 1,720 | Varies | 963 |
| Water | 509 | | | 0 | 0 | 0 | |
| ***Total*** | | ***11,688*** | | | ***8,349*** | | ***3,138*** |

[1] *"Residential" includes Forest, High Density Residential (3-6 du/ac), Medium Density Residential, Low Density Residential, Valley Residential and Open Space (1 du/ac) as designated in Table 3.0-3.*

[2] *Open space water demands include the existing 18-hole golf course at Northstar-at-Tahoe, the existing 18-hole golf course at Lahontan, the existing 9-hole golf course at Lahontan 2, current snow-making at Northstar-at-Tahoe, conceptual snow-making at Siller Ranch and agriculture and wetlands water use at Lahontan.*

[3] *Since residential development would generate the most water demand, it is assumed the entire acreage is committed to residential.*

*Source: Toy, 2002; Antonucci, 2001*

In addition to buildout under the Existing Martis Valley General Plan Land Use Map, the remaining portions of Martis Valley (Town of Truckee, Nevada County) are expected to generate a water demand of approximately 13,000 to 14,000 acre-feet annually (Antonucci, 2001). Thus, the total water demand for Martis Valley (both Placer and Nevada County) at buildout is anticipated to be approximately 21,000 to 22,000 acre-feet annually. The availability of groundwater has been investigated by Nimbus Engineers. Based upon thirty years of hydrologic data, which included both years of severe drought and multiple years of prolonged drought, Nimbus estimated that approximately 24,700 acre feet of groundwater could be pumped annually without long-term loss of groundwater storage. In addition to groundwater resources, up to 6,000 acre feet of surface water may be available following execution and implementation of TROA. Thus, there are adequate water resources available to serve the Existing Martis Valley General Plan Land Use Map as well as buildout of the Martis Valley area.

*Interactions Between Groundwater and Surface Water*

The Existing Martis Valley General Plan Land Use Map would result in the same effects to the interaction between groundwater and surface water as the Proposed Land Use Diagram.

***AB Alternative 1 Land Use Map***

The groundwater impact discussion is divided into two discussion areas provided below and include groundwater resources and interactions between groundwater and surface water.

*Groundwater Resources*

**Table 4.7-6** summarizes Placer County Water Agency water demand estimates for buildout under the Alternative 1 Land Use Map.

**TABLE 4.7-6**
**WATER DEMAND ESTIMATES FOR THE ALTERNATIVE 1 LAND USE MAP**

| Land Use Designation | Acres | Dwelling Units | GPD/ DU | GPD/ Acre | Acre Feet/ Year | Depletion Factor (%) | Net Depletion Acre Feet/Year |
|---|---|---|---|---|---|---|---|
| General Commercial | 22 | | | 2,600 | 64 | 8% | 5 |
| Residential[1] | 18,310 | 9,139 | 500 | | 5,118 | 34% | 1,740 |
| High Density Residential (10-15 du/ac) | 6 | 90 | 300 | | 30 | 34% | 10 |
| Tourist/Resort Commercial (15 du/ac)[3] | 82 | 1,082 | 300 | | 364 | 34% | 124 |
| Professional Office | 1 | | | 2,600 | 3 | 8% | 1 |
| Public /Quasi Public | 35 | | | 2,600 | 102 | 8% | 8 |
| Open Space[2] | 6,584 | | | | 1,720 | Varies | 963 |
| Water | 509 | | | 0 | 0 | 0 | |
| ***Total*** | | ***10,311*** | | | ***7,401*** | | ***2,851*** |

[1] *"Residential" includes Forest, Medium Density Residential, Low Density Residential, Rural Residential and Forest Residential as designated in Table 3.0-4.*

[2] *Open space water demands include the existing 18-hole golf course at Northstar-at-Tahoe, the existing 18-hole golf course at Lahontan, the existing 9-hole golf course at Lahontan 2, current snow-making at Northstar-at-Tahoe, conceptual snow-making at Siller Ranch and agriculture and wetlands water use at Lahontan.*

[3] *Since residential development would generate the most water demand, it is assumed the entire acreage is committed to residential.*

*Source: Toy, 2002; Antonucci, 2001*

In addition to buildout under the Alternative 1 Land Use Map, the remaining portions of Martis Valley (Town of Truckee, Nevada County) are expected to generate a water demand of approximately 13,000 to 14,000 acre-feet annually (Antonucci, 2001). Thus, the total water demand for Martis Valley (both Placer and Nevada County) at buildout is anticipated to be approximately 21,000 acre-feet annually. The availability of groundwater has been investigated by Nimbus Engineers. Based upon thirty years of hydrologic data, which included both years of severe drought and multiple years of prolonged drought, Nimbus estimated that approximately 24,700 acre feet of groundwater could be pumped annually without long-term loss of groundwater storage. In addition to groundwater resources, up to 6,000 acre feet of surface water may be available following execution and implementation of TROA. Thus, there are adequate water resources available to serve the Alternative 1 Land Use Map as well as buildout of the Martis Valley area.

*Interactions Between Groundwater and Surface Water*

The Alternative 1 Land Use Map would result in the same effects to the interaction between groundwater and surface water as the Proposed Land Use Diagram.

### *AC Alternative 2 Land Use Map*

The groundwater impact discussion is divided into two discussion areas provided below and include groundwater resources and interactions between groundwater and surface water.

*Groundwater Resources*

**Table 4.7-7** summarizes Placer County Water Agency water demand estimates for buildout under the Alternative 2 Land Use Map.

**TABLE 4.7-7**
**WATER DEMAND ESTIMATES FOR THE ALTERNATIVE 2 LAND USE MAP**

| Land Use Designation | Acres | Dwelling Units | GPD/ DU | GPD/ Acre | Acre Feet/ Year | Depletion Factor (%) | Net Depletion Acre Feet/Year |
|---|---|---|---|---|---|---|---|
| General Commercial | 29 | | | 2,600 | 84 | 8% | 7 |
| Residential[1] | 21,093 | 7,248 | 500 | | 4,059 | 34% | 1,380 |
| High Density Residential (10-15 du/ac) | 18 | 108 | 300 | | 36 | 34% | 12 |
| Tourist/Resort Commercial (15 du/ac)[3] | 100 | 600 | 300 | | 202 | 34% | 69 |
| Professional Office | 12 | | | 2,600 | 35 | 8% | 3 |
| Public /Quasi Public | 29 | | | 2,600 | 84 | 8% | 7 |
| Open Space[2] | 3,730 | | | | 3,085 | Varies | 2,007 |
| Water | 509 | | | 0 | 0 | 0 | |
| ***Total*** | | ***7,956*** | | | ***7,585*** | | ***3,485*** |

[1] *"Residential" includes Forest, Medium Density Residential, Low Density Residential, Rural Residential and Forest Residential as designated in Table 3.0-2.*

[2] *Open space water demands include the existing 18-hole golf course at Northstar-at-Tahoe, the existing 18-hole golf course at Lahontan, the existing 9-hole golf course at Lahontan 2, the proposed 18-hole golf course at Hopkins Ranch, the proposed 18-hole golf course at Eaglewood, the conceptual 9- and 18-hole golf courses anticipated at Siller Ranch, the conceptual 18-hole golf course at Waddle Ranch, current snow-making at Northstar-at-Tahoe, conceptual snow-making at Siller Ranch and agriculture and wetlands water use at Lahontan.*

[3] *Since residential development would generate the most water demand, it is assumed the entire acreage is committed to residential.*

*Source: Toy, 2002; Antonucci, 2001*

In addition to buildout under the Alternative 2 Land Use Map, the remaining portions of Martis Valley (Town of Truckee, Nevada County) are expected to generate a water demand of approximately 13,000 to 14,000 acre-feet annually (Antonucci, 2001). Thus, the total water demand for Martis Valley (both Placer and Nevada County) at buildout is anticipated to be approximately 21,000 acre-feet annually. The availability of groundwater has been investigated by Nimbus Engineers. Based upon thirty years of hydrologic data, which included both years of severe drought and multiple years of prolonged drought, Nimbus estimated that approximately 24,700 acre feet of groundwater could be pumped annually without long-term loss of groundwater storage. In addition to groundwater resources, up to 6,000 acre feet of surface water may be available following execution and implementation of TROA. Thus, there are adequate water resources available to serve the Alternative 2 Land Use Map as well as buildout of the Martis Valley area.

*Interactions Between Groundwater and Surface Water*

The Alternative 1 Land Use Map would result in the same effects to the interaction between groundwater and surface water as the Proposed Land Use Diagram.

Policies and Implementation Programs

New developmental projects in the Plan area would be required to adhere with policies and implementation programs of the Martis Valley Community Plan that are listed below. Compliance with these Plan policies and implementation programs would help mitigate this impact.

*Policy 6.C.1* *The County shall require proponents of new development to demonstrate the availability of a long-term, reliable and adequate supply of pure, wholesome, healthful, and potable water as well as any necessary water for irrigation or other purposes. The County shall require written certifications from the service provider that either existing services are available or needed improvements will be made prior to occupancy. Where the County will approve groundwater as the domestic water source, test wells, appropriate hydrologic testing, and/or report(s) from qualified professionals will be required substantiating the long-term availability of sufficient and suitable groundwater.*

*Policy 6.C.3* *The County shall require that new development adjacent to surface and subsurface bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.*

*Policy 6.C.4* *The County shall promote efficient water use and reduced water demand by:*

*a. Requiring water-conserving design and equipment in new construction;*

*b. Encouraging water-conserving landscaping and other conservation measures; and,*

*c. Encouraging retrofitting existing development with water-conserving devices*

*Implementation Programs*

*Water Supply and Delivery*

*6. The County shall work with local water purveyors to adopt and implement a water availability monitoring program that includes the following components:*

*a. A private well sampling program to evaluate the quality of groundwater supplied to newly constructed private domestic wells;*

*b. A program to evaluate the quantity and quality of groundwater in small public water systems (the County shall support state monitoring of larger systems);*

*c. A program to monitor and evaluate surface water quality in major reservoirs and rivers, and*

*d. A geo-based, digitized database which plots groundwater and water well information which will assist in reaching conclusions about groundwater quality and quantity.*

*Responsible Agency/Department: Environmental Health Division, Domestic water purveyors, California Groundwater Association (a professional organization)*
*Time frame: As funding becomes available*
*Funding: User fees, CSA fees for service, grants, and loans*

*8. The County should identify precise locations of severe groundwater contamination or overdrafting. The County shall work with water users in these areas to investigate methods for shifting to reliance on surface water supplies or other appropriate solutions.*

*Responsible Agency/Department: Health Department, Department of Public Works*
*Time frame: As needed*
*Funding: General Fund or other identified source*

*10. Before allowing individual wells to be the domestic water source in new land developments, require, as part of the environmental review process, demonstration through test wells, water quality analyses, and where appropriate through groundwater pumping and modeling, that the groundwater be a reliable and adequate source of and potable water to each user.*

*Responsible Agency/Department: Division of Environmental Health*
*Time frame: On-going*
*Funding: Permit fees*

*13. Where study shows that groundwater can likely be used without adversely affecting quality or quantity, require that appropriate monitoring programs be established.*

*Responsible Agency/Department: Division of Environmental Health*
*Time frame: On-going*
*Funding: Impact fees*

*Water Resources*

12. *The County shall cooperate with the Placer County Water Agency and Truckee Donner Public Utility District in the preparation and implementation of a comprehensive surface and groundwater management program to ensure the long-term protection and maintenance of surface and groundwater resources. This water management program shall include at least the following elements:*

    a. *County leadership of the process and a commitment to its integrity and inclusiveness;*

    b. *Coordination and cooperation with other public and private agencies, organizations, and groups that have an interest in water resources management in the county or surrounding areas.*

    c. *An inventory of water supply and quality information and demand estimates, using as much available information as possible, with the objective of creating an easily accessible, comprehensive, and regularly updated database that can be shared by water management agencies;*

    d. *Identification, documentation, and prioritization of the most significant water supply sources and pressing local water quality management problems;*

    e. *Identification of existing ongoing water management and regulatory polices, programs, and standards by the various agencies and organizations with an interest in water resources management;*

    f. *Recognition and incorporation of ongoing compatible water management efforts into a comprehensive approach to water resources management to implement the goals and policies of this General Plan;*

    g. *Identification of any regulatory or policy "gaps" that can and should be addressed by the County;*

    h. *Application of sound water resources management principles, including watershed land use management, wetlands and vegetation management, non-point source pollution control, waste disposal monitoring and controls,*

    i. *Application of sustainable multiple-use water management principles and incorporation of diverse and potentially compatible land use objectives, including provision of open space and recreation opportunities, watershed and habitat protection, flood control, and water provision to meet future recreational, ecological, and community development needs; and*

    j. *Utilization of innovative and alternative funding mechanisms form sources outside of the County.*

Mitigation Measure

The following mitigation measure shall be incorporated into the Martis Valley Community Plan as a policy under Goal 6.C of the Public Facilities and Service Section. This mitigation measure shall apply to the Proposed Land Use Diagram and alternatives AA, AB and AC.

**MM 4.7.5** The County, in coordination with the Placer County Water Agency and the Northstar Community Services District, shall require that proponents of new development demonstrate that new well facilities or expanded operation of existing well facilities will be in compliance with Section 204(c)1(B) of P.L. 101-618 and/or any subsequent standard set forth in the Truckee River Operation Agreement that requires that the placement be designed to avoid substantial effects to surface water flows or conditions. Well tests, identification of setback from waterway, appropriate hydrologic testing and/or reports from qualified professionals shall be provided verifying that no substantial impact to surface waters will occur.

Implementation of the Proposed Land Use Diagram and alternatives AA, AB and AC would not result in overdrafting of groundwater resources in Martis Valley and would be within the current allotted amount of water anticipated under TROA. Implementation of the above proposed policies and implementation programs and Mitigation Measure MM 4.7.5 would ensure that would ensure that increased groundwater usage would not significantly impact surface water features and would mitigate the potential impact to **less than significant**.

**Impact 4.7.6 Flood Hazard Impacts**

**PP** Implementation of the Proposed Land Use Diagram would increase impervious surfaces and would alter drainage conditions and rates in the Plan area, which would result in potential flooding impacts. However, implementation of proposed Community Plan policies and implementation programs would make this a **less than significant** impact.

**AA** Implementation of the Existing Martis Valley General Plan Land Use Map would increase impervious surfaces and would alter drainage conditions and rates in the Plan area, which would result in potential flooding impacts. However, implementation of proposed Community Plan policies and implementation programs would make this a **less than significant** impact.

**AB** Implementation of the Alternative 1 Land Use Map would increase impervious surfaces and would alter drainage conditions and rates in the Plan area, which would result in potential flooding impacts. However, implementation of proposed Community Plan policies and implementation programs would make this a **less than significant** impact.

**AC** Implementation of the Alternative 2 Land Use Map would increase impervious surfaces and would alter drainage conditions and rates in the Plan area, which would result in potential flooding impacts. However, implementation of proposed Community Plan policies and implementation programs would make this a **less than significant** impact.

***PP Proposed Land Use Diagram***

A vast majority of the Plan area, per the Federal Emergency Management Agency (FEMA) via their National Flood Insurance Program, is in a Zone X designation – "Areas determined to be outside 500 year floodplain". While most of the Plan area is dominated by terrain not prone to flooding there are low lying areas along Martis Creek that are subject to 100-year floods.