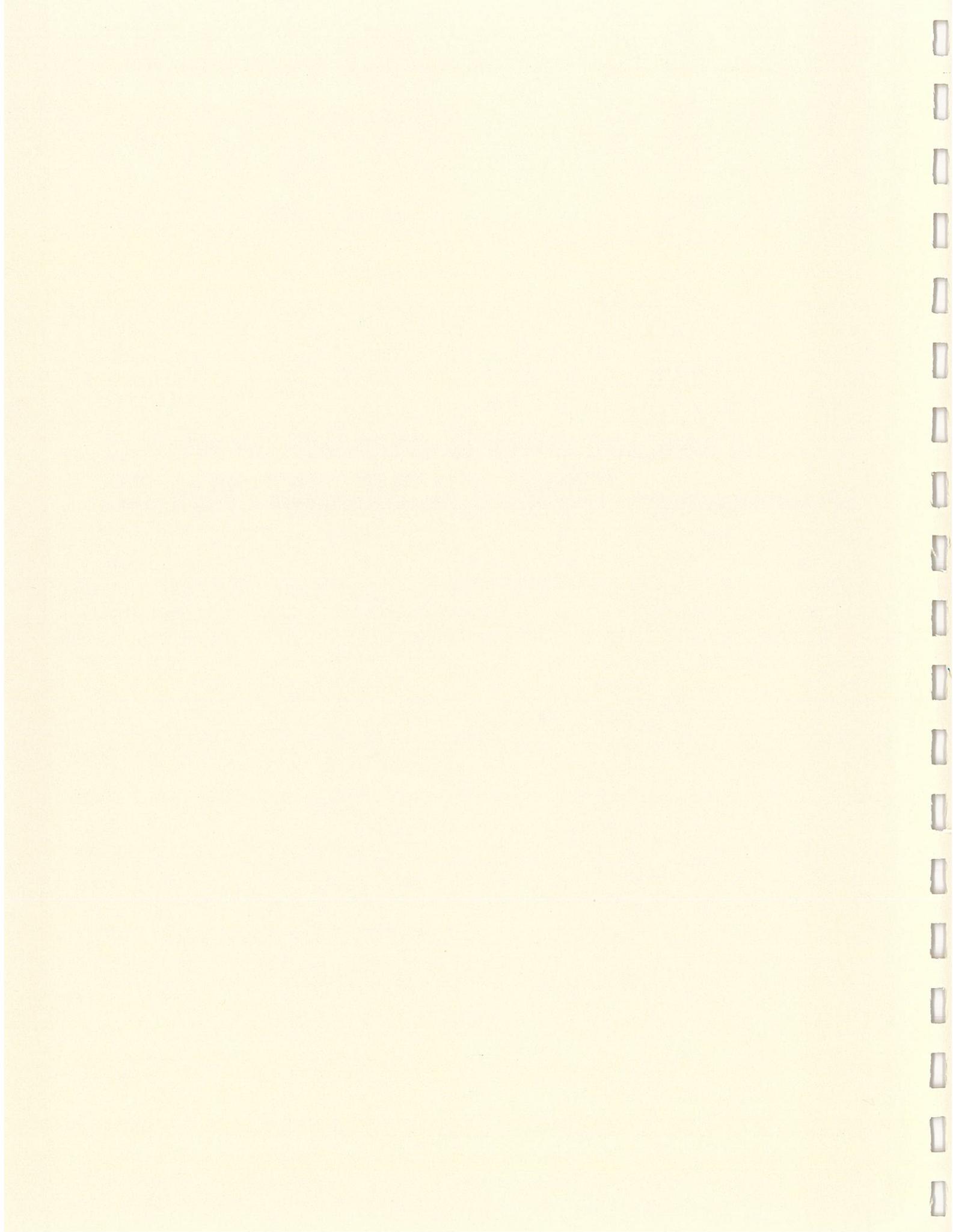


**5.0 DESCRIPTION OF ENVIRONMENTAL SETTING,  
IMPACTS AND MITIGATION MEASURES**

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## 5.0 DESCRIPTION OF ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

### 5.1 LAND USE AND RELEVANT PLANNING

The purpose of this Section is to identify the 1999 land use conditions in the site vicinity, compare land use/relevant planning impacts associated with the proposed 1999 Specific Plan Amendment against those anticipated from the 1994 Specific Plan, as approved, and to recommend mitigation measures to eliminate or reduce the significance of potential impacts. Information presented in this Section is based upon site surveys performed by RBF Consulting in September and October 1999, site photographs, the *Town of Mammoth Lakes General Plan* and *General Plan EIR*, the *1991 Final EIR for the North Village Specific Plan*, the *1994 North Village Specific Plan EIR Addendum* and the proposed *Specific Plan Amendment to the North Village Specific Plan*, dated August 1999.

#### **EXISTING CONDITIONS**

##### **LAND USE**

Existing land uses in the Town of Mammoth Lakes and local vicinity of the proposed 1999 Specific Plan Amendment area are described below.

##### **North Village Specific Plan Area**

The North Village Specific Plan is located in the northwest portion of the Town of Mammoth Lakes and consists of 41 separate parcels totaling approximately 64 acres. Since the original Specific Plan was adopted in 1991, some consolidation of ownership has occurred, although the majority of the land remains under multiple ownerships. The Specific Plan area is located adjacent to Main Street, Lake Mary Road and Minaret Road (refer to Exhibit 3-2, *Site Vicinity*).

Approximately 34 acres of the 64-acre Specific Plan area have been substantially developed as shown in Exhibit 3-3, *Existing Land Uses in North Village*. Existing land uses within and surrounding the Specific Plan area are varied and include hotels, restaurants, visitor-oriented and general commercial operations, condominiums, single-family homes, community facilities and open space.

Minaret Road is the primary thoroughfare of the North Village area. As indicated in Exhibit 3-3, commercial uses are primarily located along this roadway. These uses include a variety of restaurants, seasonal retail stores, market, and lodge uses. Building setbacks from the roadway also vary. Some building setbacks encroach into the right-of-way and are as close as six to eight feet from the travelway. Mature trees align both sides of the roadway, although landscaping actually separating structures from Minaret Road is minimal. Buildings along the roadway range from one to three stories in height. There is no cohesive style or architectural unity between existing uses. Building styles range from Swiss to Modern to metal preform tilt-up buildings.

Forest Trail and Hillside Road form the northern and western perimeters of the Plan area, respectively. Multi-family residential and lodge uses are located along Forest Trail (both east and west of Minaret Road) while single- and multi-family residential uses are located along Hillside Drive. Existing uses are many times separated by undeveloped areas containing numerous mature trees which align both roadways forming shade canopies between uses. Setbacks are a minimum 10 to 20 feet and heights are from one to three stories. The Town library and community center are located along Forest Trail, east of Minaret Road. Tennis courts and associated surface parking are located further east of these uses. Along Hillside Drive, residential uses west of the roadway are typically located above road grade; separated from the travelway by four-foot high retaining walls and vegetated areas. Residential uses east of the roadway are generally located below road grade; separated from the roadway by numerous mature trees.

Existing land uses throughout the remainder of the Specific Plan area include residential and lodging uses with occasional small retail and professional uses. Along Minaret Road, south of the Lake Mary Road/Main Street intersection, mature trees align both sides of the roadway with several multi-story lodging units located below road grade along the eastern side of the intersection. Numerous mature trees are also located along Lake Mary Road with both small retail and lodging uses having more extensive setbacks from the roadway. Single-family residential units, condominiums and lodges generally align Miller's Siding Road, ranging in height from one to four stories. Setbacks are generally over 15 feet.

Table 5.1-1, *Existing Land Use in North Village*, indicates the acreage of various land use types within the Specific Plan area. Currently, the largest single component of land use, over 25 acres, is vacant land. Approximately 21 acres have been developed for resort-oriented and supporting commercial uses, similar to those proposed as part of the 1999 Specific Plan Amendment, although there is no central focal point for these uses. The remaining 13 acres currently support non-resort land uses such as private home sites, and non-visitor oriented commercial operations such as office buildings. Approximately 315 hotel/motel units are currently located within the Specific Plan area, with 64 units approved to be constructed on a vacant parcel south of Main Street.

**Table 5.1-1  
 EXISTING LAND USES IN NORTH VILLAGE**

Existing Land Use Type	Current Acreage
Vacant	25.20
Commercial/Lodging	10.60
Restaurant	4.80
Resort Commercial	0.25
General Commercial	1.20
Non-Resort <sup>1</sup>	13.95
Open Space	3.00
Quasi-Public	5.10
Total	64.1

Source: *Draft 1999 Specific Plan Amendment*, August 1999, page 15.

<sup>1</sup> Non-resort uses include industrial uses, private home sites, and non-visitor oriented commercial operations such as office buildings.

## LAND USE POLICIES

Development in the Town of Mammoth Lakes is subject to policies and development guidelines contained within several planning policy documents. Relevant planning policy documents related to land use within the Specific Plan area are described below. Additional policy documents (i.e., *Ozone Attainment Plan*, *Town of Mammoth Lakes Storm Drainage Master Plan*, etc.), associated with other environmental issues are described throughout Section 5.0 of this EIR.

### **Town of Mammoth Lakes General Plan**

Adopted in 1987, the Town's General Plan contains the State-mandated elements which govern all development on private property, including residential, commercial and industrial uses over a 20-year planning horizon. The elements included in the General Plan include the following: Land Use (including Public Facilities), Transportation and Circulation, Housing, Conservation and Open Space, Safety (including seismic safety), Noise and Parks and Recreation. Each element is described in terms of policies and objectives. "Objectives" are broad statements of a desired result, while "policies" are defined measures that can be followed to achieve the

objectives. Actual implementation of the General Plan objectives and policies can be accomplished via several avenues; the most common of these being the regulations set forth in the Town zoning regulations. The Town of Mammoth Lakes General Plan identifies several broad goals that are reinforced by the objectives and policies of each of the General Plan elements. These general goals set the overall tone for development and land use in Mammoth Lakes. The Town's General Plan designates the site as Specific Plan area. (Refer to the North Village Specific Plan description and the Relevant Planning Policies analysis within Appendix 16.11 for a consistency comparison of relevant General Plan goals/policies with goals/objectives of the proposed 1999 Specific Plan Amendment.)

### **Town of Mammoth Lakes Municipal Code - Zoning**

The Municipal Code designates the North Village area as Specific Plan with land use districts of Specialty Lodging, Resort General, Plaza Resort, Open Space, and Public/Quasi-Public (refer to Exhibit 5-1, *Existing Zoning*). Section 3.0, *Project Description*, for a description of the types of uses and permitted densities within each zoning district. The Municipal Code also contains design requirements such as setbacks, height limitations, etc., for the various types of land uses permitted within the Town. Since the project area is designated as Specific Plan, design guidelines and limitations within the Specific Plan supercede those contained within the Municipal Code, unless stated otherwise.

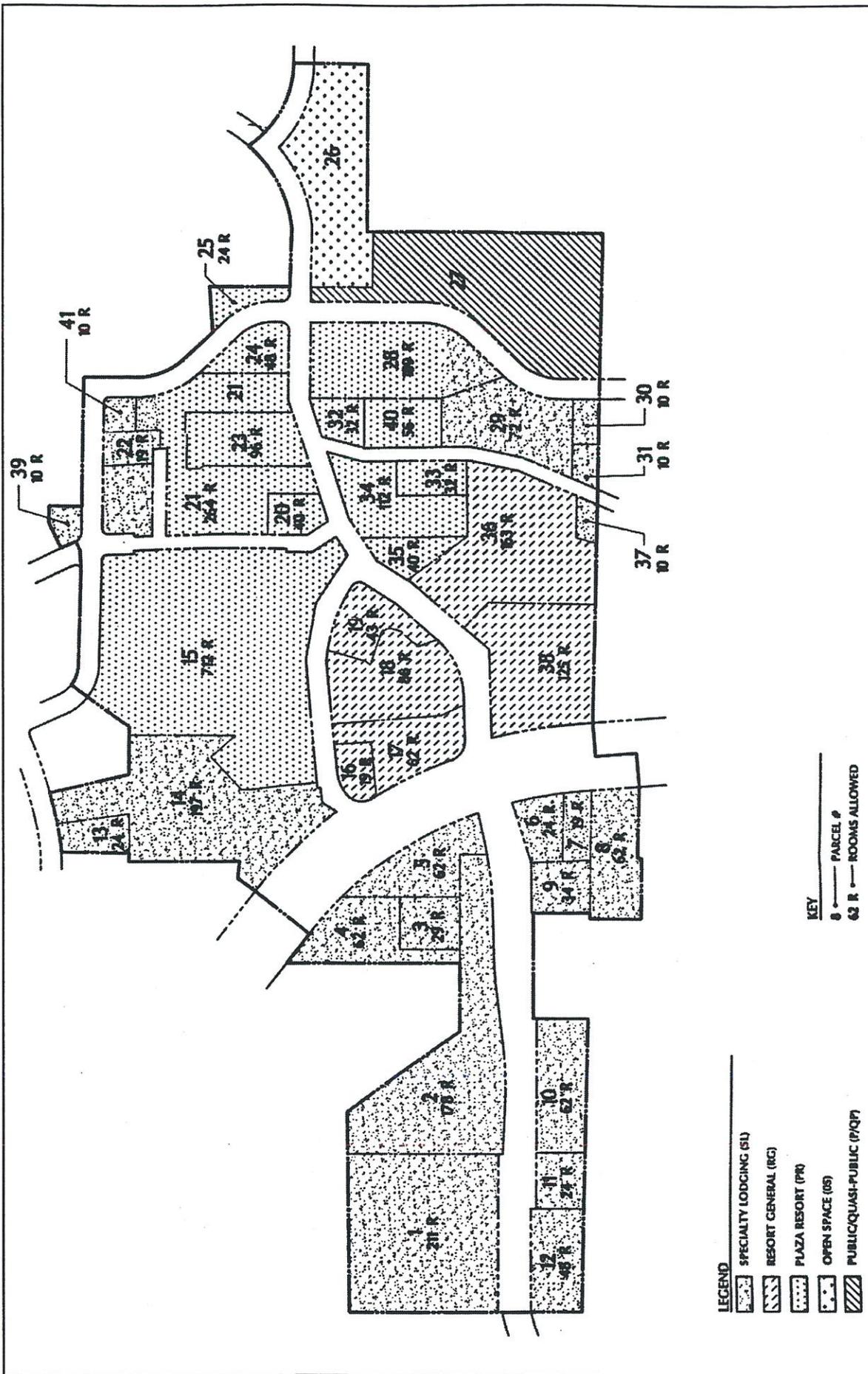
### **Town of Mammoth Lakes Redevelopment Plan**

The Specific Plan area is located within the Town's Redevelopment Plan area. Approved in 1997, the Redevelopment Plan area consists of approximately 1,139 acres and includes a mixture of residential, commercial, institutional, educational, industrial, church, open space, vacant, and road right-of-way uses with a limited amount of National Forest lands. Specifically, the Redevelopment Plan anticipated a tourist and conferencing center within the Specific Plan area (refer to Section 1.6, *Incorporation by Reference*, for a description of the Redevelopment Plan and associated EIR).

### **North Village Specific Plan (as adopted in 1991 and amended in 1994)**

According to the 1994 EIR Addendum (May 1994), the Specific Plan would include ultimate buildout of approximately 3,020 accommodation rooms, in addition to affordable housing, and 135,000 square feet of commercial uses. The hotel areas would also include commercial, retail and restaurant space. Three land use districts have been approved permitting a maximum of 80 rooms per acre and the lowest intensity district permitting a maximum of 48 rooms per acre, with an overall project density of approximately 54 rooms per acre.

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Existing Zoning**



Source: North Village Specific Plan Amendment, August 1999.



Not to Scale



The pedestrian core, as approved, is intended as a mixed-use village with commercial uses on the ground level and accommodation units on the upper floors (refer to Exhibit 3-8, *Pedestrian Core*). Restaurants, shops, meeting facilities and recreation uses would be oriented around two pedestrian plazas, one on the west side of Minaret Road and one on the east side of Minaret Road, connected by a street level crosswalk and a pedestrian bridge over Minaret Road. Buildings would range in height from one to seven levels (refer to Section 5.3, *Aesthetics/Light and Glare*). A gondola extending to the Warming Hut II base facility (Canyon Lodge) of the Mammoth Mountain Ski Area (MMSA) would originate from the west-side of the plaza. Parking would be provided utilizing a parking district, which would include underground parking garages that are available to guests and patrons of the plaza accommodation and commercial uses.

Supporting accommodation and residential uses would surround the pedestrian core. Commercial uses within the outlying areas would be limited to only those necessary to support the on-site lodging or residential uses.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation for North Village***

The 1991 EIR for the 1991 Specific Plan identified several potentially significant impacts related to land use. Impacts identified as potentially significant included 1) changes in the existing physical land use patterns and demand both in the project area and throughout the commercial areas of the Town; and 2) development of a more intense use than the previous zoning and land uses. Mitigation measures were adopted for these potentially significant impacts to reduce impacts to less than significant levels.

The visual impact of the high-speed gondola over a 20-foot easement within a residential area was identified in the 1991 EIR as a significant land use impact that would remain as such even following mitigation. Mitigation was recommended related to the height of the gondola, retaining trees along the gondola route and the use of earth-tone design features on the gondola structures. The Town adopted Findings of Fact and a Statement of Overriding Considerations for this issue with project approval (refer to Section 5.3, *Aesthetics/Light and Glare*, for a discussion on the visual impacts of the gondola).

The 1991 EIR provided a brief consistency analysis of the 1991 Specific Plan with the primary General Plan goals. The 1991 EIR impact analysis did not identify inconsistencies with the General Plan. The 1994 EIR Addendum did not provide an additional consistency analysis or recommend additional mitigation measures.

### ***Significance Criteria for this EIR***

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist form which includes questions relating to land use and relevant planning. The issues presented in the Initial Study Checklist have been utilized to identify impacts from which thresholds of significance have been developed. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Physically divides an established community (see Impact Statement 5.1-1);
- Conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (see Impact Statement 5.1-2); and/or
- Conflicts with any applicable habitat conservation plan or natural community conservation plan (refer to Section 5.9, *Biological Resources*, for a discussion on this issue).

Additionally, a significant (land use) effect on the environment would occur if a project would convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land. As discussed in Section 10.0, *Effects Found Not to Be Significant*, the site is void of agricultural production.

It should be noted that the 1991 EIR included an analysis on land use compatibility as it related to the visual impact and privacy issues associated with the location of the gondola over residential uses. The revised CEQA Initial Study Checklist does not include a reference to land use compatibility but rather relies on the other checklist impact questions (i.e., noise, traffic, air quality, etc.), to identify if thresholds would be exceeded thereby creating a potential incompatibility. Refer to the analysis throughout Section 5.0 of this EIR for an evaluation of the potential to exceed thresholds in this regard.

Potential impacts related to the identified land use thresholds have been identified and are categorized below according to topic. Mitigation measures at the end of this Section directly correspond to the numbered impact statements.

## PHYSICAL DIVISION OF ESTABLISHED COMMUNITY

5.1-1 *The proposed 1999 Specific Plan Amendment would amend the permitted land uses within the on-site land use districts and redistribute the location of various uses. Although land uses may change, implementation of the 1999 Specific Plan Amendment would not physically divide an established community. Impacts are concluded as less than significant and no mitigation measures are required.*

The 1999 Specific Plan Amendment would not increase the overall permitted square footage of commercial uses, including hotel rooms, or residential uses beyond those previously approved for the site and as analyzed in the 1991 EIR and 1994 EIR Addendum. The proposed 1999 Specific Plan Amendment would redistribute land uses within the Plan area and add timeshare units as a permitted use in the Plaza Resort, Resort General and Specialty Lodging zoning districts and free standing parking structures as a conditional use in the Plaza Resort, Resort General, Public, Quasi-Public and Specialty Lodging zoning districts (refer to Table 3-4, *Land Use Matrix*, for the permitted uses within each zoning district).

When comparing the Conceptual Site Plan showing location and type of land uses between the 1994 Specific Plan and the 1999 Specific Plan Amendment, several design differences are noted (refer to Exhibits 3-8 and 3-9). Design differences include changes to the Conceptual Site Plan showing the physical location of land use types, building heights and setbacks (refer to impact statements which follow for analysis regarding heights, setbacks and circulation improvements). An example of design differences relating to the conceptual site plan showing the physical relocation of uses is the location of the plaza and associated lodging/retail buildings. In the approved 1994 Specific Plan, the plaza was much larger and buildings were situated over the Canyon Boulevard alignment. The 1999 Specific Plan Amendment would create smaller more intimate plaza spaces and would place all buildings within private property. However, this would not create a division of an established community.

As cited in the significance criteria discussion, a significant land use impact may occur if a project would physically divide an established community. The proposed redistribution of land uses within the Specific Plan area would not result in a physical division of an established community as the uses would be similar in nature to those previously approved for the 1991 and 1994 Specific Plans and would be developed within the same 64.1-acre Specific Plan area. Major infrastructure improvements, such as a new freeway, dam, etc., are not proposed which may typically create a physical division of an established community. While the 1994 Specific Plan, would change the overall existing character of the North Village area to that of a destination resort and thereby increase densities in the area, the 1999 Specific Plan Amendment would be consistent with the destination resort image as designated for Specific Plan area in

the General Plan (refer to Impact Analysis 5.1-3 for a consistency analysis with General Plan goals and policies). In conclusion, the proposed 1999 Specific Plan Amendment would not result in a significant impact in this regard.

### CONSISTENCY WITH RELEVANT PLANNING POLICIES

5.1-2 *The proposed 1999 Specific Plan Amendment would be consistent with the Town's General Plan goals and policies. Based upon the consistency review contained in Appendix 16.11, impacts are concluded to be less than significant.*

The Town of Mammoth Lakes General Plan contains elements mandated by the State and has been periodically updated in accordance with State Government Code (Section 65302). The consistency of the proposed 1999 Specific Plan Amendment with applicable goals and policies of each General Plan Element is provided in Table A, *1999 Specific Plan Amendment's Consistency with Applicable General Plan Goals/Policies*, within Appendix 16.11 of this EIR. As shown in Appendix 16.11, the proposed 1999 Specific Plan Amendment would be consistent with the General Plan goals and policies. As such, significant impacts related to consistency with the General Plan goals and policies would not occur.

The purpose of the Specific Plan is to provide a more refined description of land uses and development policies oriented toward the ultimate goal of establishing North Village as a center for year-round resort activity. The proposed 1999 Specific Plan Amendment is comprised of the same elements previously identified in the Town General Plan.

### CUMULATIVE IMPACTS

5.1-3 *The proposed project, combined with other future development, may increase the intensity of land uses in the area. The analysis has concluded that impacts are less than significant and no mitigation is required.*

The potential land use impacts associated with cumulative projects and General Plan development are, for the most part, site-specific, and require evaluation on a case-by-case basis. This would be particularly true with regard to land use compatibility impacts in that they are generally a function of the relationship between the interactive effects between a specific development site and its immediate environment. In that development within the Town is anticipated to occur in accordance with the Town of Mammoth Lakes General Plan and attendant zoning classifications, potential cumulative effects upon land use and planning are not anticipated to be significant.

### **MITIGATION MEASURES**

The following mitigation measures directly correspond to the numbered impacts statements in the Impact Analysis discussion. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures. Mitigation Measures 4.4-1(a), 4.4-1(b), and 4.4-1(c) from the Land Use Section in the 1994 EIR Addendum have now been included in Section 5.3, *Aesthetics/Light and Glare*, of this EIR.

#### **PHYSICAL DIVISION OF ESTABLISHED COMMUNITY**

5.1-1 No mitigation measures are required.

#### **CONSISTENCY WITH RELEVANT PLANNING POLICIES**

5.1-2 No mitigation measures are required.

#### **CUMULATIVE IMPACTS**

5.1-3 No mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The 1991 EIR and the 1994 EIR Addendum identified the location and route of the gondola as a significant and unavoidable land use impact related to visual perspectives. The proposed 1999 Specific Plan Amendment would not increase impacts beyond those anticipated in the 1991 EIR and 1994 EIR Addendum. Based upon the analysis pertaining to a physical division of established community, consistency with relevant planning policies and cumulative impacts, no new impacts have been identified and no mitigation measures are required.



## 5.2 POPULATION AND HOUSING

The purpose of this Section is to identify whether as a result of substantial changes in the project, substantial changes in circumstance and new information, the project would have significant impacts in terms of housing and population. This section outlines the existing population, housing and employment trends in the Town of Mammoth Lakes and estimates impacts to these trends from implementation of the proposed 1999 Specific Plan Amendment. Information in this Section is based on the Town of Mammoth Lakes General Plan (October 1987), the Town of Mammoth Lakes General Plan EIR (January 1986), and the 1990 United States Census Data. Additional statistics for the years 1991 through 2000 were obtained from the California Department of Finance (population and housing data) and the California Employment Development Department (labor force data).

### EXISTING CONDITIONS

The following description of existing conditions updates the information provided in the 1991 EIR and 1994 EIR Addendum and constitutes substantial changes in circumstances and new information for the purpose of identifying potential impacts pursuant to CEQA.

#### **Population**

Table 5.2-1, *Population and Housing Data*, details the population estimates in the Town of Mammoth Lakes between the years of 1990 and 2000. As noted in this Table, the Town's population in 1990 was an estimated 4,785 persons. The Town experienced a population growth for each year between 1990 and 2000, with the exception of 1996, when the population slightly decreased (-0.9 percent). The average annual change in population between 1990 and 2000 was a 1.1 percent increase. Based on the California Department of Finance estimates, the Town's population as of January 1, 2000 was an estimated 5,355 persons. This 2000 population estimate represented approximately 49 percent of Mono County's total population of 10,914 persons. According to the 1986 General Plan, the resident population has been projected to increase to 8,000 persons by the year 2005.

In addition to the permanent year-round population, the Town experiences fluctuations in its visitor population. The visitor population is comprised of both winter and summer (primarily July through September) related visitation and activities. The temporary changes in visitor population during winter are related to both the popularity of snow sports and the volume of snowfall – the greater the snowfall the greater the

**Table 5.2-1  
POPULATION AND HOUSING DATA**

Year	Population	Housing Unit Total	Housing Occupied	Vacant	Persons Per Household
1990	4,785	7,102	1,952	72.5%	2.4
1991	4,899	7,334	2,016	72.5%	2.4
90/91 % Change	2.4%	3.3%			
1992	4,990	7,409	2,036	72.5%	2.4
91/92 % Change	1.9%	1.0%			
1993	5,132	7,465	2,052	72.5%	2.5
92/93 % Change	2.8%	0.8%			
1994	5,230	7,475	2,055	72.5%	2.5
93/94 % Change	1.9%	0.1%			
1995	5,292	7,540	2,072	72.5%	2.5
94/95 % Change	1.2%	0.9%			
1996	5,247	7,573	2,081	72.5%	2.5
95/96 % Change	-0.9%	0.4%			
1997	5,260	7,609	2,091	72.5%	2.5
96/97 % Change	0.2%	0.5%			
1998	5,288	7,665	2,106	72.5%	2.5
97/98 % Change	0.5%	0.7%			
1999	5,323	7,741	2,127	72.5%	2.5
98/99 % Change	0.7%	1.0%			
2000	5,355	7,824	2,150	72.5%	2.5
99/00 % Change	0.6%	1.1%			
90/00 Change	570	722			
90 - 00 Average Change	57	72			
90 - 00 Average % Change	1.1%	1.0%			

Source: Department of Finance, Table 2: City/County Population and Housing Estimates, January 1, 1990 through January 1, 2000.

tendency for an increase in visitors. As determined by the Mammoth Community Water District sewer flow records, the average daily population has been estimated at 17,000 persons. The Town's weekend population is currently approaching 30,000 and is expected to ultimately reach 52,000.<sup>1</sup>

### **Housing**

The housing stock estimates for the Town of Mammoth Lakes between the years of 1990 and 2000 are detailed in Table 5.2-2, *Housing Stock Data*. In summer, the total housing stock in 1990 was an estimated 7,102 units. Of the Town's 1990 housing stock, the vast majority (67 percent) consisted of multi-family units. The Town's housing stock grew 10 percent between the years 1990 and 2000, with an average annual increase of approximately one percent over the decade and a peak increase of 3.3 percent between the years 1990 and 1991. Based on the California Department of Finance estimates, the Town's housing stock as of January 1, 2000 was an estimated at 7,824 units. The housing type which experienced the greatest increase was the multi-family category with 56 percent of the housing growth (407 units). As of January 1, 2000 the Town's housing stock was made up of 32 percent single-family (2,505 units), 66 percent multi-family (5,158 units), and two percent mobile homes (161 units).

Approximately 40 residential units and 31 condominium units are located within the North Village Specific Plan area, of which up to 35 units may be rented in the affordable range.<sup>2</sup> This would be equivalent to 213 bedrooms, assuming an average of three bedrooms per unit.<sup>3</sup> In addition, there are approximately 315 rooms available for transient lodging in North Village. An average of 300 employees have used the lodging rooms for transitional, temporary, short-term (less than 3 months and most often less than one month) housing during a winter season.

### **Vacancy Rates**

Due to the large housing stock of visitor dwelling units available in the Town, recorded vacancy rates are high. The 1992 Housing Element (pages 6 and 7) indicates that the 1990 census showed 7,102 housing units in Mammoth Lakes, of which 1,809 were single-family detached dwellings, approximately 550 were apartments, 159 were mobile homes, and the remainder 4,584 were second home condominiums, generally not used by full-time residents. The census identifies approximately 5,150 of the 7,102

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<sup>1</sup> North Village Specific Plan, June 22, 1994, Page 12.

<sup>2</sup> Telecon: Karen Johnston, Senior Planner, Town of Mammoth Lakes, March 13, 2000.

<sup>3</sup> Average three bedrooms per unit source: Affordable Housing Mitigation Regulations.

**Table 5.2-2  
HOUSING STOCK DATA**

Year	Housing Units																	
	Total			Single			Multiple			Mobile Home								
	No.	Change	% Total	No.	Change	% Total	No.	Change	% Total	No.	Change	% Total	No.	Change	% Total			
1990	7102		31%	2167		31%	4751		67%	184		3%						
1991	7334	232	30%	2233	66	30%	4917	3.0%	67%	166	3.5%	3%	0	0.0%				
1992	7409	75	31%	2276	43	31%	4939	1.9%	67%	22	0.4%	2%	0	0.0%				
1993	7465	56	31%	2325	49	31%	4956	2.2%	66%	17	0.3%	2%	0	0.0%				
1994	7475	10	31%	2340	15	31%	4974	0.6%	67%	18	0.4%	2%	-23	-12.5%				
1995	7540	65	31%	2370	30	31%	5009	1.3%	66%	35	0.7%	2%	0	0.0%				
1996	7573	33	32%	2394	24	32%	5018	1.0%	66%	9	0.2%	2%	0	0.0%				
1997	7609	36	32%	2414	20	32%	5034	0.8%	66%	16	0.3%	2%	0	0.0%				
1998	7665	56	32%	2439	25	32%	5065	1.0%	66%	31	0.6%	2%	0	0.0%				
1999	7741	76	32%	2470	31	32%	5110	1.3%	66%	45	0.9%	2%	0	0.0%				
2000	7824	86	32%	2505	35	32%	5158	1.4%	66%	48	0.9%	2%	0	0.0%				
90-00 Change		722	47%		338	47%		15.6%	56%	407	8.6%		-23	-12.5%				
90-00 Avg. Change		72			34			1.5%		41	0.8%		-2	-1.3%				

Source: Department of Finance.

the 7,102 housing units as vacant and 1,952 units as occupied (858 units owner occupied with 1,094 renter occupied). The DOF estimates that 5,674 units out of 7,824 total units or approximately 73 percent were vacant in Mammoth Lakes as of January 1, 2000 (refer to Table 5.2-1, *Population and Housing Data*). These vacancy rates are high since a majority of the units are short-term rentals; a reflection of the resort nature of the Town.

### **Overcrowding and Affordability**

The Department of Finance (DOF) estimates that the number of persons per household in the Town was 2.5 persons as of January 1, 2000. The most often-used indicator of overcrowding relates to the number of rooms (not bedrooms) and persons in a housing unit. The overcrowding indicator cited by the General Plan Guidelines is the number of households living with 1.01 or more persons per room.<sup>4</sup>

Some overcrowding has occurred in Mammoth Lakes as a result of high rents and low paying jobs for seasonal workers employed in the ski industry. The General Plan Housing Element estimated that there were 1,300 seasonal workers requiring housing in Mammoth Lakes in 1985.<sup>5</sup> The Housing Element states that for 1990 housing conditions, overcrowding was more severe in renter occupied units, with 150 renter occupied households and 14 owner occupied households overcrowded or severely overcrowded.<sup>6</sup> Despite the available supply of dwelling units which exist in the Town, the supply of "affordable housing", which is housing that families in the moderate, very low and low income categories can afford, is insufficient. A lack of affordable housing to serve the extensive service industry employment base associated with the tourism industry has led to overcrowding of apartment units. The lack of affordable housing and resulting lack of adequate employment personnel has acted as a deterrent to economic development as further explained below.<sup>7</sup>

### **Housing Supply**

The housing supply for local employees has been an issue for at least 30 years and is a common issue in resort areas.<sup>8</sup> The reasons for this are outlined in the 1992 Housing Element. The Town is currently estimated to have 1,200 renter-occupied housing units

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<sup>4</sup> State of California General Plan Guidelines (Chapter 3, Housing Element) , 1977, Page54.

<sup>5</sup> *Town of Mammoth Lakes Housing General Plan Element*, July 1, 1992, page 6.

<sup>6</sup> *Ibid*, page 8.

<sup>7</sup> *Ibid*, page 31.

<sup>8</sup> *Town of Mammoth Lakes Agenda Bill*, June 21, 2000, Page 2.

(extrapolated from the 1990 Census (Table H-1) and California Department of Finance (Table 2)). At buildout, the demand for renter occupied housing units could be 2,360 units, 1,160 more than in year 2000.

Compounding the current and projected housing problems, are seasonal residents and rising rents. The seasonal workforce places special demands on housing since fluctuating need and rising rents can put units out of the financial reach of the tenants who have need for them.

Several constraints to the production of affordable housing were cited in the 1992 General Plan Housing Element including the following: land cost and availability; construction and financing costs, utility constraints; energy conservation and seismic requirements of the Building Code, and Town processing and development fees.

### **Town Initiative**

In year 2000, the Town of Mammoth Lakes Planning Commission endorsed an amendment to Title 17, Zoning (adding Chapter 17.36, Affordable Housing Mitigation Regulations (AHMR)) as a mitigation strategy to offset the impacts on affordable housing in the Town resulting from new development. The AHMR are intended to address the gap between new housing demands created by new development and supply created by other means. Existing shortfalls in supply and increasing rents resulting from market forces are to be addressed through other means (i.e., redevelopment, state and federal grants, and zoning incentives).

The AHMR detail the method and manner by which the developer shall satisfy the requirements for Employee Housing Units (EHU). The methodology for prescribing the required mitigation is outlined in the AHMR, which also require the development and submittal of a Housing Mitigation Development Plan (HMDP) on a project-by-project basis.<sup>9</sup>

The proposed zoning amendment is currently in the public review stage and as of July 2000, has not been adopted by the Town.

### **Employment**

According to the State of California Employment Development Department, Labor Market Division, the County's average civilian labor force in 1995 was 6,810 persons (refer to Table 5.2-3, *Labor Force Data for Sub-County Areas*). An estimated 670

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<sup>9</sup> AHMR, Page 4.

**Table 5.2-3**  
**LABOR FORCE DATA FOR SUB-COUNTY AREAS**  
(data is averaged)

Area	Year	Labor Force	Employment	Unemployment	
				Number	Rate
Mammoth	1995	3,520	3,030	490	14%
Mammoth	1996	3,470	3,010	460	13%
Mammoth	95/96 % Change	-1%	-1%	-6%	-5%
Mammoth	1997	3,470	3,010	460	13%
Mammoth	96/97 % Change	0%	0%	0%	0%
Mammoth	1998	3,520	3,150	370	11%
Mammoth	97/98 % Change	1%	5%	-20%	-20%
Mammoth	1999	3,210	2,930	280	9%
Mammoth	98/99 % Change	-9%	-7%	-24%	-18%
Mammoth	95/99 % Change	-9%	-3%	-43%	-38%
Mammoth	95/99 Average Change	-78	-25	-53	-1%
Mammoth	95/99 Average % Change	-2%	-1%	-13%	-11%
Mono	1995	6,810	5,510	670	11%
Mono	1996	6,110	5,480	630	10%
Mono	95/96% Change	-10%	-1%	-6%	-5%
Mono	1997	6,110	5,480	630	10%
Mono	96/97 % Change	0%	0%	0%	0%
Mono	1998	6,250	5,470	510	8%
Mono	97/98 % Change	2%	0%	-19%	-21%
Mono	1999	5,710	5,330	380	7%
Mono	98/99 % Change	-9%	-3%	-25%	-19%
Mono	95/99% Change	-16%	-3%	-43%	-39%
Mono	95/99 Average Change	-275	-45	-73	-1%
Mono	95/99 Average % Change	-4%	-1%	-13%	-11%
Mam./Mon.	1995 Proportion	51.69%	54.99%		
Mam./Mon.	1999 Proportion	56%	55%		

Source: State of California Employment Development Department, Labor Market Division.

persons were unemployed in 1995 resulting in an unemployment rate of approximately 10 percent. In 1999, the County's average civilian labor force was 5,710 persons, with 380 persons unemployed (approximately 7%).

The Town's 1995 labor force was estimated at 3,520 persons, which accounted for approximately 52 percent of the County's total labor force. Approximately 490 were unemployed in 1995 resulting in an unemployment rate of approximately 14 percent. Between 1995 and 1999, the Town's unemployment rate continuously decreased at an average annual rate of approximately 11 percent. As of August 1999, the Town's labor force was an estimated 3,210 persons, accounting for approximately 56 percent of the County's total.

Most jobs in Mammoth Lakes depend directly or indirectly on tourism and recreation. According to the 1992 General Plan Housing Element, amusement and recreation services provided 1,530 jobs, retail trade provided 1,730 jobs, restaurants and bars provided 1,183 jobs, and hotels provided 606 jobs.<sup>10</sup> Small firms were predominant throughout the Town with 330 firms employing fewer than 20 persons and only one firm employing 1,000 or more persons (Mammoth/June Ski Resort). These estimates were based on a total of 375 firms and 5,831 jobs, excluding government workers and those who were self-employed.

According to the 1991 EIR, there are approximately 150 existing jobs within the Specific Plan area. Of these, approximately 110 full-time equivalent employees (FTEE) are presently employed within the pedestrian core portion of the project area.<sup>11</sup> This estimate was based upon Employee Generation Rates from the AHMR for the various land uses which exist in the area including commercial, hotel, commercial lodging and condominiums.

## **IMPACTS**

### ***Previous Environmental Documentation for North Village***

Based on the development of 2,000 hotel units, 400 resort condominiums, approximately 191,000 square feet of commercial/retail, and 60,000 square feet of restaurant, the 1991 EIR anticipated the creation of an estimated 1,612 permanent new full-time employees and 106 temporary construction-related jobs. This was identified as a beneficial impact.

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<sup>10</sup> *Town of Mammoth Lakes General Plan Housing Element*, July 1, 1992, page 3.

<sup>11</sup> *The Village at Mammoth Employee Housing Plan*, October 6, 1999, Existing Uses Table.

Population increases from implementation of the 1991 Specific Plan were anticipated from the jobs that would be created from the hotel and commercial development. Based on the creation of an estimated 1,612 jobs and a 0.57 jobs to population ratio, the EIR projected a population increase of 2,828 persons, with an accompanying housing demand of 1,230 housing units. This was identified as a significant impact which would be reduced to a less than significant level with implementation of mitigation measures.

It was anticipated that the 1991 Specific Plan would generate a peak population of 2,300 people on-site.<sup>12</sup> The factors utilized to arrive at this estimate were not identified in the 1991 EIR. Impacts to the Town's seasonal population were not specifically addressed.

The 1991 EIR did not specifically address the displacement of existing housing units. However, the housing demand of 1,230 units created by the employment associated with the proposed hotel and commercial development (1991 Specific Plan) was identified as a significant impact in the 1991 EIR. Further, it was determined that approximately 800 of the 1,230 housing units would need to be designated as affordable housing.

The 1991 EIR noted that "since there is a present unmet need for affordable housing in Mammoth Lakes, any additional demand created by the 1991 Specific Plan is considered a significant impact upon the Town's ability to meet the needs for affordable housing." It further noted that "based on the types of jobs created, it is likely that about two-thirds of the North Village employees will be in the low-income category, therefore an additional 800 affordable housing units will be needed."

The 1991 EIR did not specifically address the displacement of people due to the removal of existing housing units or the cumulative impacts to population and housing.

According to the 1994 EIR Addendum, the revised project description resulted in no changes to the impacts, mitigation measures or cumulative impacts, when compared to the 1991 EIR, with respect to employment, population and/or housing.

### ***Significance Criteria for this EIR***

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Environmental Checklist Form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to Population and Housing. The issues

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<sup>12</sup> North Village Specific Plan EIR, 1991, Page 4.4-13.

presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed in this Section.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

- If the project induces substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (refer to Impact Statements 5.2-1 and 5.2-2);
- If the project displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (refer to Impact Statements 5.2-3, 5.2-4 and 5.2-5); and/or
- If the project displaces substantial numbers of people necessitating the construction of replacement housing elsewhere (refer to Impact Statements 5.2-1, 5.2-4 and 5.2-5).

As a result of current trends, the population, housing and employment estimates contained in this analysis are based on methodologies and factors which were updated from those utilized in the 1991 EIR and 1994 EIR Addendum.

Potential impacts are grouped below according to topic. The numbered mitigation measures at the end of this Section directly correspond with the numbered impact statement.

## POPULATION

5.2-1 *Project implementation may induce substantial growth in the Town's permanent year-round population as a result of the employment associated with lodging and commercial uses. The analysis has concluded that the population growth was anticipated in the Town's General Plan and there is enough suitably zoned land and sufficient public services to accommodate the proposed increase in population. Thus, impacts are less than significant.*

The 1999 Specific Plan Amendment proposes the development of 135,000 square feet of commercial uses and 3,020 accommodation rooms. In order to project the employment generation associated with the proposed development, this analysis utilized employee generation rates for various land use categories provided in the AHMR. These rates are based upon Full-Time Employee Equivalents (FTEE), an aggregation of full-time, part-time, and seasonal employment that yields an average

year-round employment rate.<sup>13</sup> Based on an average of the AHMR's employment generation rates, the proposed Plan would generate an estimated 1,532 FTEE. Additionally, it is anticipated that the majority of the jobs would be within the services industry (i.e., hotels and other lodging) and within the retail trade industry (i.e., food stores, eating and drinking establishments, and other retail trade).<sup>14</sup>

The current labor force is partially made up of individuals and individuals with families.<sup>15</sup> Accordingly, it is anticipated that the new employees generated by project implementation would include both single employees, as well as employees with families.

The 1994 Specific Plan was projected to generate 1,612 FTEE.<sup>16</sup> This estimate was based on the best available information in 1994. When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment would generate 80 fewer FTEE.

The 1991 EIR anticipated the creation of 106 temporary, construction-related employment positions. As the proposed 1999 Specific Plan Amendment would involve the development of a similar type and number of uses, implementation of the 1999 Specific Plan Amendment is also anticipated to create approximately 100 temporary, full-time equivalent construction-related employment on the job positions. As it relates to population growth, temporary construction employment is considered seasonal population.

Projections of future population are based on the following assumptions and estimates. A population increase would be considered a significant impact if there were not enough suitably zoned land for the increase in population. Among the most significant factors is whether people decide to live in the Town. Among the factors that may influence that decision are family income levels and the cost and availability of suitable housing in the Town (i.e., a higher-income family has more options for housing locations, whereas a lower-income family may be more restricted in selecting housing location, based on availability of such rental housing units). In addition, the potential exists that a portion of the future employees associated with the proposed commercial

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<sup>13</sup> The Town of Mammoth Lakes developed the rates based upon analyses by other resorts and an evaluation of these in consideration of existing Mammoth Lakes employment rates, adjusting them accordingly. The FTEE approach was determined by the committee to provide a reasonable method for addressing new demand.

<sup>14</sup> The assumptions made in estimating the number of FTEE are outlined in the Notes to Table 5.2-5/4, *Employment and Population Estimates*.

<sup>15</sup> Conversation with William Taylor, Senior Planner, Town of Mammoth Lakes, October 13, 1999.

<sup>16</sup> North Village Specific Plan Environmental Impact Report Addendum, May 1994, Table A, Page 14.

and lodging uses may presently reside within the Town. Further, the potential exists that the vacated jobs created by those presently residing in Town and transferring to the new jobs may be filled by persons moving to the Town. Therefore, in consideration of these uncertainties, and in order to provide a broader analysis of potential impacts, the projected increase in population is based on the assumption that the jobs created by the proposed commercial and lodging uses would be filled by individuals and individuals and their families moving to the Town. This assumption is derived from the limitations of many workers commuting from any of the closest communities to Mammoth Lakes during the winter season and the limited housing opportunities which exist in the Towns closest to Mammoth Lakes.

As previously noted, the current labor force is partially made up of single individuals and partially made up of individuals with families. Therefore, for purposes of this analysis, it is assumed that 50 percent of the new employees would relocate to the Town alone and the remaining 50 percent would relocate to the Town along with their families (these households would consist of the employee, a second employee, and their family (the second employee is also assumed to be employed within the Specific Plan area)).<sup>17</sup> Based on the California Department of Finance's January 1, 2000 factor of 2.485 persons per household, project implementation would increase the Town of Mammoth Lakes' population by approximately 1,718 persons (refer to Table 5.2-4, *Employment and Population Estimates*).

Development of the 1999 Specific Plan Amendment would require removal of a number of existing uses including commercial, lodging and residential uses. Of the existing 315 accommodation rooms, approximately 193 would be removed. Of the existing 71 family dwelling units, approximately 40 would be removed. Removal of these uses would result in the displacement of approximately 100 persons (assuming 2.485 persons per household) and 110 FTEE's (refer to Table 5.2-4). The displacement of these persons is not anticipated to impact the Town's population as it is assumed they would continue living in the Town of Mammoth Lakes (refer to the *Housing* section below for a discussion of impacts associated with the loss of these residential units). The displacement of 110 FTEE's, however, is anticipated to slightly reduce the project's anticipated growth in population since it is assumed that these displaced employees would fill some of the positions created by development of North Village, and therefore would continue living in Town. The displaced employees represent a

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<sup>17</sup> Breakdown of employee living accommodations is based on Table P16 of the 1990 U.S. Census.

**Table 5.2-4  
EMPLOYMENT AND POPULATION ESTIMATES**

Zone	Land Use	Unit	FTEE Factor <sup>1,2</sup>	Per	FTEE	Employee Group			Persons Per Household <sup>6</sup>	Population <sup>7</sup>
						Single <sup>3</sup>	With Families <sup>4</sup>	Two- Employee Households <sup>5</sup>		
Plaza Resort	Commercial	85,000								
Resort General	Commercial	50,000								
Specialty Lodging	Commercial	0								
Other	Commercial	0								
<b>Total</b>	<b>Commercial</b>	<b>135,000</b>	<b>3.85</b>	<b>1,000</b>	<b>520</b>	<b>260</b>	<b>130</b>	<b>2,485</b>	<b>583</b>	
Plaza Resort	Accommodation Rooms	1,391	0.40	1	556					
Resort General	Accommodation Rooms	387	0.28	1	108					
Specialty Lodging	Accommodation Rooms	1,242	0.28	1	348					
Other	Accommodation Rooms	0	0.00	0	0					
<b>Total</b>	<b>Accommodation Rooms</b>	<b>3,020</b>			<b>1,013</b>	<b>506</b>	<b>253</b>	<b>2,485</b>	<b>1,135</b>	
<b>2000 Total</b>					<b>1,532</b>	<b>766</b>	<b>383</b>		<b>1,718</b>	
Uses Removed	Commercial + Hotel				(110)	(55)	(28)	2,485	(123)	
<b>2000 Net Change</b>					<b>1,422</b>	<b>711</b>	<b>356</b>		<b>1,595</b>	
<b>1994 Total</b>					<b>1,612</b>	<b>806</b>	<b>403</b>	<b>2,485</b>	<b>1,807</b>	
Uses Removed	Commercial + Hotel				(110)	(55)	(28)	2,485	(123)	
<b>1994 Net Change</b>					<b>1,502</b>	<b>751</b>	<b>376</b>		<b>1,684</b>	
<b>1994/2000 Net Change</b>					<b>(80)</b>	<b>(40)</b>	<b>(20)</b>		<b>(89)</b>	

Notes: 1. FTEE = Full Time Equivalent Employee  
2. The FTEE factor utilized for commercial uses was obtained from the Affordable Housing Mitigation Regulations (AHMR). The FTEE factor utilized for accommodation rooms was based on the average FTEE factor of the permitted lodging types obtained from the AHMR as detailed in Table A, Employee Generation By Lodging Type, of Appendix 15.2, Population and Housing Notes.  
3. Based on Table P16 of the 1990 U.S. Census, it is assumed that approximately 50 percent of all employees would reside in households consisting of multiple single workers.  
4. Based on Table P16 of the 1990 U.S. Census, it is assumed that approximately 50 percent of the employees would reside in households consisting of the employee and their family.  
5. It is assumed that households consisting of the employee and their family also include a second employee in the household.  
6. Source: Department of Finance, Table 2, January 1, 2000.  
7. (Single Employees) + (2 Employee Households \* 2.85).

population of approximately 123 persons (refer to Table 5.2-4). In consideration of the displaced employees, project implementation would result in an overall population increase of 1,595 persons.

Implementation of the proposed 1999 Specific Plan Amendment has the potential to increase the Town's existing population of approximately 5,355 persons (California Department of Finance, January 1, 2000) to approximately 6,950 persons, representing an increase of approximately 30 percent. The population increase associated with project implementation would place an increased demand upon the Town's public services and utilities, as well as a greater demand for housing. (Refer to Section 5.10, *Public Services and Utilities*, which provides a detailed discussion of the project's impact upon the Town's public services and utilities. Also, refer to the *Housing* analysis below for a discussion of the project's impact upon the Town's housing.)

While the additional employment and resultant population growth induced by the project may in and of itself be considered substantial, the population increases were anticipated in both local and regional plans and enough suitably zoned land has been provided to accommodate the increase in population as is evidenced below:

- Based on updated factors and methodologies, and in consideration of the existing uses, the 1994 Specific Plan would generate 1,502 FTEE and would result in a population increase of approximately 1,684 persons (refer to Table 5.2-5). In contrast, the proposed 1999 Specific Plan Amendment would generate an estimated 1,422 FTEE and result in a permanent population increase of approximately 1,595 persons. The proposed 1999 Specific Plan Amendment would result in approximately 80 fewer FTEE and a population increase of approximately 89 fewer persons than the 1994 Plan.
- The Town's General Plan designates the site as Specific Plan area, and anticipates development and resultant population increases. The Town's zoning regulations have provided enough suitably zoned land to accommodate the projected increase in population as evidenced by the vacancy rates (73%) and numbers of new residential units proposed by the project.
- The proposed 1999 Specific Plan Amendment would not increase the overall permitted square footage of commercial uses beyond those previously approved for the site and as analyzed in the 1991 EIR and 1994 EIR Addendum.

Based on these findings, it is concluded that implementation of the 1999 Specific Plan Amendment would not result in significant impacts with regard to increases in the Town's permanent population.

5.2-2 *Project implementation may induce substantial growth in the Town's visitor population as a result of the proposed lodging. Impacts are less than significant since the visitor population growth associated with the North Village Specific Plan was anticipated in the Town's General Plan.*

A significant impact would occur if there were not enough appropriately zoned land to accommodate the increase in visitor population.

Approximately 3,020 accommodation rooms are proposed as part of the 1999 Specific Plan Amendment. Of the five lodging types permitted throughout the Specific Plan area, only the resort condominiums could potentially be occupied by permanent residents. However, in order to provide a more conservative analysis of impacts associated with the Town's visitor population, it is assumed that all 3,020 accommodation rooms could be available for public rental at any given time. As detailed in Table 5.2-5, *Visitor Population Projections*, the Town's visitor population could potentially increase by approximately 4,472 persons as a result of the proposed accommodation rooms.

Due to the resort nature of the Town, the actual number of people in the Town is always greater than the permanent population. The maximum number of People At One Time (PAOT) in Mammoth Lakes would include the permanent population plus the visitor population. As previously noted, the Town's PAOT during the weekends currently approaches 30,000 persons. Based on the project's permanent and visitor population projections of 1,595 persons and 4,472 persons, respectively, project implementation has the potential to increase the Town's weekend PAOT to approximately 36,067 persons (refer to Table 5.2-5). According to the General Plan, average winter weekdays are estimated to have 75 percent of the peak winter day PAOT. Accordingly, project implementation may increase the Town's average weekday PAOT to approximately 27,050 persons.

The 1994 Specific Plan Amendment projected a visitor population increase of approximately 2,300 persons, however, it did not specify the factors utilized in arriving at this estimate. Therefore, in order to provide a more realistic comparative analysis, the visitor population for the 1994 Specific Plan was re-computed. Based on a 2,800 accommodation room estimate and more current occupancy rates, the visitor population increase associated with the 1994 Specific Plan would be 4,146 persons. When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment's

**Table 5.2-5  
SEASONAL POPULATION PROJECTIONS**

Accommodation Rooms	Quantity	Overall Occupancy Rate	Overall Occupancy	Room Occupancy Rate (Persons)	Visitor Population
1999 Public (85%)	2,567	65%	1,669	2.3	3,838
1999 Private (15%)	453	35%	159	4.0	634
<b>1999 Visitor Population Projection</b>	<b>3,020</b>	<b>100%</b>	<b>1,827</b>		<b>4,472</b>
Weekend Population Estimates					30,000
Permanent Population Projection					1,595
<b>1999 People At One Time (PAOT)</b>					<b>36,067</b>
1994 Public (85%)	2,380	65%	1,547	2.3	3,558
1994 Private (15%)	420	35%	147	4.0	588
<b>1994 Visitor Population Projection</b>	<b>2,800</b>	<b>100%</b>	<b>1,694</b>		<b>4,146</b>
Weekend Population Estimates					30,000
Permanent Population Projection					1,684
<b>1994 People At One Time (PAOT)</b>					<b>35,830</b>
<b>1994/1999 Net Change</b>					<b>-326</b>

Source: Comparison of Projected Visitor Demand With Proposed Accommodation Buildout at Mammoth Lakes, David A. Hughes & Associates, Ltd., July 23, 1999, Model Assumptions, pages 1-2.

Note: The 1991 EIR identified the development of 2,000 hotel units and 400 resort condominiums. It is assumed that the 400 resort condominium units contained an average of two rooms per unit, resulting in a proposed total of 2,800 units (rooms).

visitor population increase of 4,472 persons would result in a greater increase in the visitor population (326 additional persons). The eight percent (8%) difference in visitor population between the 1994 Specific Plan and the 1999 Specific Plan Amendment is not considered significant in as much as the Town's General Plan anticipated the project's development and resultant visitor population increases. Further, project implementation is consistent with the General Plan's policies with respect to the projected growth in visitor population. The Town's General Plan states the following with respect to tourism:

*"The Town, through the General Plan goals and policies and criteria in the Town's Development Code, is endeavoring to reinforce winter tourism, encourage the development of summer recreational activities and light industrial development in order to develop a more stable economic climate."*

Since the proposed 1999 Specific Plan Amendment would not increase the overall permitted square footage of commercial uses beyond those previously approved for the site, is consistent with the General Plan's projected growth in visitor population, and there is a sufficient number of accommodation units to support new visitor population based on the vacancy rates (73%) and number of new units proposed by the project, implementation of the proposed 1999 Specific Plan Amendment would not result in significant impacts with regard to increases in the Town's visitor population.

## HOUSING

### Displaced Housing

5.2-3 *Project implementation may result in the displacement of existing housing necessitating the provision of replacement housing elsewhere. The 1999 Specific Plan Amendment requires that the developer of a project which displaces any permanent residents from multi-family residential units which were historically rented to individuals within the range of affordable housing rents, shall provide a sufficient number of bedrooms to house the same number of permanent residents displaced by the project, in a similar unit type, and at rents maintained within the affordable range. This provision reduces this impact to a less than significant level. ~~all displaced permanent residents of removed affordable housing have replacement housing provided elsewhere. This provision reduces this impact to a less than significant level.~~*

The displacement of permanent residents who are in the affordable income range would be considered a significant impact if the displaced permanent residents did not have adequate replacement housing opportunities.

Development of the proposed 1999 Specific Plan Amendment would require removal of several existing structures in the development area. As previously noted, an estimated 71 dwelling units (approximately 40 rental or residential units and 31 condominium units) are located within the North Village Specific Plan area, including up to 35 affordable dwelling units. Project implementation could involve removal of approximately 40 of the 71 existing dwelling units, including up to 20 affordable units. As the 1999 Specific Plan Amendment proposes the development of replacement affordable housing in consideration of existing inadequate affordable housing supply, removal of the existing affordable dwellings is not considered a significant impact. Since all displaced permanent residents of affordable dwelling units removed as a result of the proposed Specific Plan shall have replacement housing provided elsewhere, the impacts in this regard would be reduced to a less than significant level.

In addition, of the approximately 315 rooms available for transient lodging in North Village, an estimated 221 lodging rooms would be removed with project implementation. As the 1999 Specific Plan Amendment proposes the development of approximately 3,020 accommodation rooms, removal of 221 existing accommodation rooms is not considered a significant impact. Refer to the *Housing Demand* section below for a discussion of housing impacts associated with employees of the removed uses.

### **Affordable Housing Demand**

5.2-4 *Project implementation may create a demand for approximately 416 affordable employee housing units and 471 affordable family dwellings. The proposed 1999 Specific Plan Amendment requires affordable housing consistent with the number of employees projected to have incomes in the affordable range, thereby reducing the project's impact associated with the demand for affordable housing to a less than significant level.*

As previously stated, there is sufficient land zoned for residential purposes to accommodate the increase in population. However, a significant impact for housing demand is not determined by general supply, rather supply in the affordable price range. As noted in Table 5.2-4, *Employment and Population Estimates*, project implementation would generate an estimated 1,532 FTEE.

For purposes of this analysis, it is assumed that approximately 50 percent of the employees would reside in households consisting of multiple single workers and the remaining 50 percent of the employees would reside in households consisting of the employee, a second employee, and their family (it is assumed that the second employee living in these households would also be employed by the proposed North

Village development).<sup>18</sup> More specifically, single workers would create a demand for employee housing units (EHU) and workers with families would create a demand for family dwelling units (FDU) (which consist of more long-term, family-oriented living accommodations). As detailed in Table 5.2-7, *Housing Demand Estimates*, development of the proposed uses has the potential to result in an overall housing demand of 766 EHU and 383 FDU.

The recreation-based service economy which exists in the Town, and which would be expanded through implementation of the proposed 1999 Specific Plan Amendment, depends largely upon a labor pool of individuals working at low paying jobs. Due to the nature of the jobs which would be created and the 1990 census data showing the breakdown of income groups, it is assumed that all of the low and very low income individuals and some of the moderate income individuals would require affordable housing at low and moderate income rental rates.

Since the 1994 EIR Addendum was prepared, the Planning Commission has endorsed the Affordable Housing Mitigation Regulations (AHMR). The Town evaluated rents and income levels and determined that very low income households, low income households, and a portion of the moderate income households would need assistance. It was determined by the Town that housing should be provided for 58.5 percent of the FTEE's generated by new development. This was determined by the Town to be adequate mitigation for the affordable housing demand created by new development and has been approved under a Negative Declaration adopted by the Town Planning Commission on May 24, 2000. The balance of the employees would be capable of acquiring "free market" housing at the "market rate" (refer to discussion below). The Specific Plan Amendment incorporates the requirements and objectives of the AHMR.

The AHMR and Specific Plan Amendment outlines the methodology for estimating the affordable housing requirements on a project by project basis. Based on the AHMR, development of the proposed uses would create a demand for 448 affordable EHU and 224 affordable FDU (refer to Table 5.2-6, *Housing Demand Estimates*).

Project development also requires removal of commercial uses which currently provide approximately 110 FTEE positions of which up to 64 positions may be in the affordable range based on 58.5 percent being in the affordable range. It is assumed that the employees displaced by removal of the existing commercial uses would fill the positions created as a result of the proposed Specific Plan and that the displaced employees would, therefore, continue living in Town. As detailed in Table 5.2-6, the employees displaced by removal of the existing commercial uses represent a housing

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<sup>18</sup> Breakdown of employee living accommodations is based on Table P16 of the 1990 U.S. Census.

**Table 5.2-6  
HOUSING DEMAND ESTIMATES**

Zone	Land Use	Employee Group			Single Employees				Employees With Families			
		Single <sup>1</sup>	With Families		Housing Demand (EHU) <sup>4</sup>	Affordable Housing Demand (EHU) <sup>5</sup>	Affordable Housing Mitigated (EHU) <sup>6</sup>	Market Rate Housing Demand (EHU) <sup>7</sup>	Housing Demand (EHU) <sup>8</sup>	Affordable Housing Demand (FDU) <sup>9</sup>	Affordable Housing Mitigated (FDU) <sup>9</sup>	Market Rate Housing Demand (FDU) <sup>9</sup>
			With Families <sup>2</sup>	Two-Employee Households <sup>3</sup>								
2000 Total		766	766	383	766	448	448	318	383	224	224	159
Uses Removed	Commercial + Hotel	(55)	(55)	(28)	(55)	(32)	(32)	(23)	(28)	(16)	(16)	(11)
<b>2000 Net Change</b>		<b>711</b>	<b>711</b>	<b>356</b>	<b>711</b>	<b>416</b>	<b>416</b>	<b>295</b>	<b>356</b>	<b>208</b>	<b>208</b>	<b>148</b>
1994 Total		806	806	403	806	472	472	334	403	236	236	167
Uses Removed	Commercial + Hotel	(55)	(55)	(28)	(55)	(32)	(32)	(23)	(28)	(16)	(16)	(11)
<b>1994 Net Change</b>		<b>751</b>	<b>751</b>	<b>376</b>	<b>751</b>	<b>439</b>	<b>439</b>	<b>312</b>	<b>376</b>	<b>220</b>	<b>220</b>	<b>156</b>
<b>1994/2000 Net Change</b>		<b>(40)</b>	<b>(40)</b>	<b>(20)</b>	<b>(40)</b>	<b>(23)</b>	<b>(23)</b>	<b>(17)</b>	<b>(20)</b>	<b>(12)</b>	<b>(12)</b>	<b>(8)</b>

- NOTES:
- Based on Table P16 of the 1990 U.S. Census, it is assumed that approximately 50 percent of all employees would reside in households consisting of multiple single workers.
  - Based on Table P16 of the 1990 U.S. Census, it is assumed that approximately 50 percent of the employees would reside in households consisting of the employees and their family.
  - It is assumed that households consisting of the employee and their family also include a second employee in the household.
  - EHU = Employee Housing Unit = One EHU shall equal one bedroom with a usable floor area (exclusive of closets, etc.) of 100 square feet.
  - Affordable Housing Demand Factor of 0.585. Source: Affordable Housing Mitigation Regulations (AHMR).
  - The project applicant proposes to develop affordable housing consistent with the AHMR (0.585 x FTEE). The Town has determined that the provision of affordable housing for 58.5% of the FTEE is adequate mitigation.
  - It is assumed that 41.5 percent of the FTEE generated would acquire "market rate" housing.
  - FDU = Family Dwelling Unit = Three EHU shall equal one FDU. Three bedrooms per unit source: AHMR.

demand of approximately 32 affordable EHU and 16 affordable FDU. Since these displaced employees are assumed to fill the positions created by project development, and hence would continue living in Town, their demand for housing would slightly reduce the demand for housing created by the proposed development (refer to the following discussion).

The 1999 Specific Plan Amendment includes a provision for housing of construction workers. This applies to workers whose principal place of business is outside of Mono and Inyo Counties and to employees who would reside in Mammoth Lakes in connection with construction for more than 90 consecutive days. The provision would not result in impacts to the existing affordable housing supply because construction worker housing would not be permitted in units zoned for rental housing.

Project implementation would result in an overall demand for approximately 416 affordable EHU and 208 affordable FDU. The Town AHMR state that the developer shall provide housing with a number of equivalent housing units equal to the cumulative total of the full time employees (FTE) multiplied by 58.5 percent. Further, the AHMR's specify that all required housing is to be provided within the Town of Mammoth Lakes, with at least 50 percent provided on-site and up to 50 percent provided off-site. The proposed 1999 Specific Plan Amendment provides the same ratio (58.5%) of affordable housing units. The Specific Plan Amendment proposes to locate at least half of the units in Resort or Specific Plan zoned properties and no more than half in zones other than RMF-1. This produces a similar result as the Town's policy as there is no impact on the supply of RMF-1 zoned land, which currently is the only rental apartment zoned land.

The 1999 Specific Plan Amendment also provides the framework for preparation and submittal of a Housing Mitigation Development Plan (HMDP) required of each project. Each developer would be required to submit a definitive HMDP to the Town Planning Commission for approval. The HMDP shall contain the following specific and detailed information:

- The housing requirements generated by their project as defined herein.
- The method or combination of methods by which housing is to be mitigated.
- The time table for the mitigation.
- A description of the land proposed and the type, number, and unit size of the proposed housing plus any management/operational plans.
- Preliminary plans showing the site and floor plans.
- The proposed rent or sales prices.

When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment differs with respect to timing of occupancy. The 1999 Specific Plan Amendment proposes that the affordable housing be ready for occupancy no later than the date of the initial occupancy (certificate of occupancy issuance) of the development. In contrast, the 1994 Specific Plan proposes that the affordable housing be ready for occupancy no later than building permit issuance. This revision is not considered a significant impact pursuant to the AHMR which state the following regarding timing of occupancy:

*"The EHU's shall be ready for occupancy no later than the date of the initial occupancy of the development. Since larger developments may be developed in phases, the EHU's will be provided in proportion to the individual phases."*

The 1994 Specific Plan was projected to generate 1,612 FTEE. In consideration of removal of the existing commercial uses, and based on updated factors and methodologies, the 1994 Specific Plan would have created an overall housing demand of 751 EHU and 376 FDU, including a demand for 439 affordable EHU and 220 affordable FDU (refer to Table 5.2-7). When compared to the 1994 Specific Plan, the proposed 1999 Specific Plan Amendment would create a demand for 23 fewer EHU and 12 fewer FDU affordable units. The 1999 Specific Plan Amendment would result in a slightly lesser impact on affordable housing than would the 1994 Specific Plan.

#### **Market Rate Housing Demand**

5.2-5 *Project implementation may create a demand for approximately 295 market rate employee housing units and 148 market rate family dwelling units. Due to current vacancy rates within the Town, impacts are concluded as less than significant.*

Development of the proposed uses would create a demand for 318 market rate EHU and 159 market rate FDU (refer to Table 5.2-6, *Housing Demand Estimates*). Project development also requires removal of commercial uses which currently provide approximately 110 FTEE positions. As detailed in Table 5.2-6, the employees displaced by removal of the existing commercial uses represent a housing demand of approximately 23 market rate EHU and 11 market rate FDU. Since it is assumed that these displaced employees would fill the positions created by project development, and hence would continue living in Town, their demand for housing would slightly reduce the demand for housing created by the proposed development.

Project implementation would result in an overall demand for approximately 295 market rate EHU and 148 market rate FDU.

As previously stated, the Town's housing stock as of January 1, 2000 was an estimated 7,824 units, with a vacancy rate of 73 percent. Project implementation would create a net demand for an additional 295 market rate EHU and 148 market rate FDU. Typically, vacancy rates of two percent in single-family units and five percent in multiple-family units (4 percent overall) are considered ideal to provide an adequate return for property owners and to provide for adequate "turnover" and mobility within the local market. The Town experiences relatively high vacancy rates since a majority of the units are short-term visitor dwelling units; a reflection of the resort nature of the Town. Nevertheless, the Town has determined that the 58.5 percent housing mitigation requirement is adequate to mitigate the impacts of new development on the Town's housing and the balance of the employees would be capable of acquiring "free market" housing at the "market rate". In consideration of the Town's 73 percent vacancy rate, there is sufficient housing to absorb the market rate housing demand generated by project implementation. Therefore, a significant impact is not anticipated in this regard.

When considering removal of the existing commercial uses, and based on updated factors and methodologies, the 1994 Specific Plan would create demand for 312 market rate EHU and 156 market rate FDU (refer to Table 5.2-6). When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment would create a demand for 17 fewer EHU and eight fewer FDU market rate units. The 1999 Specific Plan Amendment would result in a slightly lesser impact on market rate housing than would the 1994 Specific Plan. The 1994 Specific Plan did not identify the demand for market rate housing as a significant impact.

## CUMULATIVE

5.2-6 *Cumulative development may generate growth in the Town's visitor and permanent populations, with a resultant increase in the demand for housing. The level of significance would be evaluated and required mitigation specified on a project by project basis.*

Cumulative development in the Town of Mammoth Lakes, including the expansion of existing uses (i.e., ski areas and commercial areas), and the development of new residential and commercial uses, would increase the Town's existing labor force. Due to the limitations of many workers commuting from any of the closest communities to Mammoth Lakes during the winter season and the limited housing opportunities which exist in the towns closest to Mammoth Lakes, the jobs created by cumulative development would be filled by persons moving to the Town. Overall, the growth in labor force generated by cumulative development would increase the Town's permanent and visitor population, place an increased demand upon the Town's public services and utilities, as well as create a proportionate demand for additional housing.

Recent trends indicate that the Town's labor force is composed of both individuals who are "short-term" residents as well as individuals with families requiring more long-term, family-oriented living accommodations. Therefore, housing for both multiple single workers living in group quarters, as well as housing for employees and their families, would be required in response to cumulative growth.

Due to the resort nature of the Town, the majority of the jobs created by cumulative development would be service-related, resulting in the need for low to moderate priced (affordable) housing, as well as market rate housing. The Town's AHMR requires that the developer provide affordable housing with a number of equivalent housing units equal to the cumulative total of the full time employees (FTE) multiplied by 58.5 percent, thereby mitigating the increased demand for housing resulting from cumulative development. However, considering the present need for affordable housing in Mammoth Lakes, any unmitigated demand for affordable housing created by cumulative development would be considered a potentially significant impact upon the Town's ability to meet the needs for affordable housing. However, these potential impacts would be evaluated and required mitigation specified on a project by project basis.

### **MITIGATION MEASURES**

The following mitigation measures directly correspond to the numbered impacts statements in the Impact analysis.

#### **POPULATION (EMPLOYMENT)**

5.2-1 No mitigation measures are required.

5.2-2 No mitigation measures are required.

#### **HOUSING**

##### **Displaced Housing**

5.2-3 No mitigation measures are required.

##### **Affordable Housing Demand**

5.2-4 No mitigation measures are required.

##### **Market Rate Housing Demand**

5.2-5 No mitigation measures are required.

**CUMULATIVE**

5.2-6 No mitigation measures are required.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of housing policies and programs referenced in this section, no significant impacts related to employment, population and housing have been identified.



### 5.3 AESTHETICS/LIGHT AND GLARE

The purpose of this Section is to identify whether, as a result of substantial changes in the project, the project would have new significant environmental effects in terms of aesthetics and light/glare and to recommend mitigation measures for new or more severe effects.

Visual resources information for this Section was compiled from site photographs and site surveys conducted by RBF Consulting in October 1999. This Section is also based upon reference data from the Mammoth Lakes General Plan, the General Plan Environmental Impact Report (EIR), and the Mammoth Lakes Municipal Code. Consideration of public scenic views, impacts to scenic resources and the introduction of new sources of light and glare are the basis for determining new significant environmental impacts in this Section. Mitigation measures are recommended to reduce the significance of impacts, as applicable.

#### **EXISTING CONDITIONS**

##### **Aesthetics**

The 64.1-acre Specific Plan area is approximately 50 percent developed with a variety of land uses including visitor-oriented retail, motels, a community center, and some private homes and condominiums. The remaining portions of the Specific Plan area are undeveloped and retain some natural vegetation. The Specific Plan area varies in elevation from approximately 7,955 feet in the southeast portion of the site to approximately 8,070 feet in the northwestern portion of the site. Throughout the Specific Plan area, slopes are moderate with limited areas of 30 percent or more. The Specific Plan area does not contain prominent ridgelines, land and water junctions, or other unique visual features.

The Specific Plan area is generally bordered to the north by Forest Trail and U.S. Forest Service property, to the south by undeveloped portions of the Sierra Star Master Plan, to the west by Hillside Drive, and to the east by single-family residential development. Primary views of the site are from portions of Minaret Road, Main Street/Lake Mary Road, and from residential properties located to the west, east and north of the Specific Plan area. Many views to the site and its interior are screened by tall pine trees. The approximate average height of the forest canopy within the Specific Plan area is 75 feet with some trees up to 110 feet.

Existing uses along Minaret Road include low-rise commercial buildings and several two to four story motels which exhibit a variety of architectural styles. Residential areas within the Specific Plan area, and those located to the west and east, are

characterized by two to four story condominiums and one to two story single-family residences. Architectural styling throughout these residential areas emphasizes the Town's alpine character through the use of gabled roofs, timbers and wood exteriors.

The perimeter of the Specific Plan area is visually characterized by tall conifers and slightly varying topography. For example, existing off-site residences along the westerly side of Hillside Drive are located above roadway grade while residences on the east side of Hillside Drive within the Specific Plan area are located below roadway grade. The topography and vegetation partially shields the Specific Plan area from view.

The most visually prominent areas within the Specific Plan area include the intersection of Main Street and Minaret Road, and the areas located immediately east and west of Minaret Road. As shown in Exhibits 5.3-1a and 1b, *Site Photographs*, parking lots, commercial buildings, and hotels establish the visual character of these areas. While short-range views to these areas are not significant, existing development along the visually prominent sections of Minaret Road and Main Street/Lake Mary Road is enhanced by the background provided by the forested areas. From both Minaret Road and Main Street/Lake Mary Road, there are significant long-range views of distant mountains to the south. These view corridors are particularly significant due to the relatively high level of view opportunity for vehicles traveling along these major roadways. Areas of the site fronting Lake Mary Road west of Minaret Road are also visually prominent.

Two distinct areas of the site remain undeveloped and heavily forested; the southern portion located south of the Minaret Road/Main Street/Lake Mary Road intersection, and the extreme northern portion of the site which is designated in the proposed 1999 Specific Plan Amendment as open space.

### **Applicable Plans and Policies**

Scenic Vistas. The Town's General Plan Open Space and Conservation Element defines a "viewshed" as "a visually significant area which may be viewed from various locations in the Town of Mammoth Lakes and along roadways to and within the community. The Sierra Nevada Mountains form the backdrop to views to the west, north and south of the Town. To the east are views of the great basin, the high desert and the White Mountains. The rugged terrain in portions of the community serves to provide excellent viewpoints and also restricts views, depending on the viewer's location. Significant viewpoints, as defined in the General Plan, within the planning area [General Plan area] are Lake Mary Road, the ski slopes on Mammoth Mountain, Route 203 east of Old Mammoth Road, Highway 395 along its entire length, the Gateway District (particularly along Route 203 and Meridian Boulevard), and Old Mammoth Road south of Mammoth Creek. Views from other areas are generally

constrained by vegetation, structures, or topography in the foreground, but Mammoth Mountain and portions of the adjacent mountains can be seen from nearly any location in the Town of Mammoth Lakes. It is also important to recognize that significant vistas may occur in the spaces between structures and properties.

While not specifically designated as such in the General Plan, motorists traveling south along Minaret Road within the Specific Plan area, south of Miller's Siding Road, have a significant long-range view of the Sherwin Mountains to the south.

Scenic Corridors. The Mono County Scenic Highways Element designates two scenic highways in the Mammoth Lakes vicinity; State Routes 203 and 395. However, only that portion of Route 203 within the Gateway District is designated as such within the Town. The purpose of the scenic designation is to protect and enhance the visual environment in areas of particular scenic value.<sup>1</sup> The Specific Plan area is not located within the Gateway District and no designated scenic highways are located within, or adjacent to, the Specific Plan area.<sup>2</sup>

### **Light and Glare**

There are two typical types of light intrusion. First, light emanates from the interior of structures and passes through windows. Second, light projects from exterior sources such as street lighting, building illumination, security lighting, and landscape lighting. Glare mainly results from sunlight reflection off flat building surfaces, with glass typically contributing to the highest degree of reflectivity. Light introduction can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if uncontrolled can disturb wildlife in natural habitat areas.

Limited light and glare is currently generated within the Specific Plan area. Lighting sources include interior/exterior lighting from commercial uses, including hotels and restaurants along Minaret Road and Main Street/Lake Mary Road. Residential safety-oriented exterior lighting occurs throughout the Specific Plan area and along Hillside Drive, Forest Trail, and Canyon Boulevard. Ground surfaces are generally nonreflective and there are no significant light generating sources.

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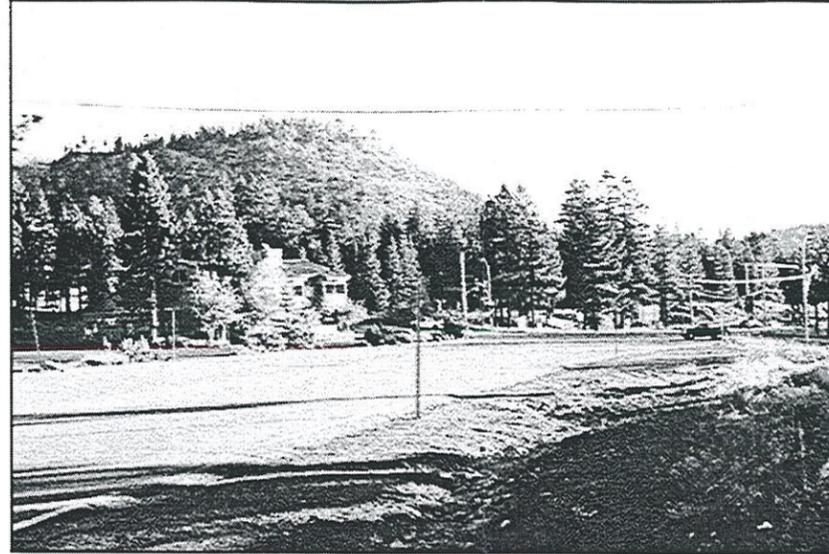
<sup>1</sup> *Final EIR for the Mono County Scenic Highways Element*, Mono County Planning Department, August 1991 as cited in the *Town of Mammoth Lakes General Plan EIR*, 1986, pages 231 and 232.

<sup>2</sup> The Gateway District is located several miles east of the North Village site in the eastern portion of the Town, bordered by Meridian Boulevard, Mammoth Road, and Main Street.





**A** View along Minaret Road looking north from southern extent of Specific Plan area.



**B** Looking east along Lake Mary Road toward intersection with Minaret Road.



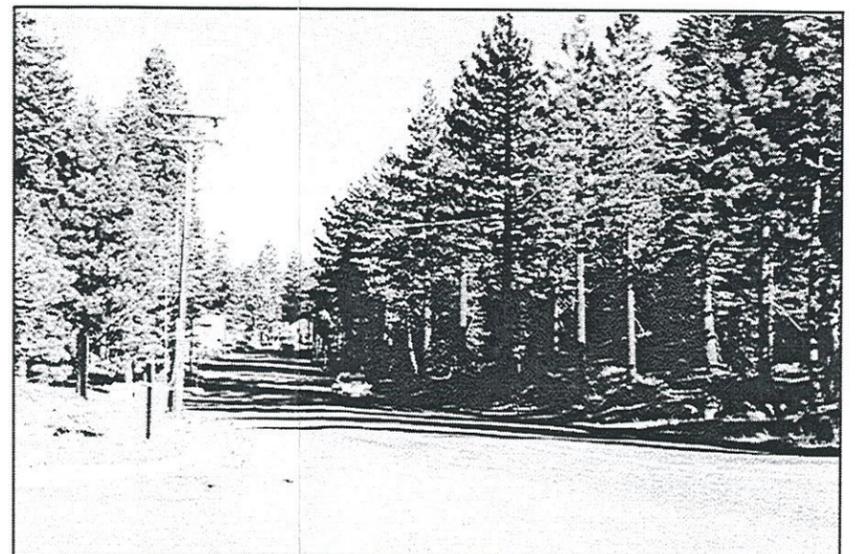
**C** View along Miller's Siding looking south.



**D** Looking west along Lake Mary Road.



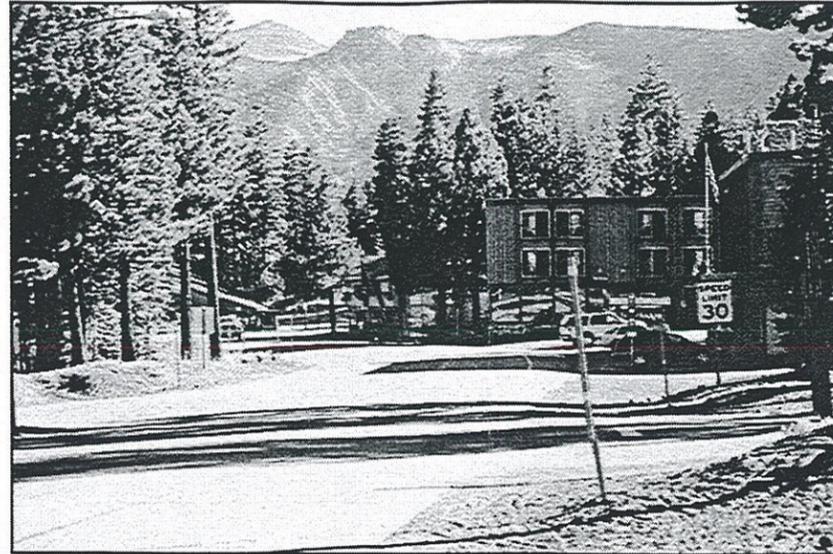
**E** Looking west up Forest Trail toward proposed roundabout at Minaret Road intersection.



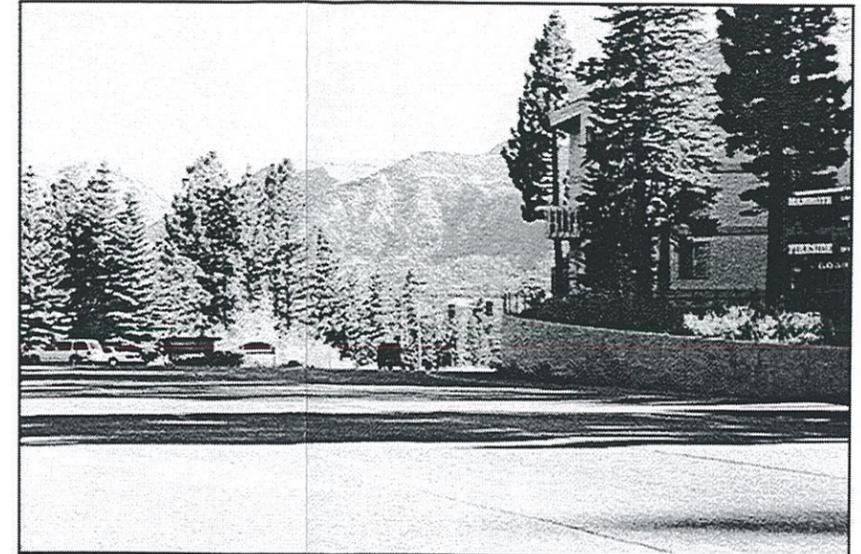
**F** View along Canyon Boulevard looking east from Hillside Drive.



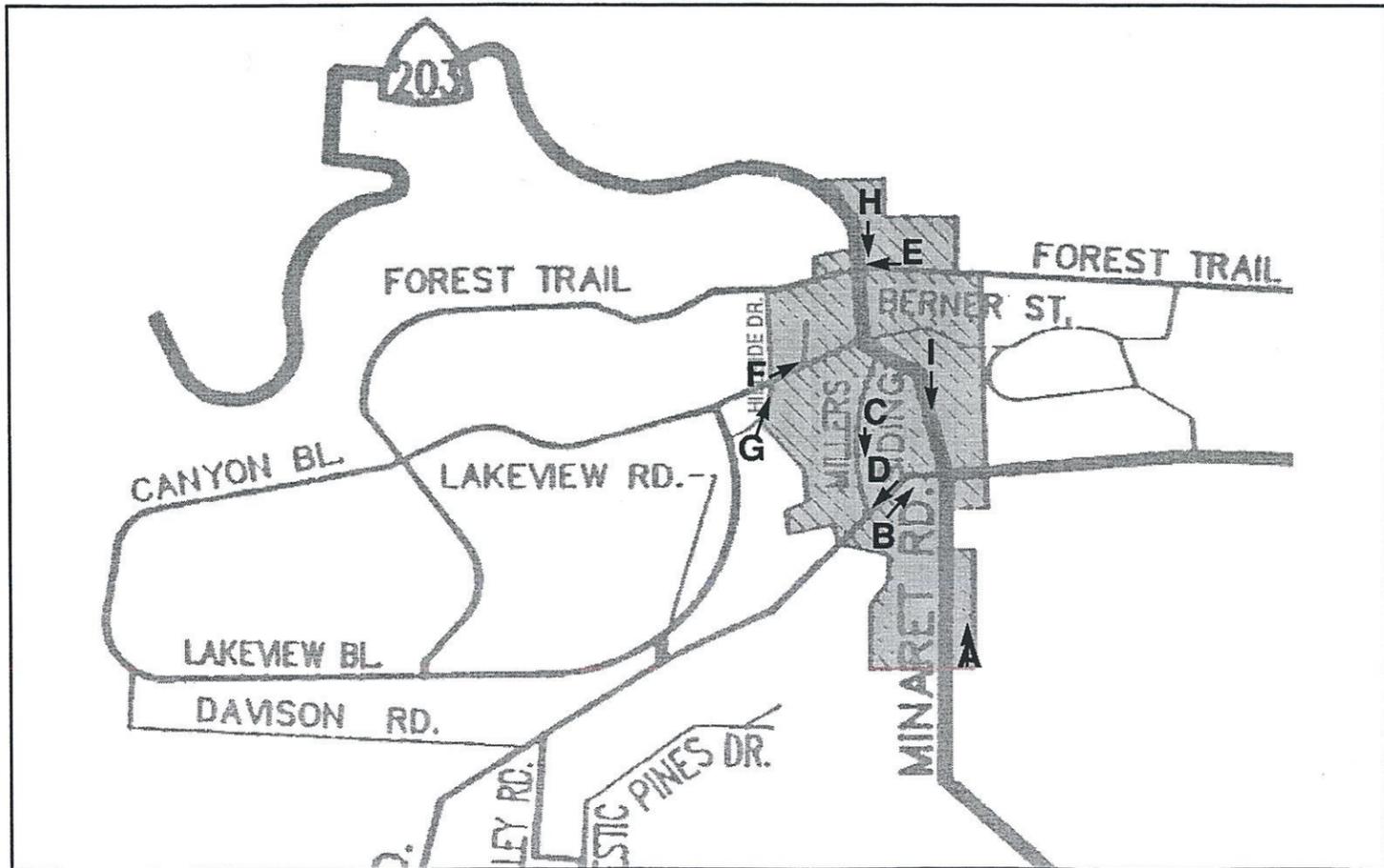
**G** Looking north up Hillside Drive from southern tip of proposed Pedestrian Core area.



**H** Looking south down Minaret Road toward proposed roundabout at Forest Trail.



**I** Long-range view of Sherwin Range looking south from turn in Minaret Road.



TOWN OF MAMMOTH LAKES  
NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM

**Site Photographs**

## **IMPACTS**

### **Summary of Previous Environmental Documentation for North Village**

The 1991 EIR concluded that development of the 1991 Specific Plan would change the physical and visual character of the site thereby resulting in a significant aesthetic impact. This impact would be caused by the increased density of development compared to existing conditions and the subsequent loss of open space and forest. Mitigation measures such as enforcement of a tree preservation plan; contour grading; a forested buffer of 100 feet along Lake Mary Road, the southern extension of Minaret Road and along the western and eastern edges of the Specific Plan area; and the use of native plants in landscaping design was recommended to reduce potential impacts in this regard to a less than significant level.

The 1991 EIR identified the location of the gondola and route as a significant and unavoidable visual impact. The EIR concluded that existing views from off-site residential areas and on-site hotels would be permanently altered by the gondola. Mitigation measures such as limiting the height of the gondola to at or near 90 feet (just below the tree line), the retention of existing trees along the route to serve as a visual buffer were recommended to reduce significant impacts. The 1991 EIR, however, stated that the gondola and route impacts would remain significant after mitigation.

The 1991 EIR concludes that distant views for motorists and pedestrians traveling along Minaret Road and Main Street/Lake Mary Road would not be significantly affected by the gondola although views would be affected due to intensification of development and potential 100 foot building heights in the western area of the site. The pedestrian overpass connecting the eastern and western components of the "Plaza area" would extend across Minaret Road, screening forest and mountain views from motorists traveling along the roadway. Mitigation measures such as design review for individual development sites within the Specific Plan area, the use of earth-tone colors and materials, and the minimization of the height and visual massing of the overpass were recommended to reduce these impacts to a less than significant level.

The 1991 EIR states that levels of lighting on-site would increase with implementation of the 1991 Specific Plan. External lighting would be introduced for safety and security and street lights may also be extended into the Specific Plan area. Internal lighting systems would not be of an intensity that would cause impacts to adjacent residential uses. The most sensitive light receptors would be residential and condominium uses located adjacent to the Specific Plan area. Mitigation measures in the form of design recommendations and light intensity levels were recommended to reduce potentially significant light impacts to less than significant levels. Sources of reflective glare could emanate from window glass (including the gondola cabins), and from other construction materials. The use of reflective glass and other materials could have

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**Aesthetics/Light and Glare**

significant impacts on adjacent land uses, pedestrians, and motorists traveling along Minaret Road and Lake Mary Road. Mitigation was recommended to minimize the use of reflective material to reduce impacts resulting from glare to a less than significant level. The 1994 EIR Addendum did not identify additional significant impacts or recommend additional mitigation measures beyond those included in the 1991 EIR.

### ***Significance Criteria for this EIR***

Appendix G, *Initial Study Checklist*, of the California Environmental Quality Act (CEQA) Guidelines includes checklist questions relating to aesthetics. The issues presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed. A project would potentially create a significant aesthetic impact if it caused one or more of the following to occur:

- Have a substantial adverse effect on a scenic vista (see Impact Statement 5.3-1 and 5.3-2);
- Substantially damage scenic resources, including but not limited to, tree, rock outcroppings, and historic buildings within a State scenic highway (See to Impact Statement 5.3-2);
- Substantially degrade the existing visual character or quality of the site and its surroundings (see Impact Statement 5.3-1); and/or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (see Impact Statement 5.3-3).

Potential impacts are categorized below according to topic. Mitigation measures at the end of this Section directly correspond to the numbered impact statements below.

## **VISUAL CHARACTER**

5.3-1 *The 1999 Specific Plan Amendment would substantially degrade the existing visual character and quality of the site and its surroundings by changing height and building setbacks throughout the Specific Plan area. Impacts would be reduced to a less than significant level with implementation of project design measures and implementation of recommended mitigation measures to maintain minimum setback and height requirements.*

The proposed 1999 Specific Plan Amendment would be similar to the 1994 Specific Plan in that it would permanently alter the visual character of the area as a result of increased densities and the loss of open space and trees. There are no significant

changes to land uses, densities, lot coverage, building area and grading requirements in the 1999 Specific Plan Amendment. Therefore, the impacts identified in the 1994 EIR Addendum would remain similar for the proposed project.

The proposed 1999 Specific Plan Amendment proposes changes to the 1994 height and setback requirements. The Goals and Policies for visual quality in Mammoth Lakes are set by the General Plan and Vision Statement which were adopted in 1987 and 1992, respectively. There have been no changes in community values related to visual quality since the adoption of these two documents. When evaluating visual impacts, the setback from a roadway or adjacent uses combined with the height of the structure should be considered to assess whether the massing of the proposed building would be visually compatible with surrounding land uses. This evaluation would include an analysis to determine if views would be significantly obstructed.

### Building Setbacks

A graduated scale for setbacks is proposed in the 1999 Specific Plan Amendment, based on the height of the building. This scale is indicated in Table 5.3-1, *Building Setbacks from Roadways and District Boundaries*.

The 1999 Specific Plan Amendment proposes certain changes to the setback requirements contained in the 1994 Specific Plan. Table 5.3-1 summarizes the setback requirements under the 1999 Specific Plan Amendment and compares the setbacks under the 1991 and 1994 Specific Plans with the 1999 Specific Plan Amendment. The most substantial change is the return of the setback for buildings over 55 feet in height from 75 feet back to 40 feet as approved in the 1991 Specific Plan.

The 1999 Specific Plan Amendment retains a number of setback requirements from the 1994 Specific Plan, including the following:

- Setbacks are proposed to be a minimum of 10 feet for buildings up to 24 feet, 20 feet for buildings up to 34 feet and 30 feet for buildings up to 54 feet along Minaret Road, Canyon Boulevard, Lake Mary Road, Main Street, Millers Siding, Forest Trail, Hillside, Lakeview, and Berner Street. Setbacks along the Specific Plan boundary remain at 10 feet for buildings up to 34 feet and 20 feet for buildings up to 54 feet.
- Building setbacks from streets and district boundaries shall be measured on a sliding scale based on land use zoning designations, building heights, and street location.

**Table 5.3-1**  
**SETBACK COMPARISONS**  
(Comparison of Approved 1994 Plan and Proposed 1999 Amendment)

Location	Year of Proposal	Building Height 0-24 feet	Building Height 25-34 feet	Building Height 26-40 feet	Building Height 35-54 feet	Building Height 36-50 feet	Building Height above 50 feet	Building Height above 55 feet
Minaret and Lake Mary Road	1991	10	20			30	40	
	1999	10	20 but 15' for a 350 foot section of building on west side of Minaret		20 but 15' for a 350 foot section of building on west side of Minaret			40 but 15' for a 350 foot section of building on west side of Minaret
	1994	10	20		30			75
Forest Trail	1991	10	20			30	40	
	1999	10	20		30			40
	1994	10	20		30			75
Millers Siding/ Canyon	1991	10	20			30	40	
	1999	10 but 5' for a 100 foot section of building on north side of Canyon Blvd.	20 but 10' for a 100 foot section of building on north side of Canyon Blvd.		30 but 15' for a 100 foot section of building on north side of Canyon Blvd.			40 but 20' for a 100 foot section of building on north side of Canyon Blvd.
	1994	10	20		30			75
Bernier	1991	10	20			30	40	
	1999	10 but 5' for a 90 foot section of building on west side of Bernier	10 but 5' for a 90 foot section of building on west side of Bernier		20 but 10' for a 90 foot section of building on west side of Bernier			40 but 20' for a 90 foot section of building on west side of Bernier
	1994	10	10		20			75

Aesthetics/Light and Glare

Location	Year of Proposal	Building Height 0-24 feet	Building Height 25-34 feet	Building Height 26-40 feet	Building Height 35-54 feet	Building Height 36-50 feet	Building Height above 50 feet	Building Height above 55 feet
Hillside/Lakeview	1991	20		30			40	
	1999	10	20		30			40
	1994	10	20		30			75
Main Street	1991	20	30			30	40	
	1999	10	20		30			40
	1994	10	20		30			75
District Boundaries	1991	10	20			30	40	
	1999	10	10		20			40
	1994	10	10		20			75

- Within the PR district, no setbacks shall be required on internal side and rear lot lines. In RG and SL districts, side and rear setbacks shall be a minimum of 10 feet unless adjacent to a street.
- All structures shall comply with the proposed setbacks from final lot line after final rights-of-way and dedications have been made. Where Specific Plan boundaries are adjacent to United States Forest Service (U.S.F.S.) lands, adjustments in the stated setbacks will be allowed with U.S.F.S. approval, to allow for the development of a ski-back trail and skier bridge.
- Within the Pedestrian Core area, adjustments of up to 10 percent in setback requirements may be allowed in order to facilitate the development of major plaza areas, pedestrian access, transit connections, and retail/commercial visibility along Minaret Road.
- Supports for bridges do not have to meet setback standards.

The 1999 Specific Plan Amendment proposed the following changes to the 1994 Specific Plan setback requirements:

- The gondola support towers and the gondola building along the realigned Canyon Boulevard do not have to meet setback requirements. The gondola's front support mast may be placed within the Canyon Boulevard right-of-way, if approved by the Community Development Director.

- Transit facilities, information kiosks, etc., may be allowed in setback areas with Town approval.
- Buildings along Minaret Road between Main Street and Forest Trail must be set back at least 43 feet from the centerline of the roadway.
- The setback from all streets for buildings over 55 feet in height is reduced from 75 feet to 40 feet.

The following encroachments into the setback areas are proposed in the 1999 Specific Plan Amendment:

- For the area north of the realigned Canyon Boulevard extending from 160 feet east of the Hillside Drive centerline to 260 feet east of the Hillside Drive centerline, setbacks from Canyon Boulevard shall be reduced 50 percent for all building heights.
- For the area west of Minaret Road, extending from 100 feet south of the existing Forest Trail centerline, setbacks from Minaret Road for all building heights over 24 feet shall be 15 feet.
- For the area west of the realigned Berner Street, setbacks may be reduced by 50 percent for all building heights along no more than 90 feet of contiguous road frontage.

A reduction in setback could be considered to be a significant visual degradation impact if it would substantially degrade the overall visual character of an area while being inconsistent with the planned uses of the subject area. Potentially significant impacts may also occur if the setback reduction would allow buildings to obstruct significant views from nearby land uses.

Two of the proposed changes to setbacks involve the placement of gondola towers and kiosks within the setback area. These structures are typically small and would not obstruct a scenic viewshed nor alter the visual character of an area. The 43-foot setback requirement for structures along Minaret Road is a requirement of Caltrans and would be less restrictive than the other requirements of the Specific Plan related to setbacks.

The proposed reduction in setbacks for structures over 55 feet tall from 75 feet to 40 feet is consistent with the setbacks approved and adopted in the 1991 Specific Plan and EIR. The 1991 EIR did not identify this impact to be significant if mitigation measures were implemented related to design review matters. The 1999 Specific Plan Amendment includes requirements which address modulation in building walls and

facades, stepping of roof forms and detailing of exterior treatments and finishes and are to be further clarified in Design Guidelines.

The proposed encroachments into the setback areas would occur along the west side of Minaret Road just south of the intersection of Forest Trail, along the north side of Canyon Boulevard just east of the intersection of Hillside Drive, and along the west side of Berner Street just south of the proposed intersection of Forest Trail. These encroachments, when combined with building heights, can have the effect of enclosing the street space and obstructing views. However, the Minaret Road encroachment would be balanced by the site development standards described in Section 3.0, the *Project Description*, which require buildings on the east side of Minaret Road to be one and two stories which opens up the street space and maintains views to the south and east. In addition, the 1999 Specific Plan Amendment proposes to eliminate the pedestrian bridge across Minaret Road at the location of the encroachment which reduces the existing impact of view obstruction to the south and east from Minaret Road. Again, the 1999 Specific Plan Amendment addresses modulation in building walls and facades, stepping of roof forms and detailing of exterior treatments and finishes and in order to reduce the visual quality impacts.

Likewise, the Canyon Boulevard encroachment is proposed along a 100 foot section of the roadway and would allow a 5-foot setback for portions of buildings up to 34 feet high, a 15 foot setback for portions of buildings up to 54 feet high and a 20 foot setback for portions of buildings over 55 feet high. Also, the gondola building is proposed to have a 0 foot setback from Canyon Boulevard. The designated location of the encroachment would not be located in an area that would obstruct a significant viewshed or long-range views to the east. It would be located at the beginning of the curve in Canyon Boulevard, which turns away from the encroachment, opening up the viewshed area to the east. In addition, the 1999 Specific Plan Amendment would eliminate the 300-foot long tunnel formed by the 1994 Specific Plan design of Canyon Boulevard and the gondola. Although the gondola building is proposed to have 0 foot setbacks from Canyon Boulevard, the elimination of the tunnel improves the views from the street, leaving the viewshed unobstructed to the south and east. Mitigation measures which address modulation in building walls and facades, stepping of roof forms and detailing of exterior treatments and finishes are recommend to reduce the visual quality impacts.

Finally, the Berner Street encroachment is proposed along a minor local street. The visual character of this area is heavily forested and the site is located in a depression with limited views in all directions out of the Specific Plan area. The proposed 5-foot setback for buildings up to 34 feet is not unprecedented in Mammoth Lakes. The 10-foot setback for portions of buildings up to 54 feet would create a very enclosed space along the public street but would not obstruct a significant view. The 20-foot setback for portions of buildings over 55 feet would also create a confining space but the

proposed location would not obstruct a significant viewshed. However, the Berner Street encroachment may create a visual impact to the character of the surroundings. Therefore, mitigation measures are recommended to offset the building height with lower heights across the street.

### Building Heights

Thresholds of significance for building heights are the same as for building setbacks. If the project has an adverse effect on a scenic vista or substantially degrades the visual character of quality of the site or its surroundings, the project could have a significant effect on the environment.

Table 5.3-2 summarizes the proposed building heights under the 1999 Specific Plan Amendment and compares building heights for various land use components under the 1991 and 1994 Specific Plans with those proposed in the 1999 Specific Plan Amendment. Under the 1999 Specific Plan Amendment, the total maximum structure heights (i.e., the maximum permitted building height above a parking garage plus the maximum height of building projections) are generally similar to the 1994 Specific Plan and fall within the range of heights evaluated under both the 1991 EIR and the 1994 EIR Addendum. The following paragraphs describe the height comparison in detail.

The 1994 Specific Plan allows, within the Pedestrian Core overlay zone, a maximum permitted building height above a parking structure of 50 feet and a maximum height with projections of 80 feet. The proposed 1999 Specific Plan Amendment would vary the maximum building height above a parking structure in the Pedestrian Core, based upon the location, from 25 to 75 feet and the maximum height with projections from 35 to 90 feet. With the 1999 locational criteria, the building massing is roughly similar to the 1994 Specific Plan. For the RG and SL districts, the 1999 Specific Plan Amendment would not change the maximum building heights or the maximum height with projections.

The proposed total height of the gondola building is 70 to 105 feet. This proposed height is generally consistent with the total height of 70 to 112 feet permitted under the 1994 Specific Plan.

**Table 5.3-2  
HEIGHT COMPARISONS  
(Comparison of Approved 1991 Plan, 1994 Plan and Proposed Specific Plan Amendment)**

Year of Proposal	Use/Location	Maximum Permitted Height in feet	Maximum Projected Height in feet	Maximum Garage Height above Grade in feet	Total Permitted to Projected Height Above Grade in feet
<b>Requirements Generally in the PR District in the western portion of the Village/Pedestrian Core</b>					
1991	West Plaza Hotels or PR District (roughly the west Village)	65	100	25	90-125
1991	Commercial with Residential Above	45	55	25	70-80
1991	Commercial only in PR District	35	55	25	55-75
1991	Residential Only	45	55	25	70-80
1999	Resort Lodging in Village	75	90	20	95-110
1999	Mixed Use in Village	60	80	20	80-100
1999	<del>Commercial Only</del> Commercial/Retail Use Area	25	35	20	45-55
1999	Goldola Bldg.	50	85	20	75-105
1994	PR District and some RC (in Pedestrian Core)	50	80	20	70-100
<b>Requirements Generally in the PR District in the eastern portion of the Village/Pedestrian Core</b>					
1991	East Plaza Hotels in PR District	55	65	25	80-90
1991	Commercial with Residential Above	45	55	20	65-75
1991	Commercial Only in RC District	35	55	25	55-75
1991	Residential Only	45	55	20	65-75
1999	Mixed Use in Village	60	80	20	80-100
1999	Commercial Retail Only	25	35	20	45-55
1994	PR and RC Districts in Pedestrian Core	50	80	20	70-100

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Year of Proposal	Use/Location	Maximum Permitted Height in feet	Maximum Projected Height in feet	Maximum Garage Height above Grade in feet	Total Permitted to Projected Height Above Grade in feet
<b>Requirements for projects which are not in the Village or the Pedestrian Core but in the process or RG District</b>					
1991	Commercial with lodging above	45	55	0	45-55
1991	Commercial Only in RG District	35	55	20	55-75
1991	Residential Only	45	55	0	45-55
1999	RG District	40	50	20	60-70
1994	SL District (not in Pedestrian Core)	40	50	20	60-70
<b>Requirements for Residential only projects</b>					
1991	SL District (all)	45	55	0	45-55
1999	SL District (all)	40	50	20	60-70
1994	SL District (not in Pedestrian Core)	40	50	20	60-70

\* 50% of the building may reach the projected height under the 1999 Specific Plan Amendment, whereas the 1991 and 1994 Plans permitted buildings to reach the projected height if an equal area of the building were below the permitted height. The 1999 Specific Plan Amendment would allow more of each building reaching the higher end of the total height range.

\*\* Does not include 12 foot bonus if affordable housing is provided within the building.

For the PR district in the eastern portion of the Village in the Pedestrian Core, the Specific Plan Amendment proposes a total height (including a parking garage) of 45 to 100 feet for the mix of projects, compared to 70 to 112 feet under the 1994 Specific Plan. This is a reduction in visual impact relative to building height.

In Resort General and Specialty Lodging districts when a substantial number of affordable housing units is provided within a proposed development, a one floor increase (maximum 12 feet in height and equivalent in area to the number of affordable units provided in building height may be permitted if all other development standards are met (particularly in relation to shading, solar access and view corridors), is proposed subject to the approval of the Planning Commission. This requirement included in the 1999 Specific Plan Amendment modifies the 1994 Specific Plan requirement by allowing the 12-foot increase only in the Resort General and Specialty Lodging districts rather than all three districts. Therefore, the visual impact of the 1999 Specific Plan Amendment would be reduced compared to the 1994 Specific Plan.

Aesthetics/Light and Glare

As previously mentioned, the 1991 EIR identified the loss of forested and open space areas throughout the Specific Plan area as a significant aesthetic impact. Mitigation measures, including maintaining a forested buffer of 100 feet along Lake Mary Road, the southern extension of Minaret Road, and along the western and eastern edges of the Specific Plan area, were recommended in the 1991 EIR and 1994 EIR Addendum to reduce this impact to a less than significant level. It is important to note that a continuous 100-foot forested buffer does not currently exist at these locations; although mature trees are sporadically located and clustered along some of these areas. In addition, development has occurred since 1991 and 1994 within and around the Specific Plan area reducing the forested character of the area. For example, the Sierra Star golf course has been completed south of the Specific Plan area, single family homes have been built west of the Specific Plan area and additions have been made to existing buildings which have resulted in a loss of general tree cover.

The mitigation measure as stated in the 1991 EIR (summarized above) is too vague to implement. It is not clear from where the 100-foot buffer is to be measured: pavement edge, adjoining structures, setback lines or other. It is clear that the intent was to preserve the forested character of the Specific Plan area. Many mitigation measures address this objective. This EIR recommends a tree preservation and replacement plan (refer to mitigation measures in this Section as well as Section 5.9, *Biological Resources*, for additional information). Further, the Mammoth Lakes General Plan addresses the goals of the community to retain the forest character and, more specifically, a forest canopy. The zoning regulations implement these goals by establishing building setbacks, lot coverage standards, separation between commercial and residential land uses of at least 15 feet and grading and clearing restrictions. Buffers to retain a forest character have not been the method for preserving trees in any development in Mammoth Lakes which is designated for development opportunities. The Specific Plan area is designated in the General Plan for commercial development. It is appropriate, where the commercial development backs up to low density residential development, to require additional setbacks. It is also appropriate to preserve existing trees where they exist rather than designating an area for non-development which may or may not contain a forest canopy. The tree preservation measures should include defined increased setbacks or tree preservation pockets. Adherence to the Town's Development Code relative to grading and clearing requirements, and the addition of clarity to the mitigation measure to replace the previous mitigation measure and mitigate impacts in this regard to a less than significant level.

Similar to the 1994 Specific Plan, construction equipment and staging locations would be visible from both on-site and from surrounding areas during construction within the Specific Plan area. This visual impact would be short-term and cease upon project completion. Although this short-term impact would not be greater than that anticipated for the 1994 Specific Plan, mitigation measures to guide the selection of staging areas

were not provided in the previous environmental documentation. As such, a mitigation measure has been included in this EIR.

5.3-2 *The proposed 1999 Specific Plan Amendment may obstruct a scenic vista or substantially damage a scenic resource. Analysis has concluded that impacts are less than significant provided mitigation measures from the 1991 EIR and 1994 EIR Addendum are implemented.*

The discussion under the Visual Character Impact Statement 5.3-1 addressed the potential impact as it related to obstruction of views. Obstruction of scenic vistas and resources is discussed below.

As stated in the significance criteria discussion, a project may create a significant aesthetic impact if it would create a substantial adverse effect on a scenic vista or substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. As explained in the Existing Conditions discussion, while no designated scenic vistas or highways are located within the Specific Plan area, motorists traveling south along Minaret Road, south of Miller's Siding Road, have significant views of the Sherwin Range to the south. A significant visual impact would occur if the proposed 1999 Specific Plan Amendment would create a view obstruction on this range beyond impacts anticipated from the previously approved Specific Plan.

Long-range mountain views available to motorists traveling south along Minaret Road would not be impacted by the proposed design revisions. Elimination of the pedestrian bridge over Minaret Road improves the long-range views to the south as seen from Minaret Road.

It should be noted that Mitigation Measure 4.11-3(d) in the 1994 EIR Addendum discussed height and massing guidelines for the pedestrian overpass of Minaret Road. Since the proposed 1999 Specific Plan Amendment no longer includes an overpass at this location, this measure is not applicable to the current project.

## LIGHT AND GLARE

5.3-3 *The proposed 1999 Specific Plan Amendment may introduce additional light and glare into the Specific Plan area and the surrounding neighborhoods. Impacts would be reduced to a less than significant level with implementation of recommended mitigation measures.*

Implementation of the proposed 1999 Specific Plan Amendment would not create additional sources of light and glare beyond the levels anticipated from the 1994 Specific Plan. As such, significant impacts beyond those anticipated in the previous environmental documentation would not occur.

Aesthetics/Light and Glare

As stated in the Significance Criteria discussion, a significant light and glare impact would occur if a project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Although the orientation of the structures has been redesigned when compared to the 1991 and 1994 conceptual development plans, light sources would be required to be directed away from adjacent uses and light sources within the Plaza area would be required to be directed toward on-site uses. Implementation of mitigation measures from the 1991 EIR and 1994 EIR Addendum are also included in this Section, together with standard Town Code requirements regarding the use of directive lighting, would reduce potential impacts to less than significant levels.

## CUMULATIVE IMPACTS

5.3-4 *Build-out of the Specific Plan, together with cumulative projects, may alter the nature and appearance of the areas and contribute to the loss of open space. Analysis has concluded that no significant impacts beyond the analysis contained in the Mammoth Lakes General Plan and General Plan EIR are anticipated.*

Cumulative impacts can be mitigated with the use of building materials that are consistent with the general character of the area, landscaping design, and proper lighting techniques to direct light on-site and away from adjacent properties.

The general alteration of the Specific Plan area due to cumulative development and the loss of open space was previously analyzed in the General Plan EIR. Page 234 of the General Plan EIR concludes that General Plan policies, if implemented in the General Plan, would reduce the impact of development on the visual resources of the community. The proposed project, along with cumulative development consistent with the Town policies, would not result in modifications to the conclusions rendered in the General Plan EIR for Aesthetics/Visual Resources. To ensure consistency, specific project design and siting criteria are typically reviewed on a project-by-project basis.

## MITIGATION MEASURES

The following mitigation measures directly correspond with the numbered impact statements in the Impacts analysis. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

## VISUAL CHARACTER

5.3-1a *(Measure modified from Mitigation Measure 4.11-1(a) in the 1994 EIR Addendum): To the maximum extent feasible practical, the proposed*

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Aesthetics/Light and Glare

project shall retain forested areas, and the development shall remain subordinate to the natural character of the site and surrounding landscape.

- 5.3-1b *(Measure modified from Mitigation Measure 4.11-1(b) in the 1994 EIR Addendum):* Prior to final approval of project development plans, the applicant shall submit a tree preservation and replacement plan pursuant to the Municipal Code, Zoning, requirements related to grading and clearing. The Preservation and Replacement Plan, including the type, size, number and location of replacement trees shall be subject to the approval of the Town of Mammoth Lakes Community Development Director.
- 5.3-1c *(Measure restated from Mitigation Measure 4.11-1(c) in the 1994 EIR Addendum):* Contour grading shall be used to blend manufactured slopes into the natural terrain. Grading shall be minimized to preserve existing landform and vegetation to the greatest extent possible.
- 5.3-1d *(Measure restated from Mitigation Measure 4.11-1(e) in the 1994 Addendum EIR):* The landscape design for the site shall maximize the use of existing vegetation, and where new plants are introduced, they shall include, and/or blend with, plants native to the Mammoth Lakes environment. Landscape plans for the site shall be completed by a certified landscape architect.
- 5.3-1e *(Measure restated from Mitigation Measure 4.11-1(f) in the 1994 EIR Addendum):* To the maximum extent ~~feasible~~ practical, native trees and landscaping shall be concentrated around all structures located on the project site.
- 5.3-1f *(Measure modified from Mitigation Measure 4.11-1(g) in the 1994 EIR Addendum):* Grading techniques shall be used which minimize the area of disturbance and shall incorporate such methods as decorative retaining walls rather than slopes to minimize the area of disturbance.
- 5.3-1g *(Measure restated from Mitigation Measures 4.4-1(a) and 4.11-2(a) in the 1994 EIR Addendum):* The height of the proposed gondola shall be maintained at or near a maximum of 90 feet (just below the tree line), in order to protect views from adjacent residential buildings.
- 5.3-1h *(Measure restated from Mitigation Measures and 4.4-1(b) and 4.11-2(b) in the 1994 EIR Addendum):* To the maximum extent ~~feasible~~ practical, existing trees located along the gondola easement shall be retained. Replacement trees, in addition to those existing, shall be planted

**Aesthetics/Light and Glare**

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adjacent to the gondola easement (with property owner approval) in order to create a buffer that will protect privacy and minimize visual impacts on affected properties.

- 5.3-1i      *(Measure restated from Mitigation Measure 4.4-1(c) and 4.11-2(c) in the 1994 EIR Addendum):* Natural earth-tone colors and non-glare, non-reflective materials shall be used for the gondola towers and cabins.
- 5.3-1j      *(New Mitigation Measure):* Staging locations shall be indicated on project Building Permit and Grading Plans and shall be subject to review by the Town of Mammoth Lakes Community Development Director in accordance with Municipal Code requirements.
- 5.3-1k      *(New Mitigation Measure):* Upon submittal of Final Development Plans to the Town for the individual development sites, the applicant shall demonstrate that long-range views of the Sherwin Range are incorporated into the project design.
- 5.3-1l      *(New mitigation measure):* Proposed building heights along Berner Street may encroach into the setback areas as proposed, if the development on the east side of Berner Street is limited to 40 feet.
- 5.3-1m      *(Measure modified from Mitigation Measure 4.11-1(d) in the 1994 EIR Addendum):* A forested buffer shall be maintained for parcels which front along Lake Mary Road, along Minaret Road (south of Main Street) and along the boundaries of the Specific Plan area. The buffers for properties with frontage along Lake Mary Road and Minaret Road south of Main Street shall consist of preservation of trees within the 200 foot and 80 foot right-of-ways, respectively, to the extent vehicular and pedestrian travel is not impeded, coupled with the setback requirements of the development sites. The buffer for properties adjacent to the Specific Plan boundaries shall be defined as a building setback area of no less than 20 feet to buildings up to 35 feet tall. Portions of buildings which exceed 35 feet adjacent to the Specific Plan boundaries shall require an additional setback of generally 1 foot for every two feet of building height beyond the 20 foot minimum setback. Trees shall be maintained within the buffer area, except for required vehicular and pedestrian access. This will require that buildings be designed and constructed so that the buffer area is maintained. Where existing structures encroach into this buffer area, building demolition may be permitted subject to a revegetation plan which recreates a buffer. Where few trees exist in the buffer area, a 20 foot setback to buildings shall be maintained and additional area(s) of existing trees shall be

preserved and protected to create a forested character within the development.

## SCENIC VISTAS AND RESOURCES

- 5.3-2a *(Measure restated from Mitigation Measure 4.11-3(a) in the 1994 EIR Addendum):* Adoption of the North Village Specific Plan shall include all provisions for design review stated in the Plan, with all phases and developments proposed within the Specific Plan area undergoing review by a Town-appointed Design Review Committee and/or Planning Commission.
- 5.3-2b *(Measure modified from Mitigation Measure 4.11-3(c) in the 1994 EIR Addendum):* The architectural style for the development shall blend with the site's natural setting. Rooflines shall reflect (step down) the slope of the site, and natural "earth tone" colors and materials such as stone and wood shall be emphasized. Conformance shall be assured through the Town's design review procedures.

## LIGHT AND GLARE

- 5.3-3a *(Measure modified from Mitigation Measure 4.12-1(a) in the 1994 EIR Addendum):* The Design Guidelines shall require that all exterior lighting be designed and located so as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the project site. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development to the degree feasible. Lighting fixtures shall use shielding, if necessary, to prevent spill lighting on adjacent off-site uses.
- 5.3-3b *(Measure modified from Mitigation Measure 4.12-1(b) in the 1994 EIR Addendum):* Lighting used for various components of the development plan be reviewed under North Village Specific Plan design guidelines which shall include review of light intensity levels, fixture height, fixture location, and design.
- 5.3-3c *(Measure restated from Mitigation Measure 4.12-2 in the 1994 EIR Addendum):* The project shall use minimally reflective glass and all other materials used on exterior buildings and structures (including the gondola cabins and towers) shall be selected with attention to minimizing reflective glare.

- 5.3-3d      *(Measure modified from Mitigation Measure 4.12-1c in the 1994 EIR Addendum):* Vegetative buffers shall be used to reduce light intrusion on residential development and on forested areas located adjacent to the project site.

**CUMULATIVE**

- 5.3-4      No mitigation measures are required.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The 1991 EIR and 1994 EIR Addendum identified the location and route of the gondola as a significant and unavoidable visual impact. The proposed 1999 Specific Plan Amendment would not increase impacts from the gondola beyond those anticipated in the 1991 Specific Plan EIR and 1994 EIR Addendum. Potential impacts to scenic vistas, scenic resources, visual character and lighting/glare affects are mitigated to a level that is less than significant.



## 5.4 TRAFFIC/CIRCULATION

The purpose of this Section is to describe the changes in the project which may have new significant environmental effects on traffic. The following describes existing traffic conditions within the 1999 Specific Plan Amendment area and in the Specific Plan vicinity. The analysis addresses potential project traffic impacts resulting from the proposed 1999 Specific Plan Amendment. Mitigation measures are recommended to reduce the significance of impacts. Traffic impact information for this Section was compiled from the *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, (July 25, 2000, LSA Associates, Inc.), the *Intrawest Master Plan Master Plan Traffic Impact* (July 25, 2000, LSA Associates, Inc.), the *Shared Parking Analysis for Gondola Village*, (November 23, 1999, LSC), and the *Resort Condominium Parking Demand at Mammoth Lakes, CA*, (February 23, 1999, Walker Parking Consultant). This Section is also based upon reference data from the Mammoth Lakes General Plan, associated General Plan Environmental Impact Report (EIR), Mammoth Transportation Model (MTM), and the Mammoth Lakes Municipal Code.

### Introduction

This impact analysis and the resulting mitigation measures represent a substantial departure from the analysis conducted for the 1991 Specific Plan in the 1991 EIR, for the 1994 Specific Plans in the 1994 EIR Addendum, and the 1997 Redevelopment Plan traffic impact analysis. At the onset of the technical analysis, Town staff specifically outlined several analysis procedures and impact thresholds that differed from the earlier analyses. The specific procedures are summarized in a letter dated June 26, 1998, included in the appendix of the *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, (July 25, 2000, LSA Associates, Inc.), contained in Appendix 16.3. The fundamental thrust of the changed procedures was to : 1) avoid substantial road widenings and intersection improvements to support peak winter weekend conditions only; 2) provide a level of service (LOS) consistent with other rural areas; 3) encourage transit use; and 4) reduce physical environmental impacts.

The following is a summary of the changed conditions under which this impact analysis has been prepared compared to the analyses contained in the 1991 EIR and 1994 EIR Addendum, and the Redevelopment Plan traffic impact analyses. These represent the thresholds of significance:

- A. The multimodal transportation model prepared by Robert Kahn, John Kain and Associates (RKJK) was used to generate vehicular trips. This model, using Town buildout assumptions for all land uses according to the General Plan, incorporated existing constraints at the Main lodge and other ski portals, as well as the basic transit system in use today. The skier attraction of 24,000 Skiers At

One Time (SAOT) for Mammoth Mountain and 8,000 SAOT for Sherwin Mountain were also incorporated. Application of this model represents a substantial change from the earlier traffic studies that applied a manual process for traffic generation and assignments, an assumed transit mode split, and no constraint for ski portal parking.

- B. A typical winter Saturday condition is used for impact analysis rather than the peak winter Saturday, which was used in all previous impact analyses. The typical winter Saturday is consistent with standard engineering practice, which would apply a criterion of the 30<sup>th</sup> to 50<sup>th</sup> highest hour for design purposes. The peak winter Saturday condition might occur up to 10 times annually, whereas the typical winter Saturday occurs about 10 to 20 times per year. Traffic volumes for typical winter Saturday are 15 percent lower than a peak Saturday.
- C. LOS criteria for intersections and roadways were changed from Level of Service (LOS) C to LOS D. This reflects a volume to capacity (v/c) ratio increase from 0.80 (LOS C) to 0.90 (LOS D). These are standard criteria for most cities and counties in California.
- D. Roadway LOS could exceed D if all intersections along such roadways are demonstrated to operate at an acceptable LOS.
- E. The traffic generation for Intrawest-owned development within North Village was reduced substantially from previous Specific Plan intensities due to the previous assumption of counting every bedroom as a lodging unit for traffic generation purposes. This is not accurate for multi-bedroom units, and therefore, the trip generation was revised and lowered to reflect the actual number of lodging units, and not bedrooms. This resulted in the reduction of several hundred units for traffic generation. If a development project is outside the parameters of the traffic study, additional environmental review may be required.

Application of these changed criteria eliminates the requirements for several roadway widenings and intersection improvements that were required as mitigation measures in the aforementioned previous traffic studies.

## **EXISTING CONDITIONS**

### **Traffic Volumes**

The 64.1-acre proposed 1999 Specific Plan Amendment area is approximately 50 percent developed with a variety of land uses including visitor-oriented retail, motels,

community center, and some private homes and rental condominiums. The remaining portions of the Plan area are undeveloped.

The Specific Plan area is generally bordered to the north by Forest Trail and U.S. Forest Service property, to the south by undeveloped portions of the Sierra Star Master Plan, to the west by Hillside Drive, and to the east by single-family residential development.

Exhibit 5.4-1 shows the location of the study area roadways and intersections. Exhibit 5.4-2 indicates the existing number of through lanes and intersection controls for the study area roadways and intersections. Exhibit 5.4-3 depicts the existing winter transit system. Exhibit 5.4-4 shows the existing daily roadway volumes for a typical winter Saturday; and Exhibit 5.4-5 shows the corresponding existing p.m. peak hour intersection volumes.

### **Levels of Service**

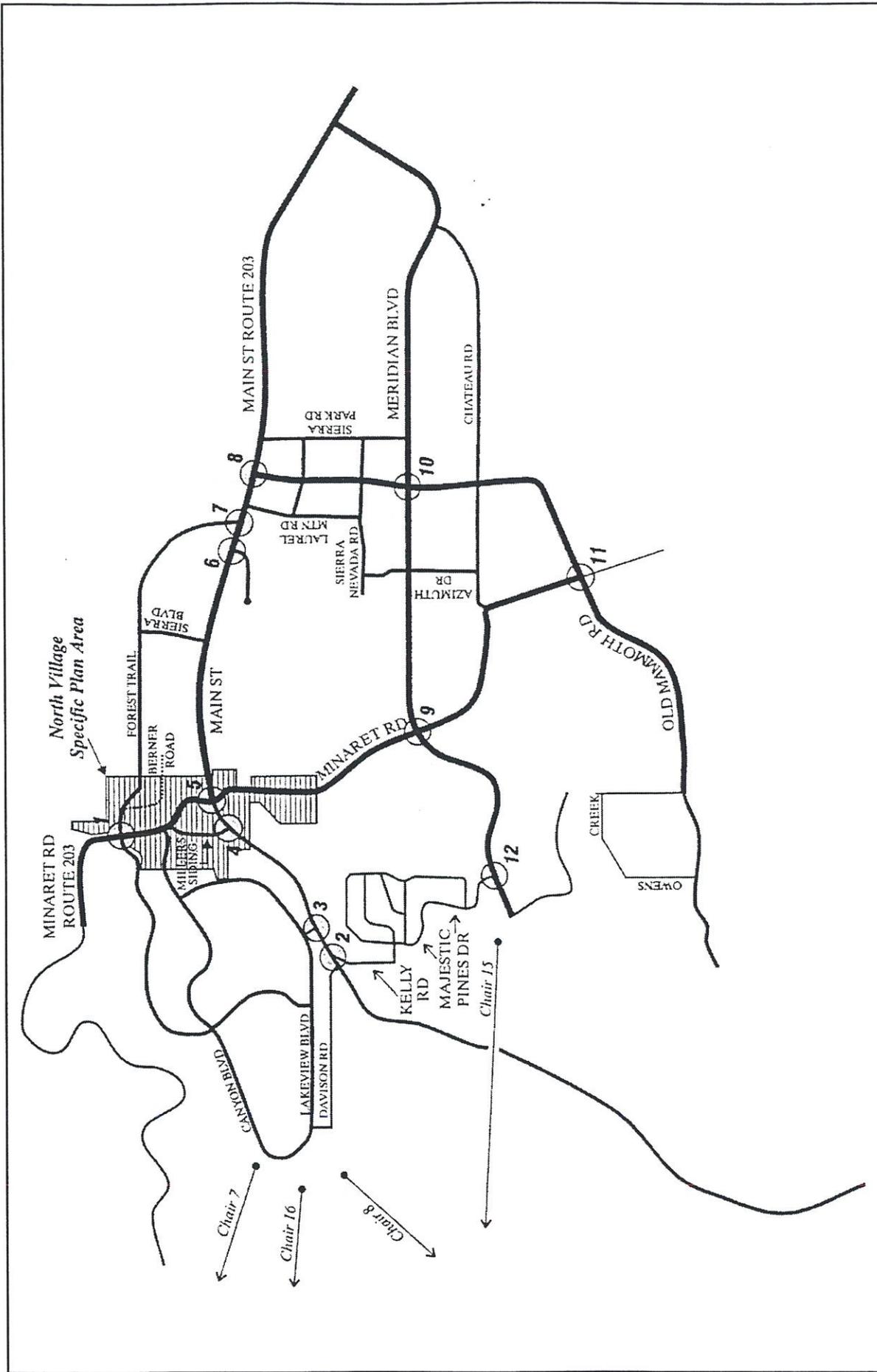
The Town of Mammoth Lakes level of service (LOS) standard for roadway segments and intersections is LOS D (detailed documentation regarding the Town's LOS standard is included in Appendix 16.3), which correlates to a volume-to-capacity (v/c) ratio of 0.90. Hence, a roadway segment or intersection is considered to be operating at an acceptable LOS when operating at LOS A to LOS D (v/c ratio of 0.90 or better). Additionally, the Town accepts worse than LOS D roadway segment operation if all intersections along such a roadway segment are demonstrated to operate at an acceptable LOS (LOS D or better) for a typical winter Saturday p.m. peak hour condition, or other time frames as deemed necessary by the Town.

Levels of service for study area roadways are based on a segment daily v/c ratio. Levels of service for study area signalized intersections are calculated using the intersection capacity utilization (ICU) analysis methodology, which defines LOS in accordance with a calculated v/c ratio based on the "sum of the critical movements" method. Unsignalized study intersections are analyzed based on the *Highway Capacity Manual* vehicle delay-based methodology.

Table 5.4-1 summarizes the LOS range correlated to v/c ratio, ICU, and delay. Table 5.4-2 summarizes the existing operation of the study area roadway segments for typical winter Saturday conditions.

As seen in Table 5.4-2, all study roadway segments are currently operating at an acceptable LOS for typical winter Saturday conditions. This includes the Forest Trail segment west of Minaret Road which operates at LOS A.





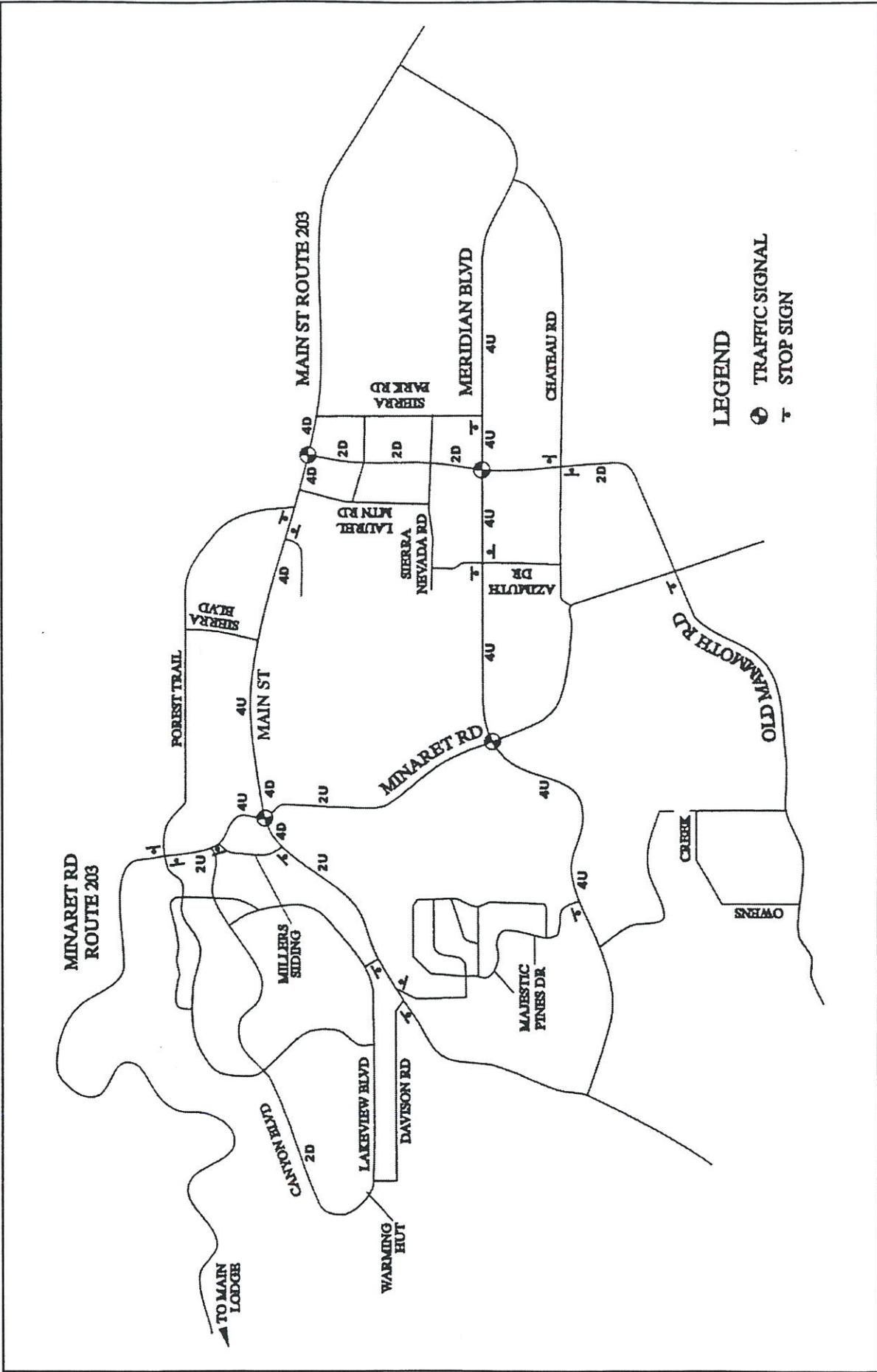
Source: LSA, December 3, 1999.



Not to Scale

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Study Area Roadway and Intersection Locations**





Source: LSA, December 3, 1999.

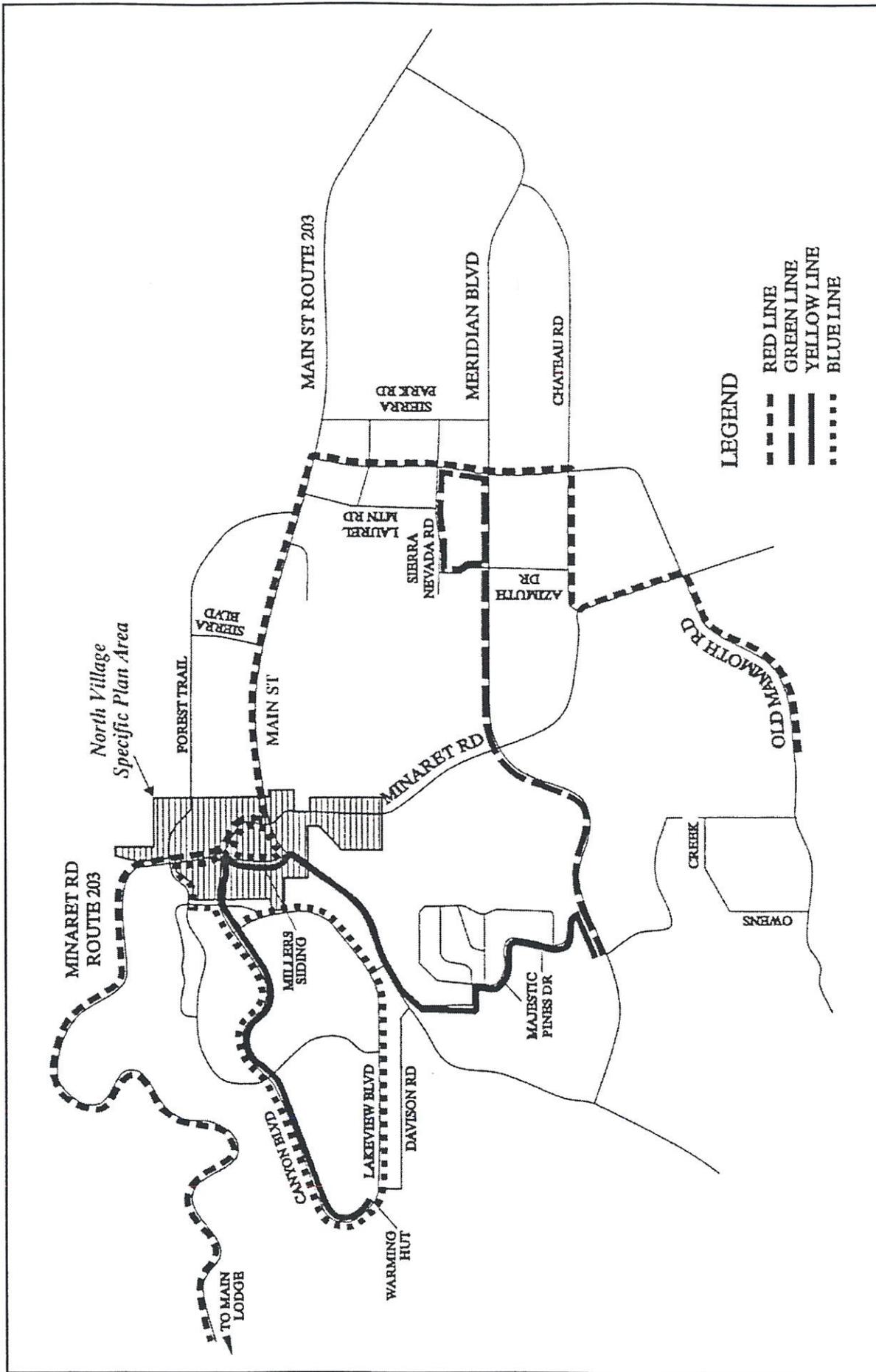


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# Existing Number of Through Lanes and Intersection Control Devices

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR





Source: LSA, December 3, 1999.

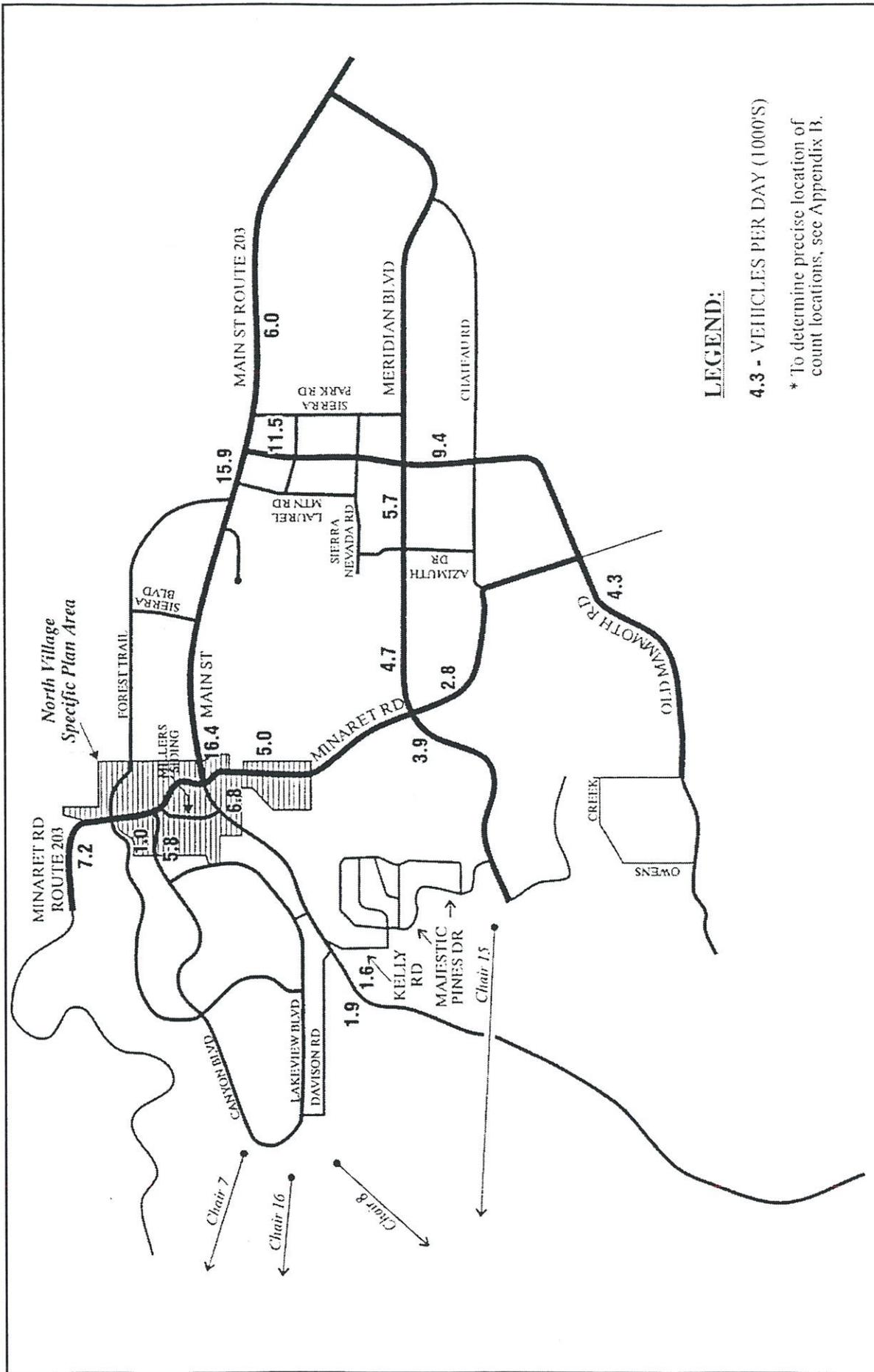


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**RF** Robert Bein, William Frost & Associates  
 JUN 10-100377  
 01/00

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Existing Winter Transit System**





**LEGEND:**

4.3 - VEHICLES PER DAY (1000'S)

\* To determine precise location of count locations, see Appendix B.

Source: LSA, December 3, 1999.



TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Existing Typical Winter Saturday Traffic Volumes**







**Table 5.4-1  
 LOS PARAMETERS**

LOS	Roadway Segments	Signalized Intersection	Unsignalized Intersections
	V/C Ratio	ICU	Seconds of Delay
LOS A	0.00 - 0.60	0.00 - 0.60	0.00 - 5.00
LOS B	0.61 - 0.70	0.61 - 0.70	5.01 - 10.00
LOS C	0.71 - 0.80	0.71 - 0.80	10.01 - 20.00
LOS D	0.81 - 0.90	0.81 - 0.90	20.01 - 30.00
LOS E	0.91 - 1.00	0.91 - 1.00	30.01 - 45.00
LOS F	> 1.00	> 1.00	> 45.00

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

v/c = volume to capacity ration

ICU = Intersection Capacity Utilization

**Table 5.4-2  
EXISTING TYPICAL WINTER SATURDAY ROADWAY LOS**

Roadway Segment	No. of Lanes	Daily Capacity	Existing Daily Volume - V/C - LOS
Forest Trail w/o Minaret Road	2U	11,700	1,000 - 0.09 - A
Canyon Boulevard e/o Lakeview Drive	2U	11,700	5,800 - 0.50 - A
Lake Mary Road w/o Davison Street	2U	11,700	1,900 - 0.16 - A
Lake Mary Road w/o Miller Siding	2U	11,700	6,800 - 0.58 - A
Main Street e/o Minaret Road	4U	22,500	16,400 - 0.73 - C
Main Street w/o Old Mammoth Road	4D	33,800	15,900 - 0.47 - A
Main Street e/o Sierra Park Road	4D	33,800	6,000 - 0.18 - A
Meridian Boulevard w/o Minaret Road	4U	22,500	3,900 - 0.17 - A
Meridian Boulevard e/o Minaret Road	4U	22,500	4,700 - 0.21 - A
Meridian Boulevard w/o Old Mammoth Road	4U	22,500	5,700 - 0.25 - A
Old Mammoth Road w/o Minaret Road	2U	11,700	4,300 - 0.37 - A
Kelly Road s/o Lake Mary Road	2U	11,700	1,600 - 0.14 - A
Minaret Road n/o Mammoth Knolls Drive	2U	11,700	7,200 - 0.62 - B
Minaret Road s/o Lake Mary Road-Main Street	2U	11,700	5,000 - 0.43 - A
Minaret Road s/o Meridian Boulevard	2U	11,700	2,800 - 0.24 - A
Old Mammoth Road s/o Main Street	2D	16,200	11,500 - 0.71 - C
Old Mammoth Road s/o Meridian Boulevard	2D	16,200	9,400 - 0.58 - A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

U - Undivided; D - Divided; w/o = west of; e/o = east of; n/o = north of; s/o = south of; v/c = volume capacity ratio; LOS = Level of Service

Table 5.4-3 summarizes the existing operation of the study area intersections for typical winter Saturday conditions.

**Table 5.4-3  
EXISTING TYPICAL WINTER SATURDAY INTERSECTION LOS**

Intersection	Traffic Control	ICU	Delay	LOS
Minaret Road/Forest Trail	2-way stop	N/A	1.1 seconds	A
Kelly Road/Lake Mary Road	1-way stop	N/A	1.2 seconds	A
Lakeview Boulevard Cut-Off/Lake Mary Road	1-way stop	N/A	3.7 seconds	A
Millers Siding/Lake Mary Road	1-way stop	N/A	0.7 seconds	A
Minaret Road/Lake Mary Road-Main Street	signal	0.69	n/a	B
Center Street/Main Street	2-way stop	N/A	1.0 seconds	A
Forest Trail/Main Street	2-way stop	N/A	7.1 seconds	B
Old Mammoth Road/Main Street	signal	0.86	n/a	D
Minaret Road/Meridian Boulevard	signal	0.38	n/a	A
Old Mammoth Road/Meridian Boulevard	signal	0.58	n/a	A
Minaret Road/Old Mammoth Road	2-way stop	N/A	2.0 seconds	A
Meridian Road/Majestic Pines Drive East	1-way stop	N/A	1.3 seconds	A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

ICU = Intersection Capacity Utilization

LOS = Level of Service

As seen in Table 5.4-3, all study intersections are currently operating at an acceptable LOS for typical winter Saturday peak hour conditions.

**EXISTING PLUS APPROVED PROJECTS CONDITIONS**

**Traffic Volumes**

To forecast existing plus approved projects (background conditions), traffic volumes from approved projects in the vicinity of the North Village Specific Plan area have been added to existing traffic volumes. The following projects have been approved in the vicinity:

- *Grey Hawk Subdivision* - 27 low density dwelling units and 44 high density seasonal units;
- *Sunstone Lodge* - 77 high density seasonal units; and
- *Juniper Springs Lodge* - 175 high density seasonal units.

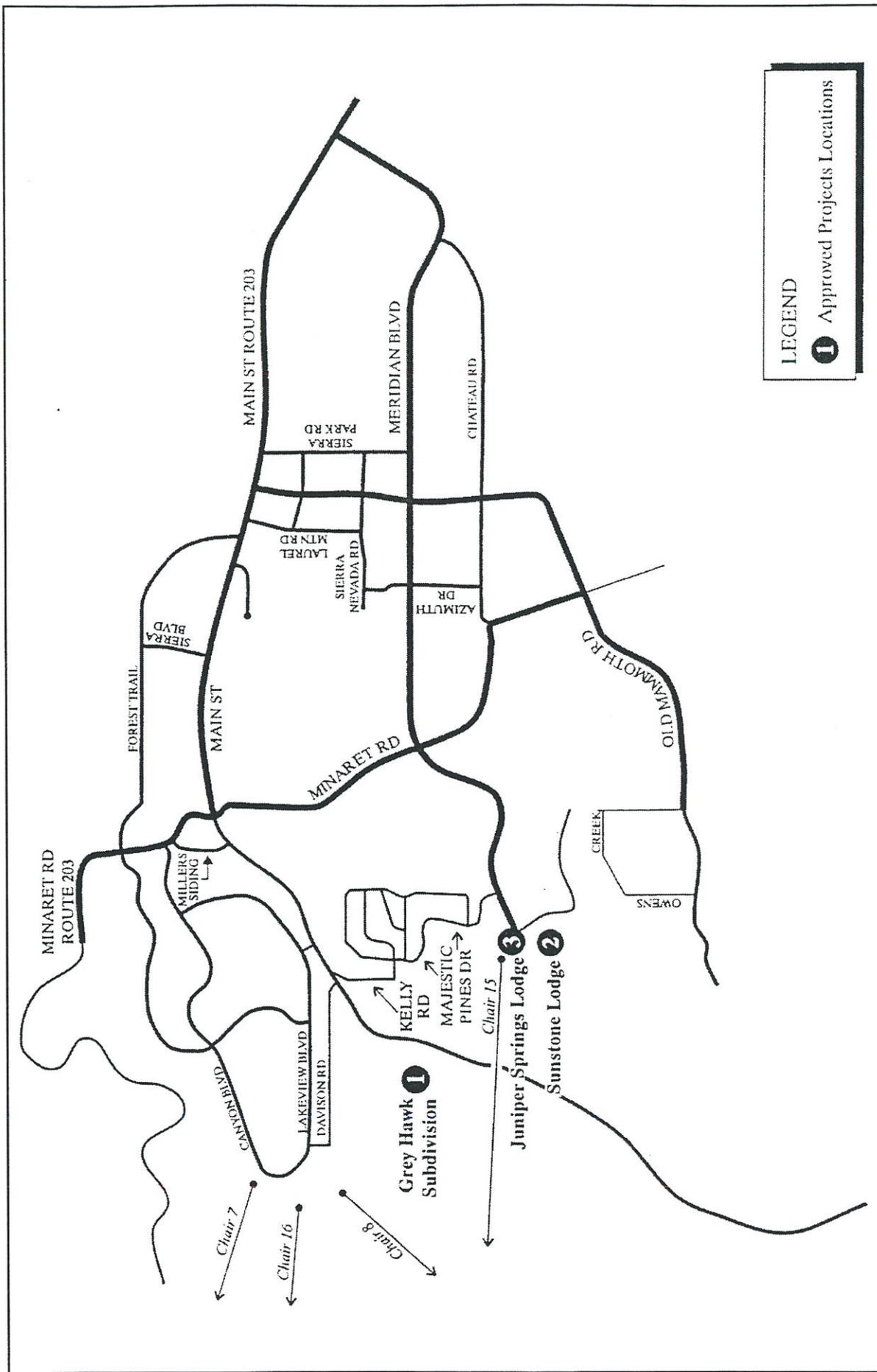
Exhibit 5.4-6 identifies the locations of the approved projects. Table 5.4-4 summarizes the trip generation rates used to calculate trips forecast to be generated by the approved projects while Table 5.4-5 summarizes the corresponding forecast trip generation of the approved projects.

**Table 5.4-4  
APPROVED PROJECTS TRIP GENERATION RATES**

Land Use	Daily	Saturday Peak Hour		
		In	Out	Total
<i>Grey Hawk</i> - Low Density Single-Family Year Round DU - High Density Multi-Family Seasonal DU	12.00/DU 8.00/DU	0.81/DU 0.50/DU	0.46/DU 0.25/DU	1.27/DU 0.75/DU
<i>Sunstone Lodge</i> - High Density Multi-Family Seasonal DU	8.19/DU	0.40/DU	0.32/DU	0.72/DU
<i>Juniper Springs Lodge</i> - High Density Multi-Family Seasonal DU	8.19/DU	0.40/DU	0.32/DU	0.72/DU

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

DU - Dwelling Unit



Source: LSA, December 3, 1999.



Not to Scale

**RB** Robert Bein, William Frost & Associates  
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TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Approved Projects**

Exhibit 5.4-6



**Table 5.4-5  
APPROVED PROJECTS FORECAST TRIP GENERATION**

Land Use	Units	Daily	Saturday Peak Hour		
			In	Out	Total
<i>Grey Hawk</i>					
- Low Density Single-Family Year Round DU	27 DU	324	22	12	34
- High Density Multi-Family Seasonal DU	44 DU	352	22	11	33
<i>Sunstone Lodge</i>					
- High Density Multi-Family Seasonal DU	77 DU	631	31	25	55
<i>Juniper Springs Lodge</i>					
- High Density Multi-Family Seasonal DU	175 DU	1,433	70	56	126
<b>Total</b>		<b>2,740</b>	<b>145</b>	<b>104</b>	<b>249</b>

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

DU - Dwelling Unit

As seen in Table 5.4-5, the approved projects are forecast to generate approximately 2,740 daily trips, of which approximately 249 are forecast to occur during the peak hour.

Exhibit 5.4-7 shows the forecast existing plus approved projects typical winter Saturday daily roadway volumes while Exhibit 5.4-8 shows the corresponding existing plus approved projects typical winter Saturday peak hour intersection volumes. Table 5.4-6 summarizes the forecast operation of the study area roadway segments for existing plus approved projects typical winter Saturday conditions. As seen in Table 5.4-6, all study roadway segments are forecast to operate at an acceptable LOS for existing plus approved projects typical winter Saturday conditions. This includes the Forest Trail segment west of Minaret Road which operates at LOS A.

**Table 5.4-6  
EXISTING + APPROVED PROJECTS TYPICAL WINTER SATURDAY ROADWAY LOS**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved Daily Volume - V/C - LOS
Forest Trail w/o Minaret Road	2U	11,700	1,000 - 0.09 - A
Canyon Boulevard e/o Lakeview Drive	2U	11,700	5,800 - 0.50 - A
Lake Mary Road w/o Davison Street	2U	11,700	2,800 - 0.24 - A
Lake Mary Road w/o Miller Siding	2U	11,700	7,400 - 0.63 - B
Main Street e/o Minaret Road	4U	22,500	16,800 - 0.75 - C
Main Street w/o Old Mammoth Road	4D	33,800	16,600 - 0.49 - A
Main Street e/o Sierra Park Road	4D	33,800	6,300 - 0.19 - A
Meridian Boulevard w/o Minaret Road	4U	22,500	5,800 - 0.26 - A
Meridian Boulevard e/o Minaret Road	4U	22,500	5,800 - 0.26 - A
Meridian Boulevard w/o Old Mammoth Road	4U	22,500	6,800 - 0.30 - A
Old Mammoth Road w/o Minaret Road	2U	11,700	4,300 - 0.37 - A
Kelly Road s/o Lake Mary Road	2U	11,700	2,000 - 0.17 - A
Minaret Road n/o Mammoth Knolls Drive	2U	11,700	7,700 - 0.66 - B
Minaret Road s/o Lake Mary Road-Main Street	2U	11,700	5,800 - 0.50 - A
Minaret Road s/o Meridian Boulevard	2U	11,700	3,000 - 0.26 - A
Old Mammoth Road s/o Main Street	2D	16,200	11,900 - 0.73 - C
Old Mammoth Road s/o Meridian Boulevard	2D	16,200	9,600 - 0.59 - A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

U - Undivided; D - Divided; w/o = west of; e/o = east of; n/o = north of; s/o = south of; v/c = volume capacity ratio; LOS = Level of Service









Table 5.4-7 summarizes the forecast operation of the study area intersections for existing plus approved projects typical winter Saturday conditions.

**Table 5.4-7  
EXISTING + APPROVED PROJECTS TYPICAL WINTER SATURDAY INTERSECTION LOS**

Intersection	Traffic Control	ICU	Delay	LOS
Minaret Road/Forest Trail	2-way stop	N/A	1.4 seconds	A
Kelly Road/Lake Mary Road	1-way stop	N/A	1.2 seconds	A
Lakeview Boulevard Cut-Off/Lake Mary Road	1-way stop	N/A	4.5 seconds	A
Millers Siding/Lake Mary Road	1-way stop	N/A	0.4 seconds	A
Minaret Road/Lake Mary Road-Main Street	signal	0.72	n/a	C
Center Street/Main Street	2-way stop	N/A	1.3 seconds	A
Forest Trail/Main Street	2-way stop	N/A	7.1 seconds	B
Old Mammoth Road/Main Street	signal	0.57	n/a	A
Minaret Road/Meridian Boulevard	signal	0.46	n/a	A
Old Mammoth Road/Meridian Boulevard	signal	0.61	n/a	B
Minaret Road/Old Mammoth Road	2-way stop	N/A	3.8 seconds	A
Meridian Road/Majestic Pines Drive East	1-way stop	N/A	1.0 seconds	A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

ICU = Intersection Capacity Utilization

LOS = Level of Service

As seen in Table 5.4-7, all study intersections are forecast to operate at an acceptable LOS for typical winter Saturday peak hour conditions for the existing plus approved projects scenario. It should be noted that as part of the Juniper Springs project approval, the installation of a protected right turn phase for eastbound vehicles at the Old Mammoth Road/Main Street intersection is required; hence, the intersection is forecast to operate at LOS A for existing plus project conditions, compared to LOS D operation for existing conditions (see Table 5.4-3).

## **IMPACTS**

### **Summary of Previous Environmental Documentation for North Village**

The 1991 EIR provides a comprehensive review of traffic generation, the 1991 Specific Plan Circulation Plan, pedestrian circulation and transit.

For traffic generation, a cumulative plus project scenario is presented which represents traffic conditions with full buildout of the 1991 Specific Plan. The level of service analysis identifies seven roadway segment that would operate at LOS F. Several intersections were also identified to operate at LOS F. Mitigation measures are provided to reduce the significance of impacts. Included among the measures is a Transportation Demand Management Program.

The Circulation Plan review evaluated vehicular circulation, roadway design consideration and access. The study concludes that the overall circulation for the area in the vicinity can expect to be improved by the proposed roadway network. The roadway design consideration addresses the Canyon Road realignment and closure realignment of Berner Street. Mitigation for the Circulation Plan and also transit services is provided.

The 1994 Specific Plan Amendment resulted in further analysis of traffic and circulation conditions and was included in the 1994 EIR Addendum. The analysis confirmed impacts, mitigation measures and cumulative impacts of the 1991 EIR.

Because the traffic patterns were modified, the physical locations and precise striping patterns of proposed mitigation measure improvements were modified. Each mitigation measure adopted by the 1991 EIR which still applied to the revised project description was identified with appropriate modifications (those which no longer apply had been deleted), followed by mitigation measures proposed by the 1994 Traffic Study which clarify required improvements under revised conditions.

### ***Significance Criteria for this EIR***

The traffic issues related to the proposed 1999 Specific Plan Amendment have been evaluated in the context of the California Environmental Quality Act (CEQA). Environmental impact thresholds as indicated in Appendix G, *Initial Study Checklist*, of the CEQA Guidelines were used to develop significance thresholds in this analysis. As such, the project would create a significant impact if it would cause one or more of the following to occur:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial

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Traffic/Circulation

increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections) (see Impact Statement 5.4-1);

- Exceed, either individually or cumulatively, a LOS standard established by the agency for designated roads or highways (see Impact Statements 5.4-1 and 5.4-2);
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (see Section 10.0, *Effects Found Not To Be Significant*);
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (see Impact Statement 5.4-4);
- Result in inadequate emergency access (see Impact Statements 5.4-4 through 5.4-6);
- Result in inadequate parking capacity (see Impact Statement 5.4-3); and/or
- Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) (see Impact Statement 5.4-6).

Impacts to traffic and circulation are analyzed below according to topic. Mitigation measures at the end of this Section directly correspond with the identified impact.

## PROJECT TRAFFIC

5.4-1 *The proposed project would generate approximately 15,419 additional typical Saturday daily trips. This increase in traffic may potentially significantly impact existing levels of service on three nearby intersections. Implementation of recommended mitigation measures would reduce potentially significant impacts to a less than significant level.*

The traffic related to the project has been calculated in accordance with the following accepted procedural steps:

- Trip Generation;
- Planned Circulation Improvements; and
- Trip Distribution and Assignment;

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### Traffic/Circulation

These steps are described in detail below.

### **Trip Generation**

To determine forecast traffic impacts of the proposed 1999 Specific Plan Amendment, the Mammoth Transportation Model (MTM) was utilized, conservatively assuming that lodging and residential land uses were 100 percent occupied. The MTM calculates the number of person trips forecast to be generated by the proposed 1999 Specific Plan Amendment land uses and then segregates the forecast person trips into various travel modes, such as automobile, transit, pedestrian, pedestrian, bicycle, etc. The MTM forecast trip generation estimates for the proposed 1999 Specific Plan Amendment assume that an additional transit line would be implemented along Minaret Road between MMSA and Sherwin Mountain Ski Area as proposed in the Town's Multi-Modal Plan.

Table 5.4-8 summarizes vehicle trip generation forecast to be generated by the proposed 1999 Specific Plan Amendment area, indicating both trips currently generated within the Specific Plan area by existing land uses, as well as forecast future trip generation assuming buildout of the proposed 1999 Specific Plan Amendment.

As seen in Table 5.4-8, the proposed 1999 Specific Plan Amendment is forecast to generate approximately 10,658 new daily trips, in addition to the approximate 9,542 daily trips currently generated within the Specific Plan area by existing land uses.

During the Saturday peak hour, the proposed Specific Plan Amendment is forecast to generate approximately 1,876 new peak hour trips in addition to the approximate 409 Saturday peak hour trips currently generated.

Collectively, at buildout, the 1999 Specific Plan Amendment, as proposed, is forecast to generate approximately 20,200 daily trips, of which approximately 1,876 trips are forecast to occur within the peak hour for a peak winter Saturday condition assuming implementation of the proposed 1999 Specific Plan Amendment.

The proposed 1999 Specific Plan Amendment includes the following elements to accommodate trips forecast to be generated by buildout of the proposed 1999 Specific Plan Amendment:

- A gondola is planned to provide direct skier access to the MMSA;
- Canyon Boulevard is planned to be realigned to connect to Miller Siding;

**Table 5.4-8  
PROPOSED 1999 SPECIFIC PLAN AMENDMENT FORECAST TRIP GENERATION**

Land Use	Daily	Saturday Peak Hour		
		In	Out	Total
<b>Proposed 1999 Specific Plan Amendment Trip Generation</b>				
North Village (Excluding The Village)	12,400	779	638	1,417
The Village	<u>7,800</u>	<u>480</u>	<u>388</u>	<u>868</u>
<b>Total</b>	<b>20,200</b>	<b>1,259</b>	<b>1,026</b>	<b>2,285</b>
<b>Existing Trip Generation</b>				
North Village (Excluding The Village)	3,069	125	141	266
The Village	<u>1,712</u>	<u>53</u>	<u>90</u>	<u>143</u>
<b>Total</b>	<b>4,781</b>	<b>178</b>	<b>231</b>	<b>409</b>
<b>Total New Vehicle Trips (Proposed Minus Existing)</b>	<b>15,419</b>	<b>1,081</b>	<b>795</b>	<b>1,876</b>

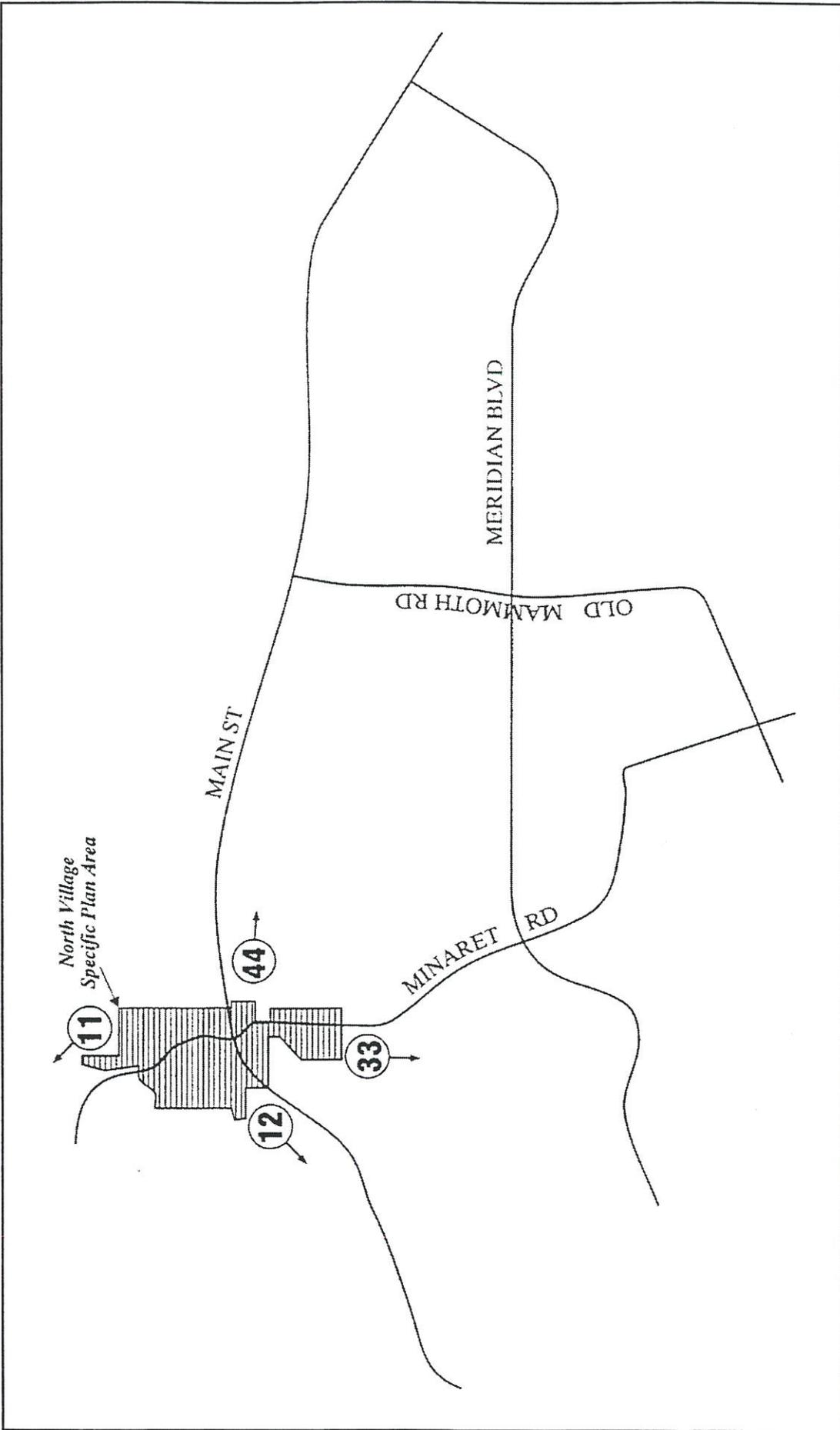
Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

- Berner Street is planned to be realigned to connect to Forest Trail within the Specific Plan area;
- A modern roundabout is planned for the existing Minaret Road/Forest Trail intersection;
- The Millers Siding/Lake Mary Road intersection would be improved to include a traffic signal, dual southbound left turn lane, and a dedicated westbound right turn lane; and
- Two Forest Trail Neighborhood Traffic Plans would be developed to monitor and evaluate conditions, document changes, and implement diversion measures as necessary to reduce or eliminate cut through traffic along the entire length of Forest Trail. One plan would be for Forest Trail east of Minaret, and the other plan would be for Forest Trail west of Minaret.

### Trip Distribution and Assignment

Exhibit 5.4-9 shows the forecast distribution of the new trips estimated to be generated by buildout of the proposed 1999 Specific Plan Amendment. Exhibit 5.4-10 shows the forecast existing plus approved projects plus buildout of the proposed 1999 Plan Amendment typical winter Saturday daily volumes while Exhibit 5.4-11 shows the





Source: LSA, December 3, 1999.

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**North Village Specific Plan Vehicular Trip Distribution**  
**for Typical Winter Saturday Afternoon Peak Hour Conditions**



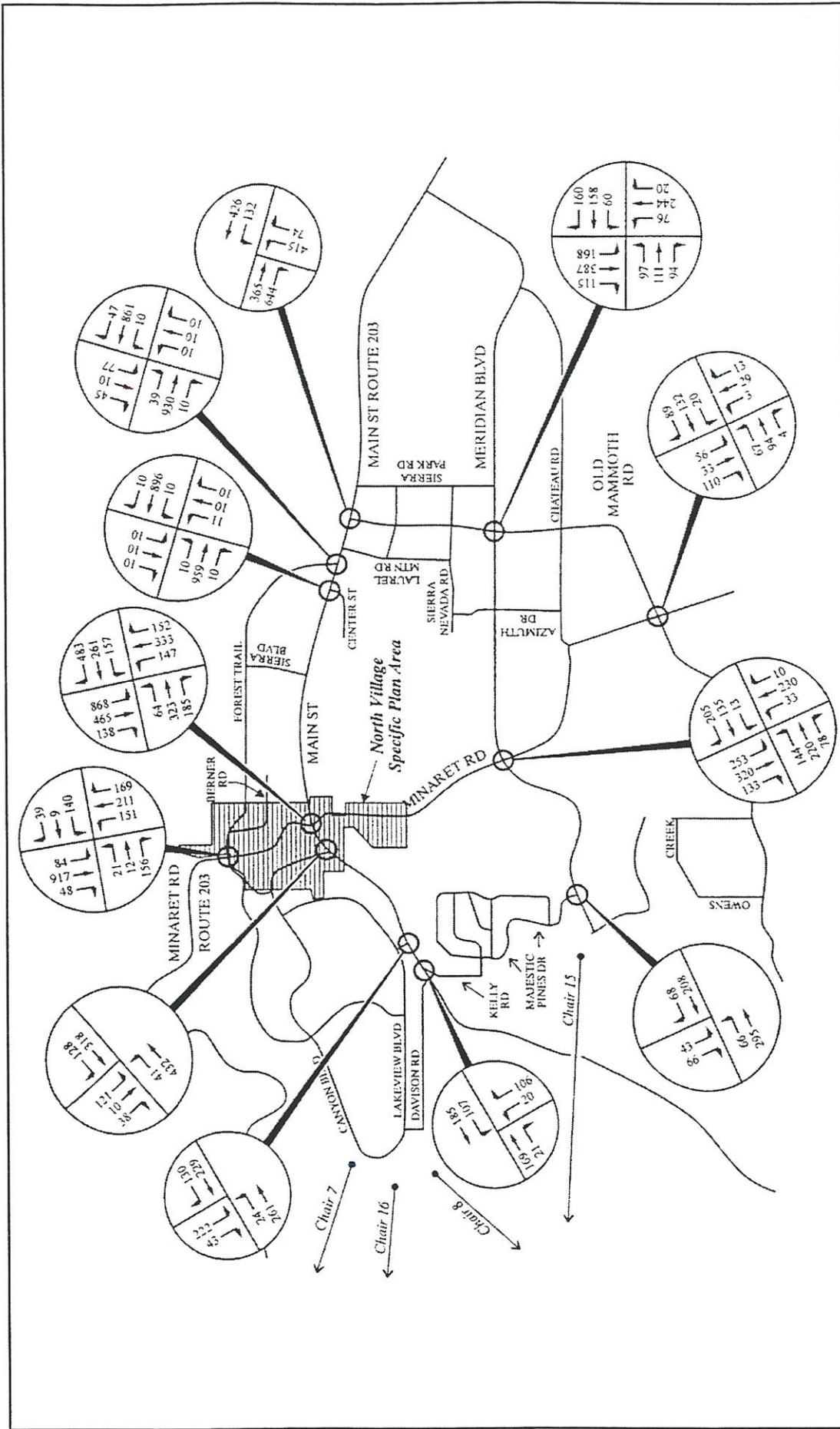
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 Robert Bein, William Frost & Associates  
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Source: LSA, December 3, 1999.

TOWN OF MAMMOTH LAKES  
 NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**Existing Plus Approved Projects Plus North Village**  
**Typical Winter Saturday Peak Hour Traffic Volumes**



Not to Scale



**Table 5.4-9  
EXISTING + APPROVED PROJECTS + PROPOSED 1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY ROADWAY LOS**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved + Proposed 1999 Specific Plan Amendment Daily Volume - V/C - LOS
Forest Trail w/o Minaret Road	2U	11,700	1,310 - 0.11 - A
Canyon Boulevard e/o Lakeview Drive	2U	11,700	6,570 - 0.56 - A
Lake Mary Road w/o Davison Street	2U	11,700	3,110 - 0.27 - A
Lake Mary Road w/o Miller Siding	2U	11,700	7,710 - 0.66 - B
Main Street e/o Minaret Road	4U	22,500	21,730 - 0.97 - E
Main Street w/o Old Mammoth Road	4D	33,800	20,450 - 0.61 - B
Main Street e/o Sierra Park Road	4D	33,800	7,840 - 0.23 - A
Meridian Boulevard w/o Minaret Road	4U	22,500	7,030 - 0.31 - A
Meridian Boulevard e/o Minaret Road	4U	22,500	6,880 - 0.31 - A
Meridian Boulevard w/o Old Mammoth Road	4U	22,500	7,260 - 0.32 - A
Old Mammoth Road w/o Minaret Road	2U	11,700	4,610 - 0.39 - A
Kelly Road s/o Lake Mary Road	2U	11,700	2,000 - 0.17 - A
Minaret Road n/o Mammoth Knolls Drive	2U	11,700	9,400 - 0.80 - D
Minaret Road s/o Lake Mary Road/Main Street	2U	11,700	9,040 - 0.77 - C
Minaret Road s/o Meridian Boulevard	2U	11,700	4,080 - 0.35 - A
Old Mammoth Road s/o Main Street	2D	16,200	13,900 - 0.86 - D
Old Mammoth Road s/o Meridian Boulevard	2D	16,200	10,830 - 0.67 - B
Hills Drive n/o Canyon Boulevard	2U	11,700	1,800 - 0.15 - A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000 February 29, 2000.

U - Undivided; D - Divided; w/o = west of; e/o = east of; n/o = north of; s/o = south of  
v/c = volume capacity ratio; LOS = Level of Service

**Table 5.4-10  
EXISTING + APPROVED PROJECTS + PROPOSED 1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY INTERSECTION LOS**

Intersection	Traffic Control	ICU	Delay	LOS
Minaret Road/Forest Trail	roundabout	N/A	14.9	B
Kelly Road/Lake Mary Road	1-way stop	N/A	1.5 seconds	A
Lakeview Boulevard Cut-Off/Lake Mary Road	1-way stop	N/A	5.4 seconds	A
Millers Siding/Lake Mary Road	1-way stop	N/A	3.6 seconds	A
Minaret Road/Lake Mary Road-Main Street	signal	<b>1.14</b>	n/a	<b>F</b>
Center Street/Main Street	2-way stop	N/A	2.6 seconds	A
Forest Trail/Main Street	2-way stop	N/A	<b>&gt; 45 seconds</b>	<b>F</b>
Old Mammoth Road/Main Street	signal	0.65	n/a	B
Minaret Road/Meridian Boulevard	signal	0.68	n/a	B
Old Mammoth Road/Meridian Boulevard	signal	0.61	n/a	B
Minaret Road/Old Mammoth Road	2-way stop	N/A	3.8 seconds	A
Meridian Road/Majestic Pines Drive East	1-way stop	N/A	1.2 seconds	A

Source: *North Village Specific Plan Existing Plus Project Traffic Impact Analysis*, prepared by LSA Associates, July 25, 2000.

ICU = Intersection Capacity Utilization

LOS = Level of Service

corresponding existing plus approved projects plus buildout typical winter Saturday peak hour intersection volumes.

No new traffic is forecast along Forest Trail, west of Hillside, or east of Berner Street, since there is little or no attraction for North Village generated traffic to utilize these roadway segments. Specific neighborhood traffic monitoring plans are proposed to evaluate conditions, document changes, and implement traffic diversion measures as necessary to ensure that Forest Trail does not become a bypass for parallel Main Street for trips generated by the proposed 1999 Specific Plan Amendment.

**Traffic/Circulation**

Table 5.4-9 summarizes the forecast operation of the study area roadway segments for existing plus approved projects plus proposed 1999 Specific Plan Amendment typical winter Saturday conditions.

As seen in Table 5.4-9, all study roadway segments are forecast to operate at an acceptable LOS for existing plus approved projects plus proposed 1999 Specific Plan Amendment buildout typical winter Saturday conditions. This includes Forest Trail segment west of Minaret Road which operates at LOS A.

Table 5.4-10 summarizes the forecast existing plus approved projects plus proposed 1999 Specific Plan Amendment operation of the study area intersections for typical winter Saturday conditions.

As seen in Table 5.4-10, two of the study intersections (Minaret Road/Lake Mary Road-Main Street and Forest Trail/Main Street) are forecast to operate at an unacceptable LOS for existing plus approved projects plus the proposed 1999 Specific Plan Amendment typical winter Saturday peak hour conditions. Implementation of recommended mitigation measures would reduce these impacts to a less than significant level.

## CUMULATIVE TRAFFIC IMPACTS

5.4-2 *Operational deficiencies would occur at several intersections in the study area with and without the proposed 1999 Specific Plan Amendment, assuming buildout of the Town of Mammoth Lakes General Plan. Implementation of recommended mitigation measures would reduce potentially significant impacts to a less than significant level.*

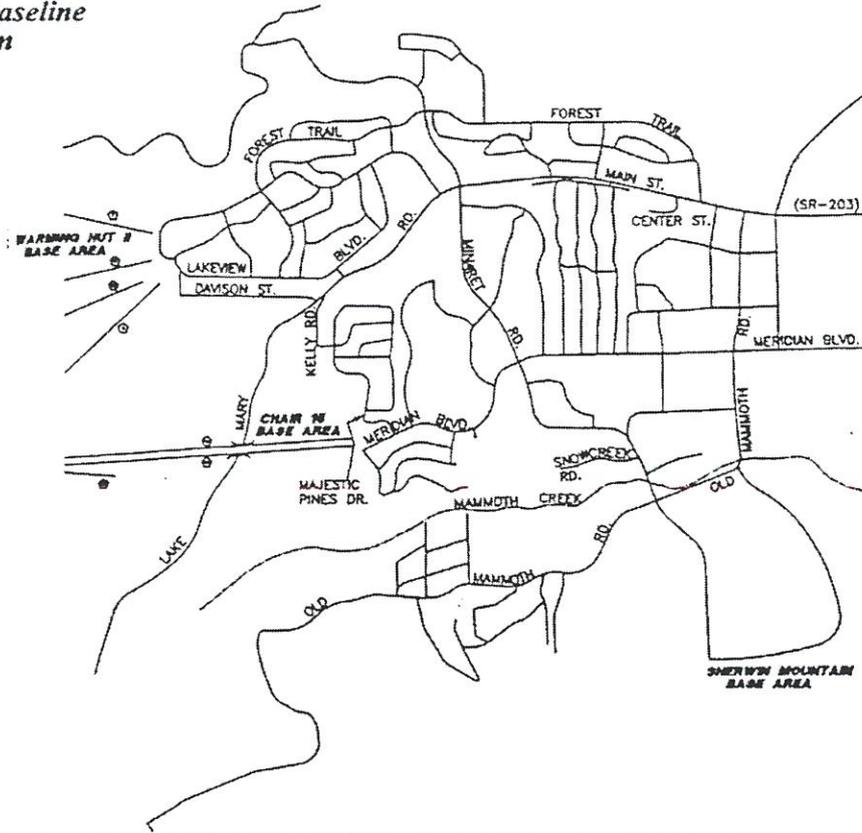
The following describes forecast cumulative traffic conditions assuming buildout of the Town of Mammoth Lakes General Plan. Cumulative traffic conditions without the proposed 1999 Specific Plan Amendment (i.e., assuming buildout of the 1994 Specific Plan) are presented first, followed by cumulative traffic conditions assuming development of the proposed 1999 Specific Plan Amendment.

### Traffic Volumes

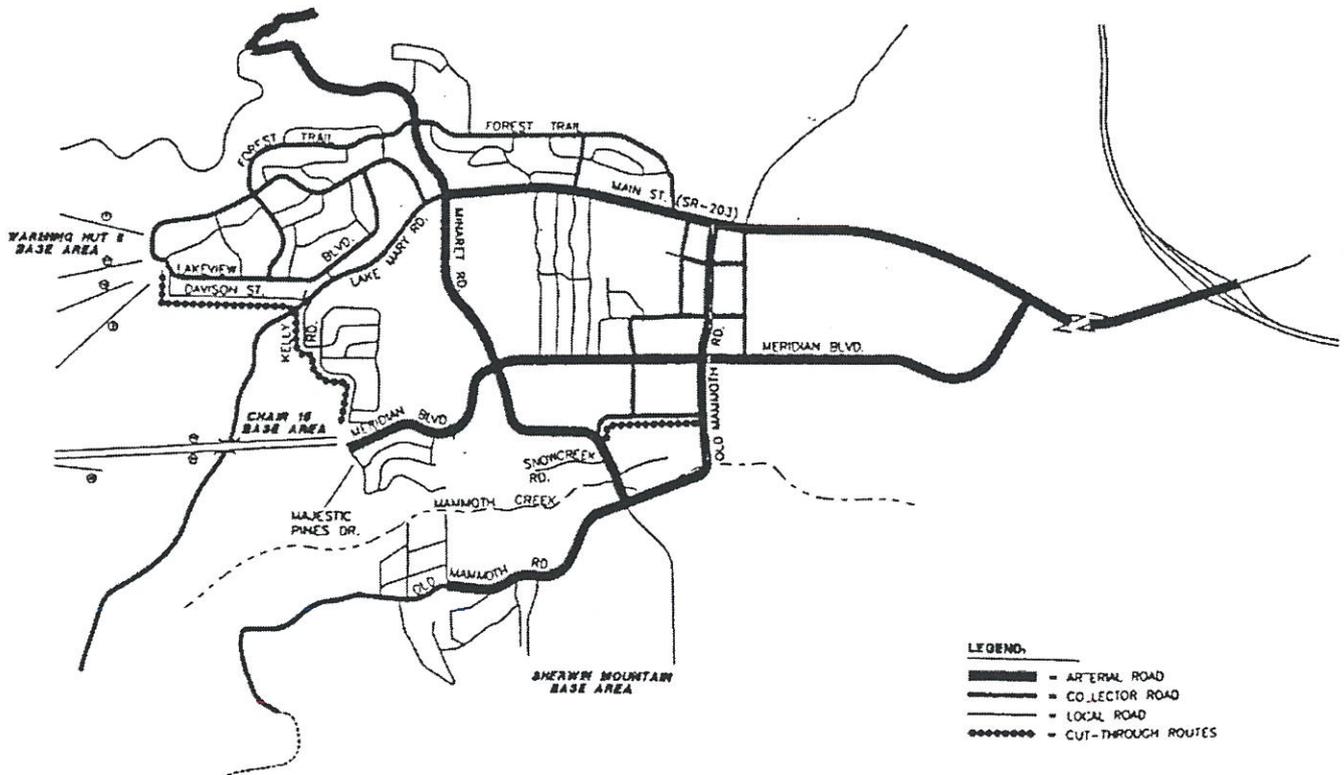
Exhibit 5.4-12 shows the Town of Mammoth Lakes General Plan Circulation Element roadway system and roadway classifications. As previously noted, the roadway system modifications related to the proposed 1999 Specific Plan Amendment include the realignment of Canyon Boulevard to connect to Miller Siding and the realignment of Berner Street to connect to Forest Trail.



**General Plan Baseline  
Roadway System**



**General Plan Roadway Classifications**



Not to Scale

TOWN OF MAMMOTH LAKES  
NORTH VILLAGE 1999 SPECIFIC PLAN AMENDMENT SUBSEQUENT PROGRAM EIR  
**General Plan Roadway System & Roadway Classifications**



Exhibit 5.4-13 shows the forecast buildout roadway ADT assuming buildout of the Town of Mammoth Lakes General Plan, without the proposed 1999 Specific Plan Amendment. Table 5.4-11 summarizes the study roadway segment LOS analysis for typical winter Saturday buildout conditions.

As seen in Table 5.4-11, all study roadway segments are forecast to operate at an acceptable LOS assuming buildout of the Town General Plan without the proposed 1999 Specific Plan Amendment. This includes Forest Trail between Minaret Road and Main Street which would operate at LOS A.

Table 5.4-12 summarizes the forecast operation of the study intersections for typical winter Saturday conditions assuming buildout of the Town of Mammoth Lakes General Plan without the proposed 1999 Specific Plan Amendment.

As seen in Table 5.4-12, six study intersections (Minaret Road/Forest Trail, Millers Siding/Lake Mary Road, Minaret Road/Lake Mary Road-Main Street, Center Street/Main Street, Forest Trail/Main Street, and Minaret Road/Old Mammoth Road) are forecast to operate at an unacceptable LOS for typical winter Saturday peak hour conditions assuming buildout of the Town General Plan without the proposed 1999 Specific Plan Amendment.

#### **With Proposed 1999 Specific Plan Amendment**

Exhibit 5.4-14 shows the forecast buildout roadway ADT assuming buildout of the Town of Mammoth Lakes General Plan, with the proposed 1999 Specific Plan Amendment. Table 5.4-13 summarizes the study roadway segment LOS analysis for typical winter Saturday buildout conditions.

As seen in Table 5.4-13, all study roadway segments are forecast to operate at an acceptable LOS assuming buildout of the Town General Plan with the proposed 1999 Specific Plan Amendment (Forest Trail between Minaret Road and Main Street would operate at LOS A). It is worth noting that Old Mammoth Road south of Meridian Boulevard is forecast to operate at LOS E. However, since the intersections along this segment of Old Mammoth Road (Old Mammoth Road/Meridian Boulevard, Old Mammoth Road/Chateau Road, and a typical driveway in between) are forecast to operate at an acceptable LOS (LOS D or better), LOS E operation of Old Mammoth Road south of Meridian Boulevard is considered acceptable operation per the assumptions of the thresholds of significance.

Table 5.4-14 summarizes the forecast operation of the study intersections for typical winter Saturday conditions assuming buildout of the Town of Mammoth Lakes General Plan with the proposed 1999 Specific Plan Amendment.







**Table 5.4-11  
FORECAST GENERAL PLAN BUILDOUT WITHOUT PROPOSED 1999 SPECIFIC PLAN  
AMENDMENT TYPICAL WINTER SATURDAY ROADWAY LOS**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved + North Village Daily Volume - V/C - LOS
Forest Trail w/o Minaret Road	2U	11,700	5,300 - 0.45 - A
Forest Trail e/o Minaret Road	2U	11,700	4,200 - 0.36 - A
Forest Trail e/o Holiday Drive	2U	11,700	3,400 - 0.29 - A
Forest Trail n/o Main Street	2U	11,700	3,500 - 0.30 - A
Canyon Boulevard w/o Forest Trail	2U	11,700	3,200 - 0.27 - A
Canyon Boulevard e/o Forest Trail	2U	11,700	1,400 - 0.12 - A
Canyon Boulevard e/o Lakeview Drive	2U	11,700	6,000 - 0.51 - A
Miller Siding n/o Lake Mary Road	2U	11,700	7,000 - 0.60 - A
Lake Mary Road w/o Davison Street	2U	11,700	3,800 - 0.32 - A
Lake Mary Road e/o Kelly Road	2U	11,700	5,100 - 0.44 - A
Lake Mary Road w/o Miller Siding	2U	11,700	6,400 - 0.55 - A
Lake Mary Road w/o Minaret Siding	4U	22,500	12,900 - 0.57 - A
Main Street e/o Minaret Road	4U	22,500	18,700 - 0.83 - D
Main Street w/o Center Street	4D	33,800	19,700 - 0.58 - A
Main Street e/o Center Street	4D	33,800	17,900 - 0.53 - A
Main Street e/o Forest Trail	4U	33,800	21,200 - 0.63 - B
Main Street w/o Old Mammoth Road	4D	33,800	19,500 - 0.58 - A
Main Street e/o Old Mammoth Road	4D	33,800	15,500 - 0.46 - A
Main Street e/o Sierra Park Road	4D	33,800	16,300 - 0.48 - A
Meridian Boulevard btwn Majestic Pines Drive	4U	22,500	2,400 - 0.11 - A
Meridian Boulevard e/o Villa Vista Drive	4U	22,500	6,600 - 0.29 - A
Meridian Boulevard w/o Minaret Road	4U	22,500	9,000 - 0.40 - A
Meridian Boulevard e/o Minaret Road	4U	22,500	9,800 - 0.44 - A
Meridian Boulevard w/o Azimuth Drive	4U	22,500	13,200 - 0.59 - A

Table continued on next page

**Traffic/Circulation**

**Table 5.4-11**  
**FORECAST GENERAL PLAN BUILDOUT WITHOUT PROPOSED 1999 SPECIFIC PLAN**  
**AMENDMENT TYPICAL WINTER SATURDAY ROADWAY LOS**  
**(continued)**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved + North Village Daily Volume - V/C - LOS
Meridian Boulevard w/o Old Mammoth Road	4U	22,500	13,600 - 0.60 - B
Meridian Boulevard e/o Old Mammoth Road	4U	22,500	11,500 - 0.51 - A
Meridian Boulevard w/o Sierra Park Road	2U	11,700	9,400 - 0.80 - D
Old Mammoth Road w/o Tamarack Street	2U	11,700	2,700 - 0.23 - B
Old Mammoth Road w/o Minaret Road	2U	11,700	8,100 - 0.69 - B
Old Mammoth Road e/o Minaret Road	2U	11,700	9,400 - 0.80 - D
Kelly Road s/o Lake Mary Road	2U	11,700	2,000 - 0.17 - A
Majestic Pines Drive n/o Meridian Boulevard	2U	11,700	3,400 - 0.29 - A
Minaret Road n/o Mammoth Knolls Drive	2U	11,700	7,100 - 0.61 - B
Minaret Road n/o Forest Trail	2U	11,700	8,500 - 0.73 - C
Minaret Road s/o Forest Trail	2D	16,200	8,500 - 0.52 - A
Minaret Road n/o Lake Mary Road-Main Street	4U	22,500	13,700 - 0.61 - B
Minaret Road s/o Lake Mary Road-Main Street	2U	11,700	10,400 - 0.89 - D
Minaret Road n/o Meridian Boulevard	2U	11,700	6,800 - 0.58 - A
Minaret Road s/o Meridian Boulevard	2U	11,700	7,600 - 0.65 - B
Minaret Road n/o Old Mammoth Road	2U	11,700	8,600 - 0.74 - C
Fairway Drive s/o Old Mammoth Road	2U	11,700	8,200 - 0.70 - C
Old Mammoth Road s/o Main Street	2D	16,200	11,500 - 0.71 - C
Old Mammoth Road n/o Meridian Boulevard	2D	16,200	10,400 - 0.64 - B
Old Mammoth Road s/o Meridian Boulevard	2D	16,200	14,200 - 0.88 - D

Source: *Intrawest Master Plan Traffic Impact*, prepared by LSA Associates, July 25, 2000.

U - Undivided; D - Divided; w/o = west of; e/o = east of; n/o = north of; s/o = south of; v/c = volume capacity ratio; LOS = Level of Service

**Traffic/Circulation**

**Table 5.4-12  
FORECAST GENERAL PLAN BUILDOUT WITHOUT PROPOSED 1999 SPECIFIC PLAN  
AMENDMENT TYPICAL WINTER SATURDAY INTERSECTION LOS**

Intersection	Traffic Control	ICU	Delay	LOS
Minaret Road/Forest Trail	2-way stop	N/A	> 45 seconds	F
Kelly Road/Lake Mary Road	1-way stop	N/A	1.9 seconds	A
Lakeview Boulevard Cut-Off/Lake Mary Road	1-way stop	N/A	9.0 seconds	B
Millers Siding/Lake Mary Road	1-way stop	N/A	> 45 seconds	F
Minaret Road/Lake Mary Road-Main Street	signal	0.97	N/A	E
Center Street/Main Street	2-way stop	N/A	> 45 seconds	F
Forest Trail/Main Street	2-way stop	N/A	> 45 seconds	F
Old Mammoth Road/Main Street	signal	0.82	N/A	D
Minaret Road/Meridian Boulevard	signal	0.71	N/A	C
Old Mammoth Road/Meridian Boulevard	signal	0.85	N/A	D
Minaret Road/Old Mammoth Road	2-way stop	N/A	> 45 seconds	F
Meridian Road/Majestic Pines Drive East	1-way stop	N/A	4.6 seconds	A

Source: *Intrawest Master Plan Traffic Impact*, prepared by LSA Associates, July 25, 2000.

ICU = Intersection Capacity Utilization

LOS = Level of Service







**Table 5.4-13  
FORECAST GENERAL PLAN BUILDOUT WITH PROPOSED  
1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY ROADWAY LOS**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved + Proposed 1999 North Village Daily Volume - V/C - LOS
Forest Trail w/o Minaret Road	2U	11,700	6,000 - 0.51 - A
Forest Trail e/o Minaret Road	2U	11,700	5,000 - 0.43 - A
Forest Trail e/o Holiday Drive	2U	11,700	3,100 - 0.26 - A
Forest Trail n/o Main Street	2U	11,700	2,900 - 0.25 - A
Canyon Boulevard w/o Forest Trail	2U	11,700	2,900 - 0.25 - A
Canyon Boulevard e/o Forest Trail	2U	11,700	2,600 - 0.22 - A
Canyon Boulevard e/o Lakeview Drive	2U	11,700	5,100 - 0.44 - A
Miller Siding n/o Lake Mary Road	2U	11,700	6,500 - 0.56 - A
Lake Mary Road w/o Davison Street	2U	11,700	1,700 - 0.15 - A
Lake Mary Road e/o Kelly Road	2U	11,700	5,000 - 0.43 - A
Lake Mary Road w/o Miller Siding	2U	11,700	5,800 - 0.50 - A
Lake Mary Road w/o Minaret Siding	4U	22,500	12,600 - 0.56 - A
Main Street e/o Minaret Road	4U	22,500	18,100 - 0.80 - D
Main Street w/o Center Street	4D	33,800	19,400 - 0.57 - A
Main Street e/o Center Street	4D	33,800	17,800 - 0.53 - A
Main Street e/o Forest Trail	4U	33,800	20,700 - 0.61 - B
Main Street w/o Old Mammoth Road	4D	33,800	19,100 - 0.57 - A
Main Street e/o Old Mammoth Road	4D	33,800	14,400 - 0.43 - A
Main Street e/o Sierra Park Road	4D	33,800	16,400 - 0.49 - A
Meridian Boulevard btwn Majestic Pines Drive	4U	22,500	1,600 - 0.07 - A
Meridian Boulevard e/o Villa Vista Drive	4U	22,500	7,100 - 0.32 - A
Meridian Boulevard w/o Minaret Road	4U	22,500	9,400 - 0.42 - A
Meridian Boulevard e/o Minaret Road	4U	22,500	10,800 - 0.48 - A

Table continued on next page

**Traffic/Circulation**

**Table 5.4-13  
 FORECAST GENERAL PLAN BUILDOUT WITH PROPOSED  
 1999 SPECIFIC PLAN AMENDMENT  
 TYPICAL WINTER SATURDAY ROADWAY LOS  
 (continued)**

Roadway Segment	No. of Lanes	Daily Capacity	Existing + Approved + North Village Daily Volume - V/C - LOS
Meridian Boulevard w/o Azimuth Drive	4U	22,500	12,200 - 0.54 - A
Meridian Boulevard w/o Old Mammoth Road	4U	22,500	13,700 - 0.61 - B
Meridian Boulevard e/o Old Mammoth Road	4U	22,500	11,000 - 0.49 - A
Meridian Boulevard w/o Sierra Park Road	2U	11,700	9,400 - 0.80 - D
Old Mammoth Road w/o Tamarack Street	2U	11,700	3,000 - 0.26 - B
Old Mammoth Road w/o Minaret Road	2U	11,700	6,900 - 0.59 - A
Old Mammoth Road e/o Minaret Road	2U	11,700	9,800 - 0.84 - D
Kelly Road s/o Lake Mary Road	2U	11,700	2,300 - 0.20 - A
Majestic Pines Drive n/o Meridian Boulevard	2U	11,700	1,600 - 0.14 - A
Minaret Road n/o Mammoth Knolls Drive	2U	11,700	7,500 - 0.64 - B
Minaret Road n/o Forest Trail	2U	11,700	8,200 - 0.70 - C
Minaret Road s/o Forest Trail	2D	16,200	9,800 - 0.60 - B
Minaret Road n/o Lake Mary Road-Main Street	4U	22,500	12,300 - 0.55 - A
Minaret Road s/o Lake Mary Road-Main Street	2U	11,700	8,500 - 0.73 - C
Minaret Road n/o Meridian Boulevard	2U	11,700	6,700 - 0.57 - A
Minaret Road s/o Meridian Boulevard	2U	11,700	8,000 - 0.68 - B
Minaret Road n/o Old Mammoth Road	2U	11,700	10,200 - 0.87 - D
Fairway Drive s/o Old Mammoth Road	2U	11,700	10,300 - 0.88 - D
Old Mammoth Road s/o Main Street	2D	16,200	10,700 - 0.66 - B
Old Mammoth Road n/o Meridian Boulevard	2D	16,200	11,500 - 0.71 - C
Old Mammoth Road s/o Meridian Boulevard	2D	16,200	15,100 - 0.93 - E

Source: *Intrawest Master Plan Traffic Impact*, prepared by LSA Associates, July 25, 2000.

U - Undivided; D - Divided; w/o = west of; e/o = east of; n/o = north of; s/o = south of; v/c = volume capacity ratio; LOS = Level of Service

**Traffic/Circulation**

**Table 5.4-14  
FORECAST GENERAL PLAN BUILDOUT WITH PROPOSED  
1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY INTERSECTION LOS**

Intersection	Traffic Control	ICU	Delay	LOS
Minaret Road/Forest Trail	roundabout	N/A	14.9	B
Kelly Road/Lake Mary Road	1-way stop	N/A	2.1 seconds	A
Lakeview Boulevard Cut-Off/Lake Mary Road	1-way stop	N/A	9.8 seconds	B
Millers Siding/Lake Mary Road	signal	0.49	N/A	A
Minaret Road/Lake Mary Road-Main Street	signal	0.87	N/A	D
Center Street/Main Street	2-way stop	N/A	> 45 seconds	F
Forest Trail/Main Street	2-way stop	N/A	> 45 seconds	F
Old Mammoth Road/Main Street	signal	0.81	N/A	D
Minaret Road/Meridian Boulevard	signal	0.74	N/A	C
Old Mammoth Road/Meridian Boulevard	signal	0.87	N/A	D
Minaret Road/Old Mammoth Road	2-way stop	N/A	> 45 seconds	F
Meridian Road/Majestic Pines Drive East	1-way stop	N/A	4.0 seconds	A
Old Mammoth Road/Chateau Road	2-way stop	N/A	1.6 seconds	A
Berner Road/Forest Trail	2-way stop	N/A	1.7 seconds	A
Azimuth Drive/Meridian Boulevard	2-way stop	N/A	> 45 seconds	F

Source: *Intrawest Master Plan Traffic Impact*, prepared by LSA Associates, July 25, 2000.

ICU = Intersection Capacity Utilization

LOS = Level of Service

As seen in Table 5.4-14, four study intersections (Center Street/Main Street, Forest Trail/Main Street, Minaret Road/Old Mammoth Road, and Azimuth Drive/Meridian Boulevard) are forecast to operate at an unacceptable LOS for typical winter Saturday peak hour conditions assuming buildout of the Town General Plan with the proposed 1999 Specific Plan Amendment. Implementation of recommended mitigation measures would reduce these potentially significant impacts to a less than significant level.

## PARKING

5.4-3 *Project implementation may result in inadequate parking conditions. Implementation of recommended mitigation would reduce impacts to a less than significant level.*

The Pedestrian Core development introduces several challenges related to parking, given the sporadic peak demand of a resort community combined with the physical and environmental constraints in providing surface parking. As a mixed use development, the proposed 1999 Specific Plan Amendment would provide lodging, commercial, restaurants/bar and transit uses (i.e., bus services) centralized around a gondola plaza servicing Mammoth Mountain. On- and off-site parking facilities would accommodate these uses. The proposed parking rates and criteria reflect the mix of land uses and available transit services to the project site.

With the transformation of Mammoth Lakes into a destination resort, the type of guest would change, resulting in a change in parking demands. It is anticipated that more guests would be coming from areas farther away, requiring travel by air or bus rather than by personal automobile. With this in mind, the proposed development has been oriented around the pedestrian with an accessible mix of uses, connecting walkways, trails, and transit services, including shuttles, buses and a gondola to Mammoth Mountain. With these amenities, the dependence on automobiles lessens, thus reducing the demand for on-site parking.

### Existing Parking Rates

Table 5.4-15 summarizes the parking rates as approved in the existing 1994 Specific Plan:

The 1994 Specific Plan reflects a reduced parking rate from the Town's code based on its significant pedestrian orientation and proximity to transit systems.

**Table 5.4-15  
1994 NORTH VILLAGE SPECIFIC PLAN PARKING RATES**

Land Use	Unit of Measure	Parking Rates
		Previous*
Residential	1 bedroom	1 parking space
	2 & 3 bedroom	2 parking spaces
	Guest	1 parking space for every 8 units
Accommodations	Room	1 parking space per unit
Retail/Commercial	Square Feet	2.4 parking spaces per 1000 SF
Restaurant	Square Feet	11.2 parking spaces per 100 SF

\*Previous parking ratios based on existing Specific Plan, as approved June 22, 1994.

The existing Specific Plan also promotes the retention of open space by requiring all new development to provide enclosed parking (i.e., parking garages). This was a significant departure from the Town's Zoning Ordinance, which required enclosed parking for only one space for single-family residences and 50 percent of the required parking for multi-family projects.

**Proposed Parking Rates for 1999 Specific Plan Amendment**

Review of the previously approved parking rates as approved with the 1994 Specific Plan prompted the project proponents to consider applicable parking requirements based on observed parking demands. Furthermore, the use categories needed to be refined to reflect the different types of development proposed.

The proposed parking rates have been based on the evaluation of current parking standards in place at Mammoth Lakes, in comparison to Intrawest's operating experience with their resort developments located elsewhere throughout North America.

Current use patterns at other Intrawest resorts indicate that a parking ratio of 1.5 space per dwelling unit is more than adequate for residential uses. The parking study prepared by Walker Parking Consultants for Resort Condominium Parking Demand acknowledged a lower parking demand for resort condominium lodging facilities (refer to Appendix 16.3). These results are based on observations of Whistler Resort in British Columbia, and Keystone Mountain in Colorado. Although the housing units had 100

**Table 5.4-16  
PROPOSED 1999 SPECIFIC PLAN AMENDMENT PARKING RATES**

Land Use	Unit of Measure	Parking Ratios
		Proposed
Single-Family	Each Unit	3 parking spaces per unit: 1 parking space must be enclosed 1 parking space must be unenclosed (if the driveway is at least 20 ft long and 10 ft wide, the driveway may be used to meet requirements for unenclosed parking)
	Guest parking	1 parking space must be unenclosed (if the driveway is at least 20 ft long and 10 ft wide, the driveway may be used to meet requirements for unenclosed parking)
Multi-Family & Multi-Family Townhome <sup>1</sup>	Studio, 1 bedroom	Studio, 1 bedroom: 1 parking space/unit
	2 bedroom	1.5 parking space per unit
	3 bedroom	2 parking spaces per unit
	4+ bedrooms	2.5 parking spaces per unit
	Guest Parking	
Multi-Family Townhome 1,2, 3 <sup>2</sup>	1 bedroom	1 parking space per unit
	1 bedroom w/lockoff	1.5 parking spaces per unit
	2 bedrooms	1 parking space per unit
	2 bedrooms w/lockoff	1.75 parking spaces per unit
	3 bedrooms	1.5 parking spaces per unit
	General Criteria	0.5 parking space per bedroom, no less than 1 parking space per key. For a mixed unit development, if the blended parking ratio is less than 1.05 per key, the minimum parking rate shall be 1.05/key.
	Guest Parking	The parking rates assume 10% of the spaces are accessible to guests.
Hotel	Each Key	0.9 parking space per Key
	Room	Not addressed
	check-in	1 parking space per 20 keys
Retail/ Commercial	Square Feet	3.5 parking spaces per 1,000 GSF
Restaurant	Square Feet	3.5 parking spaces per 1,000 GSF
Destination Recreation		Parking ratio based on projected need.
Conference Center		Parking for conference space within a lodge is included in residential parking ratios, as conference facilities are primarily used by guests.

<sup>1</sup>Multi-Family (MF) and Multi-Family Townhome (MFT) without lobby parking. This category is intended to include townhome and stacked condominium units with common parking facilities.

<sup>2</sup> Multi-Family Townhome (MFT) 1,2, 3: This category will include resort condominiums, but will not include hotels.

percent occupancy, there were only 0.92 parking spaces used per unit, including guest parking. Based on the information provided, the proposed residential rate well exceeds the observed rate, thus providing adequate parking for the proposed project.

It should be noted that single-family homes generate greater demand for parking, and as such, should be segregated from townhome projects when analyzing parking characteristics. On average, single-family homes have been found to be best served by a parking ratio of 2.0 spaces per unit with guest parking in the driveway or on-street. The proposed parking rate exceeds this parking rate, thus providing adequate parking for the proposed project.

A hotel parking rate is also proposed based on the observed parking at Mammoth Mountain Inn, a luxury Hotel with two restaurants. The observed parking rate was 1.08 parking spaces per occupied unit. This rate was based on 100 percent occupancy. This higher ratio may be related to the location of the Inn (four miles from the Town), and the dependency on the automobile for access to the hotel restaurants and facilities. For the proposed development, the mix of uses (i.e., residential, commercial and restaurant) surrounding the future hotels would reduce the demand for single trips to a use. Thus, the proposed rate is consistent with the shared parking rate based on a combined peak parking demand of the mixed use development. In a study prepared by LSC, the *Shared Parking Analysis for Gondola Village*, it was assumed that fifty percent of restaurant, retail and skier services trips are expected to originate from surrounding lodging or adjacent uses, and ninety percent of conference room users would be registered guests of the lodges.

Considering the mix of uses and the opportunity for shared parking, the proposed commercial/restaurant parking of 3.5 parking spaces per 1,000 gross square feet is adequate for the proposed project. It is assumed that the commercial/restaurant uses are part of the on-line commercial use, where one visit serves two or more land uses.

However, the freestanding restaurant associated with higher quality service typically experiences lower turnover rates. Thus, it is recommended that freestanding restaurants 8,000 gross square feet or greater be parked at 1 parking space per 80 gross square feet. This rate is consistent with Institute of Transportation Engineers (ITE), *2<sup>nd</sup> Edition Parking Generation, 1987*, for quality restaurant. With this added parking rate for freestanding restaurant uses, the proposed parking rate for commercial and restaurant uses is adequate, assuming a shared parking demand among the proposed mix of uses. The proposed parking rates also assume a reduced parking demand based on the availability of transit services, and the use of shared parking among the commercial uses.

The overall size and development details of the project components will be defined as the North Village project area is developed. In order to ensure the adequacy of parking related to each development, mitigation is recommended which includes a

contingency parking plan and/or shared parking analysis in accordance with Town requirements.

Also, in order to ensure that adequate parking is provided during unusual weekend peaks, a contingency parking plan requirement is included in the 1999 Specific Plan Amendment for Resort/Condominium residential units. The contingency parking plan is to demonstrate that 1.2 or more parking spaces are provided per unit through the use of alternative parking approaches. Parking alternatives can be a combination of, but not limited to, tandem parking, valet parking, and shuttle services to a designated off-site parking location. The contingency parking plan will include an implementation plan, and any other related documentation to ensure exceptional peak demands.

## SAFETY HAZARDS - ROUNDABOUT

5.4-4 *Project implementation may increase hazards to vehicles, pedestrians, and bicyclists due to the proposed roundabout. With implementation of recommended mitigation, impacts are concluded to be less than significant.*

A modern roundabout is proposed at the Minaret Road (Route 203)/Forest Trail intersection. The *Feasibility Study: Mammoth Roundabout* was prepared by Ourston & Doctors (November 1, 1998) to evaluate the design, traffic performance and safety of the roundabout. According to this Study, a four-leg roundabout at this interchange would have an ICD (inscribed circle diameter, or outer diameter) of 140 feet. All four entries to the roundabout would be flared to two lanes (initially striped as one lane) at the yield lines from one lane upstream. The entry lanes would widen to 11 feet at three entries and to 13 feet at the northbound Minaret Road entry.

For driver comfort and safety, the slopes of Minaret Road and Forest Trail would be nearly flattened to a two-percent gradient at the roundabout and near it. Both roads would be realigned vertically to achieve a design speed of 30 miles per hour over vertical curves. Profiles provided in Appendix A of the Feasibility Study show that cuts and fills would be shallow, with a maximum fill of 2.5 feet on Forest Trail and a maximum cut of one foot on Minaret Road.

The Study notes that as modern roundabouts replace cross intersections, right angle crashes become less severe and less frequent, and left turning crashes do not occur. Tail-end crashes become less frequent because roundabouts have less queuing. To provide good vehicle path deflection, an important safety design feature that slows traffic on entry, the approach roads are aimed at the central island. They veer to the right just before the yield lines.

Average speeds within a modern roundabout are estimated using a regression equation developed through observations of British roundabouts. Applying this equation, it is estimated that the average circulating speed around the central island of the

roundabout would be 13 miles per hour. The roundabout would reduce speeds through the intersection, thus reducing the severity of crashes.

The safety history of modern roundabouts in the United States has been similar to the safety experience of roundabouts in foreign countries.<sup>1</sup> Further, a study regarding the safety experience of roundabouts in the United States and abroad found that, on average, American roundabouts that have replaced other intersections have reduced total crashes by 37 percent.<sup>2</sup> Injury crashes have been reduced by an average of 51 percent.

Modern roundabouts generally have approximately one-half the crash frequency of traffic signals regulating similar flows. This is explained in Exhibit E of the Feasibility Study, *Comparative Safety of Modern Roundabouts and Signalized Cross Intersection*. The usual safety benefit is expected at the Mammoth roundabout: substantially fewer crashes than if a signal were installed, with substantially fewer serious injury crashes. It should be noted that two elements, lighting and landscaping, are essential to the safety performance of a modern roundabout.

Good street lighting is a standard safety element of modern roundabout design. Motorists approaching at night must see that the intersection has a central island and that one can no longer drive straight through the intersection. Good street lighting is needed so that cyclists, motorcyclists, and pedestrians can be seen in the roundabout and on the approaches at night. For these reasons the installation of additional street lights would be required at the roundabout and on its approaches back to a distance of 200 feet from the yield lines. The lighting would be required to provide at least 1.9 foot candles of horizontal luminance. Street lights would be evenly spaced in a ring around the outside of the roundabouts and along the approaches to the roundabout.

The 77-foot diameter central island of the roundabout would allow landscaping. To provide adequate stopping sight distance for circulating traffic, the outer margin of the central island must have low ground cover. However, the central portion of the island would be available for objects of any height, including trees, walls, and public art. Existing roundabouts with notable landscaping include those in the Colorado towns of Vail and Avon, which have built nine roundabouts with beautiful alpine landscapes.

All research suggests that modern roundabouts are safer for pedestrians than signalized intersections. This safety advantage has been attributed to the slower traffic speed at roundabouts and the division of the pedestrian crossing into two stages, from the near-side wheelchair ramp out to the splitter island, and then from the splitter island to the

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<sup>1</sup> This fact is elaborated in "Roundabouts: A Direct way to Safer Highways," by Leif Ourston and Joe Bared (of the Federal Highway Administration), *Public Roads*, Autumn 1955.

<sup>2</sup> Chapter 6 of NCHRP *Synthesis 264, Modern Roundabout Practice in the United States*, by Georges Jacquesmart.

far-side wheelchair ramp. In each stage the pedestrian has to look only one direction to cross a one-way traffic stream. Pedestrian refuges are slots within the splitter islands.

Some research indicates that cyclists are at risk at large roundabouts in the United Kingdom than at signalized intersections in that country. On the other hand, The Netherlands reports large safety benefits from roundabouts for all road users, including cyclists and pedestrians. The available data indicates that there has never been a crash involving bicycles at a modern American roundabout. There has been one non-injury accident involving a pedestrian at a Vermont roundabout crossed by hundreds of pedestrians per day.

Overall, it is anticipated that project implementation would not substantially increase hazards to vehicles, pedestrians, and bicyclists due to the proposed roundabout provided the measures identified in the *Feasibility Study: Mammoth Roundabout*, (Ourston & Doctors, November 1, 1998) are incorporated.

## SAFETY HAZARDS - PEDESTRIAN ACTIVITY

5.4-5 *Project implementation may increase hazards associated with increased pedestrian activity. Impacts have been concluded to be less than significant.*

Level of Service. An analysis of the projected pedestrian activity was conducted by LSA Associates, Inc.<sup>3</sup> The simulation analyses that have been conducted previously assumed 600 pedestrians crossing Minaret Road during the peak hour, 400 at the primary crossing near the gondola and 200 at the secondary crossing, between the primary location and the roundabout.

Using land use and person trip generation data supplied in the *Mammoth Master Transportation Plan Modeling Support* (Master Plan Traffic Impact Analysis report) by RKJK, August 24, 1998, projected pedestrian activity has been developed. This analysis considers information related to the gondola, lodges, retail, and parking structure pedestrian productions and attractions. The projected pedestrian activity is presented in Table 5.4-17, *Pedestrian Generation At Pedestrian Core Area*, and is composed of two elements: the residential/lodging generation and the retail generation. Each element is discussed individually.

Daily person trip generation has been calculated by multiplying the number of units with the daily person trip rate used in the Master Plan report. A total of approximately 14,518 daily person trips have been forecast to be generated by the total 854 lodging units of the Pedestrian Core area. In particular, the 230 units east of Minaret Road have been forecast to generate 3,910 daily person trips.

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<sup>3</sup> Correspondence: LSA Associates, Inc., January 8, 1999, page 3.

According to the Master Plan report, the lodging component of the Pedestrian Core area is estimated to generate 4,895 daily vehicle trips. On average, each vehicle trip would carry 2.2 persons. Therefore, of the 14,518 total daily person trips generated by the Pedestrian Core area lodges, approximately 10,769 persons would travel by car daily (4,895 multiplied by 2.2). These "vehicle-person" trips have been allocated proportionally to each of the three lodging areas, with the area east of Minaret Road generating 2,900 daily "vehicle-person" trips.

Subtracting the daily "vehicle-person" trips from the total daily person trips leaves daily person trips by walk/transit. For purposes of this analysis, all walk/transit trips have been considered pedestrians. The area east of Minaret Road has been forecast to generate 1,010 daily pedestrian trips, of which 11 percent have been calculated to occur in the afternoon peak hour. Therefore, using the data provided in the Master Plan report, approximately 111 pedestrians during the afternoon peak hour are estimated to walk to/from the lodging east of Minaret Road. During the afternoon peak hour, the majority of these pedestrian trips are anticipated to be related to trips from the gondola to the lodges east of Minaret Road. A minor portion of the total peak hour pedestrian trips may be associated with movements between the lodgings and the retail amenities. These pedestrians would be accounted for in the discussion of the retail component of the Pedestrian Core area.

Table 5.4-17 also presents the calculation of the pedestrian activity of the retail component of the Pedestrian Core area. In this calculation, the projected pedestrian activity would not only be attributable from person trips that walk (i.e., lodgers attracted to the retail), but most notably "vehicle-person" trips that park in the adjacent parking structures and cross Minaret Road to patronize the retail elements.

Daily person trips have been generated for the retail component by multiplying the retail square footage included in the Master Plan report (i.e., 115,620 square feet) with daily retail person trip rate. The Pedestrian Core area retail component has been estimated to generate a total of 8,175 daily person trips. This trip generation is a combination of both person trips that travel on foot and person trips that travel by car.

The peak hour to daily generation ratio has been calculated to be 12 percent for the retail component. Therefore, the retail component has been forecast to generate a total of 981 peak hour person trips, both pedestrian and "vehicle-person" trips.

For purposes of this analysis, the majority of the retail person trips have been considered "vehicle-person" trips, as the majority of pedestrian trips to/from the lodging units would be associated with movements between the gondola at the end of the ski day. Additionally, due to the winter weather conditions, two-thirds of the retail "vehicle-person" trips have been assumed to park in the parking structure on the same side of Minaret Road as their retail destination. One-third of the "vehicle-person" trips

**Table 5.4-17  
PEDESTRIAN GENERATION AT PEDESTRIAN CORE AREA**

Residential Component	West of Millers Siding	West of Minaret Road	East of Minaret Road	Total
1. Residential Units	335	289	230	854
2. Daily Person Trip Rate	17	17	17	17
3. Daily Person Trip Generation	5,695	4,913	3,910	14,518
4. Total Daily Auto Trips <sup>1</sup>				4,895
5. Daily Person Trips by Auto <sup>2</sup>	4,224	3,644	2,900	10,769
6. Daily Person Trips by Walk/Transit (3.-5.)	1,471	1,269	1,010	3,749
7. Peak Hour Person Trips by Walk/Transit <sup>3</sup>	162	140	111	412
Residential Component	West of Millers Siding	West of Minaret Road	East of Minaret Road	Total
1. Retail Square Footage	-	69,360	46,260	115,620
2. Daily Person Trip Rate	-	70.71	70.71	70.71
3. Daily Person Trip Generation	-	4,904	3,271	8,175
4. Peak Hour Person Trip Generation <sup>3</sup>	-	589	393	981
5. Peak Hour Person Trip-Same Side Destination	-	394	263	657
6. Peak Hour Person Trip-Other Side Destination	-	194	130	324
<b>Total Estimated Peak Hour Pedestrian Crossing</b>	-	-	-	435

Notes:

<sup>1</sup> Source: *Mammoth Master Transportation Plan Modeling Support*, RKJK, August 24, 1998, Table 8, pg.21.

<sup>2</sup> Total daily auto trips of 4,895 multiplied by average vehicle occupancy (AVO) of 2.2 persons per auto, allocated proportionally to the three residential areas.

<sup>3</sup> Peak hour person trips by walk/transit is daily person trips by walk/transit multiplied by peak hour factor calculated to be 0.11.

<sup>4</sup> Peak hour person trip generation is daily person trip generation multiplied by peak hour factor calculated to be 0.12.

**Traffic/Circulation**

would park on one side of Minaret Road and walk across the street to their ultimate destination. Given these conditions, approximately 324 pedestrians would cross Minaret Road to walk to their ultimate retail destination.

The combined influence of the residential and retail elements of the Pedestrian Core area is estimated to result in approximately 435 pedestrians crossing Minaret Road at both the crosswalks during the Saturday typical winter p.m. peak hour (refer to LSA simulation discussion below). At least 600 pedestrians per hour can cross Minaret Road at two locations with insignificant queuing impacts to vehicular travel.

According to the *1994 Highway Capacity Manual*, Chapter 13: Pedestrians, 435 pedestrians per hour crossing two 20-foot wide walkways over 40 feet would be considered LOS A for a standard walkway. The pedestrian LOS across the two crosswalks would be excellent at a volume of between 435 and 600 pedestrian per hour. Therefore, significant impacts are not anticipated in this regard.

Traffic Control Officer. It was suggested that a test of a traffic control officer simulation be evaluated. To simulate this condition, the primary pedestrian crossing was coded as an intersection with pedestrian traffic only crossing Minaret.

The simulation optimized at a 90 second cycle with 20 seconds provided for the pedestrian phase. This would allow 7 seconds of "walk," 11 seconds (44 feet divided by 4 feet per second) of "don't walk" clearance, and 2 seconds of final clearance. This simulation did not yield southbound queues (the peak direction) backing up into the next pedestrian crossing to the north (approximately 350 feet to the north).

This simulation was tested with vehicular speeds of 25, 30, and 35 mph and, in all cases, the queues did not back up into the next pedestrian crossing.

The concept of using a traffic control officer at the pedestrian crossings during peak traffic and pedestrian periods was concluded to be a viable option. The simulation has effectively demonstrated that, even with conservative delays to vehicular traffic (i.e., 20 seconds), the delays and queues would not impede or unnecessarily congest traffic on Minaret Road.

Pedestrian Traffic Signal. LSA Associates, Inc., also evaluated pedestrian traffic signal warrants.<sup>7</sup> Based on the Caltrans Traffic Manual which addresses traffic signal warrants, in general, and specific warrants for pedestrian volumes, there are four specific criteria that should be met to warrant a pedestrian signal:

- Pedestrian volume during an average day should be either 100 or more for each of any four hours or 190 or more during any one hour.

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<sup>7</sup> Ibid.

*This criterion could potentially be met for the project on a typical winter Saturday; however, it is not likely to be met for an average day.*

- There must also be fewer than 60 gaps per hour in the traffic stream of adequate length for pedestrian to cross. Where there is a divided street having a median of sufficient width for the pedestrians to wait, this requirement applies separately to each direction of vehicular traffic.

*It is not likely that this criterion could be met for the project, since a median of 10 feet is proposed leaving a street width of 17 feet to traverse, requiring only 4 to 5 seconds of gap to cross. Only 1 gap of greater than 5 seconds would need to occur per minute to fail this criterion. The average vehicular volume per minute is approximately 15 vehicles; therefore, it is reasonable to assume that at least 1 gap would be greater than 5 seconds, since the average for all gaps is approximately 4 seconds.*

- The nearest traffic signal along the major street is greater than 90 meters.

*This criterion would be met for the project.*

- The new traffic signal will not seriously disrupt progressive traffic flow on the major road.

*This criterion would appear to be met for the project based on the simulation prepared to date.*

Since only three of the four criterion were met, it is not likely that minimum pedestrian traffic signal warrants could be met.

Based on the data provided above with respect to pedestrian LOS, a traffic control officer, and a pedestrian traffic signal, project implementation would not substantially increase hazards associated with increased pedestrian activity. Further, as the concept of using a traffic control officer at the pedestrian crossings during peak traffic and pedestrian periods was concluded to be a viable option, mitigation has been incorporated requiring monitoring the future viability of continued use of an officer.

## **Transit**

- 5.4-6 *Project implementation is consistent with the Town's current policy to encourage transit, pedestrian, and bicycle transportation, and to discourage vehicular transportation. Mitigation is recommended to reduce impacts to a less than significant level.*

The Town of Mammoth Lakes has been refining its long-range planning regarding the local transit system; most recently the Mammoth Multi-Modal Transportation Plan Study Report was prepared by RKJK in 1995. In addition to existing transit routes, the RKJK study recommends the addition of a route running north-south along Minaret Road.

The 1991 Specific Plan, 1994 Specific Plan and 1999 Specific Plan Amendment assumed transportation demand management (TDM) requirements, including participation in developing and maintaining a transit system. The Regional Transportation Plan (December 1992) adopted by the Local Transportation Commission, the Mammoth Lakes Trail System Plan (May 1991) adopted by the Town Council, the Transit Design Study (June 1993) adopted by the Town Council, and the Main Street Promenade and Transportation Forecasting Model/Multi-Modal Transportation Plan approved by the Town of Mammoth Lakes support the Town goal to concentrate efforts for non-vehicular transportation modes to facilitate increased person trips. As a result, all new development participates on a fair share basis in the development and operation of a community-wide transit system to achieve the ridership levels assumed in the MTM. Fair share contribution mitigation has been cited to reduce impacts to a less than significant level.

### **MITIGATION MEASURES**

The following mitigation measures directly correspond with the numbered impact statements in the Impacts analysis. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

It should be noted that in a number of cases, no mitigation is recommended for the proposed 1999 Specific Plan Amendment; this is a direct result of applying the new traffic model that generates different traffic data, assuming typical winter Saturday traffic conditions in lieu of assuming peak winter Saturday traffic conditions, changing the LOS performance criteria threshold from LOS C to LOS D, and the proposed reduced development intensity.

#### **PROJECT TRAFFIC** (refer to Table 5.4-18)

- 5.4-1a      *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Forest Trail intersection be improved by the installation of a traffic signal, the addition of a southbound left turn lane, an eastbound right turn lane with protected phasing, and restripe the westbound approach to include a left turn lane and a shared through-right turn lane is no longer applicable):* A modern roundabout is included as part of the 1999 Specific Plan Amendment to replace the Minaret Road/Forest Trail intersection; hence, no mitigation

is recommended since an acceptable LOS (LOS D or better) is achieved with the roundabout.

- 5.4-1b *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Lake Mary Road-Main Street intersection be improved through the modification of signal phasing to an eight phase signal, the addition of a dedicated northbound right turn lane, restriping the southbound approach to include dual left turn lanes, one through and one shared through/right turn lane, and the addition of a westbound dual left turn lane is no longer applicable):* The proposed 1999 Specific Plan Amendment includes the addition of a second southbound left turn (dual left turn lanes), and the installation of an eight phase traffic signal at the Minaret Road/Lake Mary Road-Main Street intersection; hence, no mitigation is recommended since an acceptable LOS (LOS D or better) is achieved with the additional southbound left turn lane and signalization of the intersection.
  
- 5.4-1c *(Measure modified from Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended no modifications to the Forest Trail/Main Street intersection):* Installation of a traffic signal at the intersection of Forest Trail/Main Street Mitigation Measure is consistent with the Town of Mammoth Lakes' Developer Fee (DIF) Program, Project #Tc-05.
  
- 5.4-1d *(Measure modified from Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Old Mammoth Road/Main Street intersection be restriped on the northbound approach to include an exclusive left turn lane, and a shared left turn lane, restriping the eastbound approach to include one through lane, a shared through/right turn lane and a dedicated right turn lane):* Fair share payment of the protected right turn phase for eastbound right turning vehicles.

Table 5.4-18 summarizes the forecast existing plus approved projects plus proposed 1999 Specific Plan Amendment operation of the study area intersections for typical winter Saturday conditions assuming the above recommended mitigation measures.

**Table 5.4-18  
EXISTING + APPROVED PROJECTS + PROPOSED  
1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY INTERSECTION MITIGATED LOS**

Intersection	Traffic Control	Mitigated ICU	Mitigated Delay	Mitigated LOS
Forest Trail/Main St	signal	0.50	N/A	A

Traffic/Circulation

As seen in Table 5.4-18, the Forest Trail/Main Street intersection is forecast to operate at an acceptable LOS for existing plus approved projects plus the proposed 1999 Specific Plan Amendment typical winter Saturday peak hour conditions with recommended mitigation measures.

**PROJECT PLUS CUMULATIVE TRAFFIC** (refer to Table 5.4-19)

- 5.4-2a      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Old Mammoth Road from Main Street to Chateau Road be widened from two to four lanes is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved on Old Mammoth Road from Main Street to Chateau Road with the proposed 1999 Specific Plan Amendment.
- 5.4-2b      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Old Mammoth Road from Meridian Boulevard to Chateau Road be widened from two to four lanes with a continuous left turn lane):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved on Old Mammoth Road from Meridian Boulevard to Chateau Road with the proposed 1999 Specific Plan Amendment.
- 5.4-2c      *(Measure modified from Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Meridian Boulevard from Majestic Pines Road to Old Mammoth Road be widened to include a continuous left turn lane):* Restripe roadway to include two travel lanes and a continuous left turn lane, or other measure designed to achieve an acceptable LOS (LOS D or better) on Meridian Boulevard from Majestic Pines to Old Mammoth Road.
- 5.4-2d      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Minaret Road from Forest Trail to Main Street be widened from two to four lanes):* No mitigation is recommended (assuming implementation of the Minaret Road/Forest Trail roundabout included as part of the proposed 1999 Specific Plan Amendment).
- 5.4-2e      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Minaret Road from Main Street to Old Mammoth Road be widened from two to four lanes is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved on Minaret Road from Main Street to Old Mammoth Road with the proposed 1999 Specific Plan Amendment.

- 5.4-2f      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Main Street from Sierra Boulevard to Minaret Road be widened and restriped to provide a continuous left turn lane and a four lane configuration is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved on Main Street from Sierra Boulevard to Minaret Road with the proposed 1999 Specific Plan Amendment.
- 5.4-2g      *(Mitigation Measure 4.7-1 in the 1994 EIR Addendum, which recommended that Lake Mary Road from Main Street to Lakeview Road be widened from two to four lanes is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved on Lake Mary Road from Main Street to Lakeview Road with the proposed 1999 Specific Plan Amendment.
- 5.4-2h      *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Lakeview Boulevard Cut-Off/Lake Mary Road intersection be improved by restriping the eastbound approach to include an exclusive left turn lane and through lane, widen the westbound approach to provide one through lane and one dedicated left turn lane, restripe the southbound approach to provide an exclusive left turn lane and a shared left/right turn lane is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved at the Lakeview Boulevard Cut-Off/Lake Mary Road intersection with the proposed 1999 Specific Plan Amendment.
- 5.4-2i      *(Measure modified from Mitigation Measure 4.7-2 in the 1994 EIR Addendum):* The Millers Siding/Lake Mary Road intersection shall be improved by the installation of a traffic signal, provision of dual southbound left turn lanes, and the provision on the westbound approach for one through lane and one dedicated right turn, or other measure designed to achieve an acceptable LOS (LOS D or better) at the Millers Siding/Lake Mary Road intersection.
- 5.4-2j      *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Lake Mary Road-Main Street intersection be improved by modification of the existing signal phasing to an eight phase traffic signal, provision for a dedicated northbound right turn lane, restriping the southbound approach to include dual left turn lanes, one through lane and one shared through right turn lane, and provision for westbound dual left turn lanes is no longer applicable):* The proposed 1999 Specific Plan Amendment includes the addition of a second southbound left turn (dual left turn lanes), and the installation of an eight phase traffic signal at the Minaret Road/Lake Mary Road-Main Street intersection; hence, no mitigation is recommended since an

acceptable LOS (LOS D or better) is achieved with the additional southbound left turn lane and signalization of the intersection.

- 5.4-2k (New Mitigation Measure): Installation of a traffic signal at the Center Street/Main Street intersection is recommended to mitigate the forecast deficient LOS at this intersection with the proposed 1999 Specific Plan Amendment (consistent with the Town of Mammoth Lakes' Developer Impact Mitigation Fee (DIF) Program, Project #TC-05 would remain at LOS F peak hour operation).
- 5.4-2l (Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Meridian Boulevard intersection be improved by widening the northbound and southbound approaches to include an exclusive left turn lane, one through lane, and one shared through/right lane on each approach is no longer applicable): No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved at the Minaret Road/Meridian Boulevard intersection with the proposed 1999 Specific Plan Amendment.
- 5.4-2m (Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Old Mammoth Road/ Meridian Boulevard intersection be improved by widening the northbound approach to provide dual left turn lanes, one through lane and one shared through/right turn lane, and restriping the southbound approach to include a shared through/right turn lane is no longer applicable): No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved at the Old Mammoth Road/Meridian Boulevard intersection with the proposed 1999 Specific Plan Amendment.
- 5.4-2n (Measure modified from Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Old Mammoth Road intersection be improved by installation of an eight phase traffic signal, widening the northbound and southbound approaches to provide an exclusive left turn lane, two through lanes, and a dedicated right turn lane for each approach, widening the eastbound approach to provide an exclusive left turn lane, one through lane and one dedicated right turn lane, and widening the westbound approach to provide dual left turn lanes, one through lane and one dedicated right turn lane): Install an eight phase traffic signal, and widen the northbound approach to include an exclusive northbound left turn lane and a shared through/right turn lane (DIF improvement) to achieve an acceptable LOS (LOS D or better) with the proposed 1999 Specific Plan Amendment.
- 5.4-2o (New Mitigation Measure): Install a traffic signal at the Azimuth Drive/Meridian Boulevard intersection to satisfy when warranted in accordance with Caltrans Signal Warrant assuming the proposed 1999

Specific Plan Amendment analysis methodology or other measure designed to achieve an acceptable LOS (LOS D or better) at the Azimuth Drive/Meridian Boulevard intersection.

- 5.4-2p *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Minaret Road/Chateau Road intersection be improved by installation of a two phase traffic signal, restriping the northbound Minaret approach to provide one through lane and one shared through/right turn lane, widening the southbound Minaret approach to provide one exclusive left turn lane and two through lanes, and restriping the westbound Chateau approach to provide an exclusive left turn lane and a shared left/right turn lane is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved at the Minaret Road/Chateau Road intersection with the proposed 1999 Specific Plan Amendment.
  
- 5.4-2q *(Mitigation Measure 4.7-2 in the 1994 EIR Addendum, which recommended that the Old Mammoth Road/Chateau Road intersection be improved by installation of a two phase traffic signal, restriping the southbound Old Mammoth approach to provide one exclusive left turn lane, one through lane, and one shared through/right turn lane, and widening the northbound Old Mammoth approach to provide one exclusive left turn lane, one through lane, and one shared through/right turn lane is no longer applicable):* No mitigation is recommended since an acceptable LOS (LOS D or better) is achieved at the Old Mammoth Road/Chateau Road intersection with the proposed 1999 Specific Plan Amendment.
  
- 5.4-2r *(Measure modified from Mitigation Measure 4.7-2 in the 1994 EIR Addendum):* Sierra Boulevard/Main Street intersection shall be improved by restriping the southbound approach to provide a left turn lane and a right turn lane, and monitoring of the unsignalized intersection periodically to determine if Caltrans Signal Warrants are satisfied to recommend signalization of the Sierra Boulevard/Main Street intersection.

Table 5.4-19 summarizes the forecast operation of the study intersections for typical winter Saturday conditions assuming buildout of the Town of Mammoth Lakes General Plan with the proposed 1999 Specific Plan Amendment assuming the above recommended mitigation measures.

As seen in Table 5.4-19, the five study intersections are forecast to operate at an acceptable LOS for typical winter Saturday peak hour conditions assuming buildout of the Town General Plan with the proposed 1999 Specific Plan Amendment with the recommended mitigation measures.

**Table 5.4-19  
FORECAST GENERAL PLAN BUILDOUT WITH PROPOSED  
1999 SPECIFIC PLAN AMENDMENT  
TYPICAL WINTER SATURDAY INTERSECTION MITIGATED LOS**

Intersection	Traffic Control	Mitigated ICU	Mitigated Delay	Mitigated LOS
Center Street/Main Street	signal	0.75	N/A	C
Forest Trail/Main Street	signal	0.58	N/A	A
Minaret Road/Old Mammoth Road	signal	0.90	N/A	A
Azimuth Drive/Meridian Boulevard	signal	0.60	N/A	A

**PARKING**

5.4-3a (New Mitigation Measure): Prior to the approval of a development project, the applicant shall submit a shared parking analysis for review and approval by the Planning Commission to determine the appropriate mix of land uses that would be accommodated by the proposed parking. The study shall consider the type of uses (i.e., office, retail and restaurant) and their variations in peak parking demand as the result of different activity patterns, and attractions to two or more land uses on one visit to the development. The shared parking analysis shall be based on the 1999 Specific Plan Amendment parking rates or the Town's parking rates where applicable. The study methodology shall be based on the *Urban Land Institute Shared Parking Manual*, 1983.

5.4-3b (New Mitigation Measure): The 1999 Specific Plan Amendment shall address parking requirements for land uses that do not provide for shared parking.

**SAFETY HAZARDS - ROUNDABOUT**

5.4-4 (New Mitigation Measure): The developer shall incorporate into the design of the roundabout the design, lighting, and landscaping features noted in the *Feasibility Study: Mammoth Roundabout* (Ourston & Doctors, November 1, 1998) with final approval by the Town and Caltrans. At a minimum these shall include:

- To slow traffic on entry, adequate vehicle path deflection shall be provided through approach roads aimed at the central island. These shall veer to the right immediately before the yield lines.

**Traffic/Circulation**

- Additional street lights shall be installed at the roundabout and on its approaches back to a distance of 200 feet from the yield lines. The lighting shall provide at least 1.9 foot candles of horizontal luminance. Street lights shall be evenly spaced in a ring around the outside of the roundabouts and along the approaches to the roundabout.
- The outer margin of the central island shall have low ground cover which provides adequate stopping sight distance for circulating traffic. The central portion of the island shall be available for objects of any height, including trees, walls, and public art.
- Pedestrian crossing shall be divided into two stages: from the near-side wheelchair ramp out to the splitter island, and then from the splitter island to the far-side wheelchair ramp.

#### **SAFETY HAZARDS - PEDESTRIAN ACTIVITY**

- 5.4-5 (New Mitigation Measure): The developer shall prepare and provide to the Town Engineer for review and approval, a Traffic Control Officer Monitoring Plan. The Plan shall outline at a minimum, scheduled days of monitoring together with a program to determine additional days of monitoring as may be determined by projected occupancy rates, performance criteria, duration of monitoring, and responsible parties.

#### **TRANSIT**

- 5.4-6 (New Mitigation Measure): New development shall participate on a fair share basis in the development and operation of a community-wide winter transit system to achieve the ridership levels assumed in the MTM.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 EIR and 1994 EIR Addendum for the North Village Specific Plan and the Town of Mammoth Lakes General Plan EIR would occur, with implementation of recommended mitigation. The analysis for project traffic, project plus cumulative traffic, parking, safety and transit has concluded that impacts are mitigated to less than significant levels.

## 5.5 AIR QUALITY

The purpose of this Section is to recognize that substantial changes in circumstances have occurred with air quality conditions and standards. A new baseline condition exists and comparing to the 1994 EIR Addendum is not appropriate.

Information in this Section is based primarily upon the *Mono County Ozone Attainment Plan*, prepared by the Great Basin Unified Air Pollution Control District (APCD) dated April 24, 1991, *Air Quality Data* published by the California Environmental Protection Agency Air Resources Division for 1994 through 1998, the *Air Quality Management Plan for the Town of Mammoth Lakes*, prepared by the APCD and Town of Mammoth Lakes dated November 30, 1990, the *Progress Report on the Implementation of the Mammoth Lakes Air Quality Management Plan* prepared by the APCD dated April 1995, *No Burn Day Compliance Study* for the Town of Mammoth Lakes, June 16, 1994, and the *Environmental Impact Report (EIR) for the Town of Mammoth Lakes General Plan* dated January 1986. This Section evaluates potential short-term air quality impacts associated with construction activity, in addition to long-term local and regional air quality impacts associated with the proposed 1999 Specific Plan Amendment. In accordance with APCD requirements, cumulative impacts to air quality are also analyzed in this Section.

### **EXISTING CONDITIONS**

#### **GREAT BASIN VALLEY AIR BASIN**

The State of California is divided into multiple air basins which are grouped into geographical areas with similar climate, topographical and meteorological conditions. Mono County is located in the Great Basin Valley Air Basin (GBVAB) which also encompasses Alpine and Inyo Counties. The GBVAB is defined by the Sierra Nevada mountain range to the west, the White, Inyo and Coso ranges to the east, Mono Lake to the north, and Little Lake to the south.

#### **Climate**

The climate of Mono County is characterized by wide fluctuations in daily temperatures, clear skies, excellent visibility and hot summers. The Town is located at an elevation of 8,000 feet above mean sea level and receives an annual average snowfall of 200+ inches per year.<sup>1</sup> Typically, the majority of the snowfall occurs between December and February with an annual average of 43 inches of water (can

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<sup>1</sup> Town of Mammoth Lakes General Plan Housing Element, July 1, 1992, page 13.

be equated to approximately 29 feet of snowpack) recorded at Mammoth Pass.<sup>2</sup> The average minimum temperature is in the upper 20's with the average maximum temperatures in the mid- to high 50's. Spring is the windiest season with fast-moving northerly weather fronts. Summer winds blow northerly at night as a result of cool air draining off the sides of the surrounding mountains. Southerly winds during the day result from strong solar heating of the mountain slopes causing up-slope circulation. The mean annual wind speed in Mammoth Lakes is less than 11 miles per hour. Mean annual wind speeds measured just outside of Mammoth Lakes at elevations of 8,900 feet and 7,800 feet above mean sea level were 21.7 and 11.5 miles per hour, respectively.

During winter months, periods of cold clear weather with low wind speeds create temperature inversions in the town. Temperatures at the 7,800 foot level may be as much as 20°F colder than at the 8,200-foot level. These inversions trap particulates causing pollutant concentrations to climb. It is during these winter inversions that Mammoth Lakes may experience violations of the State and Federal PM<sub>10</sub> standards.

## AIR QUALITY MANAGEMENT AND STANDARDS

Criteria air pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health. These pollutants include ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), fine particulate matter (PM<sub>10</sub>), and lead. The Federal and State standards have been set at levels above which concentrations could be generally harmful to human health and welfare.

As previously mentioned, the Town of Mammoth Lakes is located in the GBVAB and, jurisdictionally, is governed by the Great Basin Unified Air Pollution Control District (APCD) and the California Air Resources Board (CARB). Under the provisions of the Federal Clean Air Act (CAA), the Environmental Protection Agency (EPA) was required to classify each air pollution control district with respect to attainment or non-attainment status. Areas that violate Federal or State ambient air quality standards are referred to as "non-attainment areas" for the respective pollutants. The Mammoth Lakes portion of the Basin is a non-attainment-transitional area for O<sub>3</sub> (State standard only) and a non-attainment area for PM<sub>10</sub> (State and Federal standards). The non-attainment-transitional designation for O<sub>3</sub> was recently assigned by the Federal government and is defined as a sub-category of the non-attainment designation. By operation of law, if air quality data shows that the State O<sub>3</sub> standard was exceeded three or fewer times at each of the sites in an Air Basin during the most recent year of available monitoring data, then an area may be temporarily re-designated as non-

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<sup>2</sup> Telephone conversations with Mr. Howard Schector, Eastern Sierra Weather Services, January 8, 1997 and February 25, 1997.

attainment-transitional. It should be noted that this transitional designation is considered to be the same as a non-attainment designation when determining environmental impacts.

The Federal CAA was amended in November 1990, primarily to overhaul the planning provisions of those areas not currently meeting the Federal ambient air quality standards. The Federal CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to meet interim milestones.

The California Clear Air Act (CCAA) was signed into law on September 30, 1988, became effective on January 1, 1989, and was amended in 1992. Also known as the "Sher Bill" (AB 2595), the CCAA established a legal mandate to achieve health-based State air quality standards at the earliest practicable date.

As a non-attainment area, the APCD must participate in the State Implementation Plan (SIP) pursuant to the Federal CCA and amendments thereto. Both Federal and State Clean Air Acts require the preparation of a plan to reduce pollution to healthful levels. In accordance with the State Lewis Air Quality Management Act (1976) and the Federal CAA Amendments, the APCD prepared the *Mono County Ozone Attainment Plan* which is the primary document within the Basin to define a control strategy for the attainment of O<sub>3</sub> in Mono County. The *Air Quality Management Plan for the Town of Mammoth Lakes* (adopted by the Town Council and APCD Board of Directors in November and December 1996) is the primary document for the Town intended to satisfy the Federal CAA requirement to develop a SIP to demonstrate how the Mammoth Lakes area will attain and maintain the national ambient air quality standard for PM<sub>10</sub>. The Plan includes analyses of PM<sub>10</sub> sources, their impact, and the effectiveness of control measures to improve the PM<sub>10</sub> levels; concluding that the primary sources of PM<sub>10</sub> emissions in the Town are generated by wood smoke and road cinders. Control measures contained in the Plan include, but are not limited to, vacuum street sweepers for cinders and road dust, reduction in vehicle traffic, wood stove replacement, opacity limits, fees and penalties. A *Progress Report on the Implementation of the Mammoth Lakes Air Quality Management Plan* was prepared by the APCD in April 1995 which documents the progress of the 1990 Plan control measures.

## AMBIENT AIR QUALITY

The Great Basin Unified APCD is the regional agency with jurisdiction over the control of air quality in the GBVAB. The APCD operates several air quality monitoring stations within the Basin. The nearest air quality monitoring station to the North Village Specific Plan area is located within the Town of Mammoth Lakes. Air quality data from 1994 to 1998 for the Mammoth Lakes Station is provided in Table 5.5-1, *Local Air Quality Levels*.

**Table 5.5-1  
LOCAL AIR QUALITY LEVELS  
Compared to State and Federal Standards  
As monitored at the Mammoth Lakes Monitoring Station**

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration <sup>1</sup>	Days (Samples) State/Federal Std. Exceeded
Carbon Monoxide	20 ppm (1-hour average)	35 ppm (1-hour average)	1994	9.0*	0/0
			1995	10.0	0/0
			1996	6.0	0/0
			1997	8.2	0/0
			1998	6.7	0/0
	9 ppm for 8 hours	9 ppm for 8 hours	1994	5.7*	0/0
			1995	5.4	0/0
			1996	3.0	0/0
			1997	3.39	0/0
			1998	3.04	0/0
Ozone	0.09 ppm (1-hour average)	0.12 ppm (1-hour average)	1994	0.13	14/1
			1995	0.11	2/0
			1996	0.09	0/0
			1997	0.09	0/0
			1998	0.08	0/0
Fine Particulate Matter <sup>2</sup>	50 ug/m <sup>3</sup> (24 hour-average)	150 ug/m <sup>3</sup> (24 hour-average)	1994	92	(10/0)
			1995	122	(6/0)
			1996	74	(3/0)
			1997	112	(6/0)
			1998	106	(3/0)

Source: California Air Quality Data, Summaries of 1994-1998 Air Quality Data Gaseous and Particulate Pollutants, California EPA, Air Resources Board (per the Air Resources Board, 1998 data is most current annual summary available).

<sup>1</sup> Maximum concentration measured over same period as California standard.

<sup>2</sup> PM<sub>10</sub> refers to fine particulates with an aerodynamic diameter of 10 microns or less. The above number of samples which exceed State/Federal standards were based on samples typically taken every 6 days (not 365 days per year).

NS: No standard set

NM: Not measured

\* Less than 12 months of monitoring

ppm: parts per million

ug/m<sup>3</sup>: micrograms per cubic meter

Note: Nitrogen dioxide, sulfur dioxide and lead were not measured at the Mammoth Lakes Monitoring Station or other nearby station within the Great Basin Valley Air Basin for the years 1994 through 1998.

The following air quality information briefly describes the various types of pollutants and their monitored levels at the Mammoth Lakes Monitoring Station. For a definition of the pollutants which are not monitored at this Station (NO<sub>2</sub>, SO<sub>2</sub> and lead), refer to Appendix 16.4, *Air Quality Data*.

### **Carbon Monoxide (CO)**

CO is a colorless and odorless gas. The automobile and other types of motor vehicles are the main source of this pollutant in the GBVAB. The State standard of CO is 20.0 ppm (parts per million), averaged over one hour. The maximum one-hour concentration has fluctuated at the Mammoth Lakes Monitoring Station averaging 8 ppm from 1994 to 1998.

### **Ozone (O<sub>3</sub>)**

O<sub>3</sub> is one of a number of substances called photochemical oxidants. These oxidants are formed when hydrocarbons and related compounds, also called volatile organic compounds (VOC) and reactive organic compounds (ROC), both by-products of the internal combustion engine, interact in the presence of ultraviolet sunlight. O<sub>3</sub> is present in relatively high levels in this Basin. The State standard for O<sub>3</sub> is 0.09 ppm, averaged over 1 hour. The O<sub>3</sub> levels at the Mammoth Lakes Station have decreased each year from 0.13 ppm in 1993, to 0.08 ppm in 1998. The State standard was exceeded 14 days in 1994 and 2 days in 1995 with no exceedances since 1995.

### **Fine Particulate Matter (PM<sub>10</sub>)**

PM<sub>10</sub> are extremely small suspended particulates or small in diameter (10 microns). (A micron is one millionth of a meter). PM<sub>10</sub> arises from sources such as road dust, diesel soot, combustion products, construction operations and dust storms. PM<sub>10</sub> scatters light monitored and significantly reduces visibility. The State standard is 50 micrograms per cubic meter (ug/m<sup>3</sup>) averaged over 24 hours. Maximum concentrations at the Mammoth Lakes Station ranged from 122 ug/m<sup>3</sup> in 1995 to 74 ug/m<sup>3</sup> in 1996.

## **SENSITIVE RECEPTORS**

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) who are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Several residential uses are located within and immediately adjacent to the North Village Specific Plan area. Single and multiple-family residential uses are distributed throughout the Specific Plan area. A mix of multiple-family duplexes and single-family residences surround the Specific Plan area.

## **TOXIC AIR CONTAMINANTS (TACs)**

The APCD implements TAC controls through Federal, State and local programs. Federally, TACs are regulated by EPA under Title III of the CAA. At the State level, the CARB has designated all 189 Federal hazardous air pollutants as TACs, under the authority of AB 1807. The Air Toxics Hot Spots Information and Assessment Act (AB 2588) requires inventories and public notices for facilities that emit TACs. SB 1731 amended AB 2588 to require facilities with "significant risks" to prepare a risk reduction plan (reflected in APCD Rules and Regulations). The APCD also regulates source-specific TACs.

## **IMPACTS**

### **Summary of Previous Environmental Documentation for North Village**

Short-Term Emissions. The 1991 EIR identified potentially significant short-term construction impacts from PM<sub>10</sub> concentrations in fugitive dust. Mitigation measures requiring site watering twice per day and use of drift fencing tackifiers and stockpile covering for inactive construction areas were recommended to reduce impacts to a less than significant level. The 1991 EIR also identified construction vehicles and equipment as creating potentially significant short-term hot spot violations of Federal and State CO standards. Mitigation to reduce unnecessary idling of construction equipment was recommended to reduce impacts to less than significant levels. The 1994 EIR Addendum deferred to the 1991 EIR analysis and stated that there would be no changes in impacts, mitigation measures or cumulative impacts with implementation of the 1994 Specific Plan.

Long-Term Emissions. The 1991 EIR identified potentially long-term significant air quality impacts from three different sources: 1) localized CO hotspots; 2) contribution to PM<sub>10</sub> levels from resuspended road cinders and vehicle tail pipe and tire wear; and 3) impacts of wood burning fireplace on PM<sub>10</sub> levels. Mitigation measures relating to compliance with APCD requirements and other measures regarding limitations on the number of fireplaces, limiting residential units to one wood burning appliance per dwelling, etc., were recommended to reduce potential long-term air quality impacts to less than significant levels. The 1994 EIR Addendum deferred to the 1991 EIR for the air quality analysis and conclusions and did not provide an additional evaluation regarding air quality impacts.

Localized CO Emissions. As stated in the 1991 EIR, by generating additional traffic in the Town of Mammoth Lakes, the 1991 Specific Plan would affect local traffic patterns and, thereby, change the local spatial and temporal distributions of ambient CO. Local air quality effects were estimated in the 1991 EIR by using the CALINE4 air pollutant dispersion model to determine if the 1991 Specific Plan would cause exceedances of the 1-hour or 8-hour Federal or State standards at local intersections. The CO State 1-hour and 8-hour standards are 20.0 ppm and 9.0 ppm respectively (refer to Table 5.5-1, *Local Air Quality Levels*).

The 1991 EIR quantified existing, future cumulative and future cumulative plus project worst-case curbside CO concentrations expected at five intersections where 1991 Specific Plan traffic is expected to have the greatest impact (1991 EIR results reprinted in Appendix 16.4, *Air Quality Data*, of this EIR). As shown in the Appendix, the potential for existing and future violations of the State's 9 ppm 8-hour CO standard exists at two locations. Of the five intersections analyzed, two intersections (Minaret Road/Main Street and Old Mammoth Road/Main Street) showed potential exceedances of the CO standard. Combined traffic impacts from cumulative development plus the 1991 Specific Plan at buildout could exceed the 8-hour CO standards for receptors at the roadside. A sensitivity analysis showed that CO levels at the Minaret Road/Main Street intersection dropped rapidly as receptors were moved away from the intersection. At a receptor distance of 50 feet from the roadside, 8-hour CO concentrations at the intersection of Minaret Road and Main Street were determined to be below the State standard (8.7 ppm). Cumulative development *without* the 1991 Specific Plan did not show the potential for exceedances of the CO standards at any of the intersections reviewed. No exceedances of the 1-hour CO standard were projected as a result of the 1991 Specific Plan or cumulative development.

A 50-foot buffer around the Old Mammoth Road and Main Street intersection was recommended as mitigation in the 1991 EIR and 1994 EIR Addendum to reduce the potential for exposure of individuals to elevated CO concentrations to less than significant levels.

The 1994 EIR Addendum referred to the 1991 EIR for an analysis of CO impacts and did not provide an additional evaluation.

Cumulative. The 1991 EIR states that development of the 1991 Specific Plan would contribute to an increase in the degradation of the general air quality of the Town. Since both population and vehicular traffic would increase as a result of 1991 Specific Plan buildout, the release of pollutants would correspondingly increase. The 1991 EIR quantified PM<sub>10</sub> emissions from cumulative development and identified cumulative levels of PM<sub>10</sub> as significant, both with and without 1991 Specific Plan implementation. The 1991 EIR continues to recommend adherence to the General Plan Transportation Element which calls for transportation systems management measures to reduce peak-

hour trip generation. The 1991 EIR concludes that implementation of the recommended measures would reduce cumulative impacts to ambient air quality to less than significant levels. The 1994 EIR Addendum refers to the 1991 EIR for analysis and does not provide an additional evaluation regarding cumulative air quality impacts.

***Significance Criteria for this EIR***

Air quality impacts can be classified as having effects on either a regional or local scale. According to Appendix G, Initial Study Checklist of the California Environmental Quality Act (CEQA) Guidelines has been utilized to identify impacts from which thresholds of significance have been developed. A project may create a significant air quality impact if the project causes one or more of the following to occur:

- Conflict with, or obstruction of, implementation of air quality management plan (see Impact Statements 5.5-2 and 5.5-4);
- Violation of any air quality standard or substantial contribution to an existing or projected air quality violation (see Impact Statements 5.5-1 through 5.5-4);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (see Impact Statement 5.5-4);
- Expose sensitive receptors to substantial pollutant concentrations (see Impact Statements 5.5-2 and 5.5-3); and/or
- Create objectionable odors affecting a substantial number of people (see Impact Statements 5.5-3 and 5.5-4).

Impacts that would violate Federal standards (e.g., primary standards designed to safeguard sensitive receptors or secondary standards to safeguard public health), or State standards developed by the CARB are considered the threshold of significant unavoidable impacts. The Great Basin Unified APCD has an operational pollutant threshold for PM<sub>10</sub> of 50 ug/m<sup>3</sup>. If operation of a project would exceed this threshold, a significant and unavoidable impact would occur.

The following air quality impacts are categorized below according to topic. Mitigation measures at the end of this Section directly correspond to the identified impact statements.

## SHORT-TERM AIR QUALITY IMPACTS

5.5-1 *Short-term air quality impacts associated with particulate emissions (fugitive dust) may occur from demolition, clearing and grading activities within the Specific Plan area. Analysis has concluded that impacts would be mitigated to a less than significant level with implementation of standard dust control measures required by the APCD.*

Clearing, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces within the Specific Plan area would generate dust. Approximately one-half of the dust would be comprised of large particles (diameter greater than 10 (microns) which would settle out rapidly on nearby horizontal surfaces. (This material is inert silicates, rather than the complex organic particulates released from combustion which are generally more harmful to health.) Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. The remaining portion of the dust would consist of PM<sub>10</sub> (diameter smaller than 10 microns) and if not controlled, could significantly contribute to the current violation of the State and Federal standards in the Mammoth Lakes area.

Dust emissions generated during construction throughout the Specific Plan area can be reduced by approximately 50 percent by implementation of mitigation measures including watering exposed earth surfaces during excavation, grading and general construction activities. Conditions of approval should also include daily clean-up of mud and dust carried onto street surfaces by the individual construction sites/improvements. As a part of construction, haul trips would be necessary to transport excavated material to a designated site approximately one mile or two miles round trip west along Forest Trail. The haul trucks should use tarpaulins or other effective covers to minimize the release of fugitive dust. Upon completion of the individual construction sites/improvements within the Plan area, contractors must implement control measures to reduce wind erosion. These measures include replanting and repaving as soon as possible following construction with irrigation/watering until vegetation is established. In addition, construction activities should be scheduled to not contribute to peak periods of wood burning and vehicular traffic, which have been identified by the APCD as major contributors to exceedances of PM<sub>10</sub> standards.

According to the Great Basin Unified APCD, quantification of fugitive dust and construction equipment emissions are not required.<sup>3</sup> Construction activities within the Plan area would be required to obtain a secondary source permit from the APCD. Conditions of the permit would specify the appropriate dust control measures

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<sup>3</sup> Telephone conversation with Mr. Duane Ono, Great Basin Unified APCD, October 20, 1999.

necessary to adequately control dust emissions during construction. As such, compliance with conditions of the APCD permit would reduce potential short-term air quality impacts to a less than significant level.<sup>4</sup> Although adherence to permit conditions would be required, mitigation measures have been recommended in this Section in accordance with the *Air Quality Management Plan for the Town of Mammoth Lakes*, prepared by the APCD and Town, to ~~reduce~~ assure the reduction of particulate generation to a less than significant level. Additional conditions beyond these measures may be conditioned by the APCD permit. It should also be noted that the Town of Mammoth Lakes General Plan EIR identified that temporary significant impacts associated with fugitive dust would occur during buildout of the General Plan and recommended mitigation measures to minimize the generation of fugitive dust. (These measures are also provided in the aforementioned *Air Quality Management Plan for the Town of Mammoth Lakes*.)

## LONG-TERM PM<sub>10</sub> AIR QUALITY IMPACTS

5.5-2 *Buildout of the proposed 1999 Specific Plan Amendment may result in an overall increase in the local and regional PM<sub>10</sub> pollutant load due to direct impacts from increased traffic and woodstoves. Impacts would remain significant and unavoidable for PM<sub>10</sub> emissions even with implementation of mitigation and proposed project design measures.*

Long-term air quality impacts would primarily consist of fugitive dust generated from traffic and stationary source emissions (generated directly from wood stoves within on-site accommodation units). Existing land uses that are currently located throughout the Specific Plan area may gradually be replaced with implementation of the Specific Plan. Thus, some traffic generated by the existing land uses which are anticipated to remain should be considered as existing emitters of pollutants in this impact analysis. In order to provide a worst-case analysis, the net increase between the existing on-site land uses and the currently proposed 1999 Specific Plan Amendment are analyzed below.

As stated above, there are two thresholds for air quality impacts which must be met. The Federal standard which must be met is 150 ug/m<sup>3</sup> (24-hour average). This standard may not be exceeded in any case and may not be permitted even with a Statement of Overriding Considerations. The State standard which must be met is 50 ug/m<sup>3</sup> (24-hour average). This standard must also be met but, with inclusion of feasible mitigation measures, may be exceeded with a Statement of Overriding Considerations. The specific threshold of significance is the determination that the project would generate over 50 ug/m<sup>3</sup> by itself (GBUAPCD).

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<sup>4</sup> Ibid.

**State Standards Level of Review**

Mobile Sources. Motor vehicles would constitute the primary source of fugitive dust (PM<sub>10</sub>) associated with buildout of the proposed 1999 Specific Plan Amendment. The proposed 1999 Specific Plan Amendment would involve additional vehicle traffic which will produce resultant pollutants beyond existing conditions. In order to provide a worst-case analysis, the existing conditions emissions were utilized as the baseline comparison for this analysis.

In order to determine significance of long-term air quality emissions from development projects, the APCD recommends quantification of long-term PM<sub>10</sub> for comparison to the State daily PM<sub>10</sub> threshold of 50 ug/m<sup>3</sup>.<sup>5</sup> The URBEMIS7G computer model was utilized to calculate the PM<sub>10</sub> emissions from both existing on-site land uses and the proposed 1999 Specific Plan Amendment. As shown in Table 5.5-2, the State PM<sub>10</sub> threshold is currently exceeded with existing on-site uses. This exceedance would be exacerbated with buildout of the proposed Specific Plan Amendment. Even with implementation of APCD standard measures and the design measures included in the Specific Plan (i.e., pedestrian access, public transportation, mixed-uses, etc.) to control PM<sub>10</sub>, impacts would remain significant and unavoidable.

**Table 5.5-2  
PM<sub>10</sub> EMISSIONS FROM MOBILE SOURCES  
(Typical Winter Saturday Conditions)**

Development Scenario	Daily PM <sub>10</sub> Emissions (unmitigated)
Existing Emissions in Specific Plan Area	30.89 ug/m3
Emissions for Buildout of 1999 Specific Plan Amendment	130.53 ug/m3
Net Increase From 1999 Amendment	99.64 ug/m3
APCD PM <sub>10</sub> State Significance Threshold	50 ug/m3 per day
Is Threshold Exceeded (Significant Impact)?	Yes

Notes: Calculations conducted using the URBEMIS7G Computer Model and typical winter Saturday trips as contained in the June 22, 2000 LSA Traffic Study included in Appendix 16.3, *Traffic Impact Analysis*. Existing conditions for typical winter Saturday traffic levels were cited in the Traffic Impact Analysis (Table I) as 4,781 daily trips and the proposed 1999 Specific Plan Amendment was cited as generating a total of 20,200 daily trips (net increase of 15,419 typical winter Saturday trips).

<sup>5</sup> The Great Basin Unified APCD does not require calculation of additional pollutants beyond PM<sub>10</sub>, per telephone conversation with Mr. Duane Ono, Great Basin Unified Air Pollution Control District, January 14, 2000.

Therefore, mitigation is required. Feasible mitigation would include increased street sweeping of road cinders. This could reduce the significance of the impact.

Stationary Sources. As described in the Existing Conditions discussions, the *Air Quality Management Plan for the Town of Mammoth Lakes* was adopted by the Town and APCD to help improve the Town's air quality (Federal particulate standards were occasionally violated on winter days). Through the Town and APCD staffs' investigations, the PM<sub>10</sub> air pollution problem was found to be caused primarily by wood smoke and road cinders. On some days, up to 93 percent of air pollution measured as PM<sub>10</sub> was generated from fireplaces and woodstoves. On other days that violated the PM<sub>10</sub> air quality standard, the problem was caused by a combination of wood smoke and road cinders. Through the *Air Quality Management Plan*, the Town of Mammoth Lakes Municipal Code was amended to include Chapter 8.30, *Particulate Emissions Regulations*. The regulations reduce emissions by phasing out non-certified wood burning appliances and instituting wood burning curtailments (no burn days) during periods of high PM<sub>10</sub> concentrations. The AQMP assumed the North Village area would be developed with commercial uses. The AQMP assumed no new wood burning appliances in the commercial zones. Therefore, prohibiting wood burning within the Specific Plan area may be an improvement over the 1991 and 1994 Specific Plans, but would not represent an improvement over the AQMP forecasts. It would, however, comply with the AQMP relating to anticipated wood burning appliance emissions. Significant particulate emissions from wood burning appliances would not occur if all new development within the Specific Plan area would be required to adhere to the provisions of Chapter 8.30 of the Town's Municipal Code and further be restricted to no new wood burning appliances other than pellet stoves.

#### **Federal Standard Level of Review**

Because the ~~Federal State~~ standard is so much higher than the ~~State Federal~~, meeting the ~~Federal State~~ standard for all sources would meet the ~~State Federal~~ standard. The following discusses impacts to vehicle miles traveled (VMT) which is shown below to exceed the ~~Federal State~~ standard.

Limitation of VMT. The Town's AQMP dated November 30, 1990, included an estimate of vehicle miles traveled (VMT) for 1990 and for the General Plan estimated as 2005. These estimates are contained in Appendix E of the AQMP (included as Exhibits 1 and 2 in Appendix 16.4 of this EIR). One of the adopted regulations, Sections 8.30.110, *Road Dust Reduction Measures*, limited peak VMT in the Town to 106,600. The 1990 estimated VMT was 66,275, while the 2005 Town build out VMT was estimated at 146,915.

Since the adoption of the AQMP, the Town developed a Multi-modal Transportation Plan and Mammoth Transportation Model (MTM) (1995). This model is used to

forecast vehicular traffic volumes assuming buildout of the Town General Plan. As a part of this effort, a comprehensive set of traffic counts was taken in February 1995. A comparison of the traffic projections and VMT for 2005 in the AQMP to the Town buildout from the MTM is shown on Exhibit 3 in Appendix 16.4. In general, the MTM traffic projections are lower, substantially in some cases, resulting in a total VMT for Town buildout on these roadways of 109,400, compared to the AQMP projection of 146,915 for 2005. This Town buildout VMT is still above the maximum VMT of 106,600 prescribed in the AQMP.

A comparison of the existing traffic counts for the 1990 VMT to the 1995 existing counts is shown on Exhibit 4 in Appendix 16.4. This illustrates that even with the extension of Minaret Road, south of Main Street, the 1990 and 1995 VMTs are quite close (within six percent), contrary to the interpolation of the data in 1990. In 1990, it was estimated that VMT would rise to 93,155 in 1995, compared to the actual VMT of 70,105.

With the proposed 1999 Specific Plan Amendment project, an additional 2,800 VMT would be generated at buildout (109,400 VMT minus 106,600 VMT). This VMT increase would thereby result in approximately 102 kilograms per day or 3.3 percent above the total allowable daily mass of PM<sub>10</sub>.

The data suggests that the VMT cap of 106,600 for the streets identified on Exhibit 1 in Appendix 16.4 may not require land use modifications or transit system features beyond those modeled in the MTM. Instead, enhancements to the vacuum street sweeping program and improved conversion to certified stoves/fireplaces may suffice to meet Federal NAAQS.

Because no amount of exceedances are permitted under the Federal threshold, mitigation is required. The 1999 Specific Plan Amendment would be responsible for their fair share of mitigating the increase in PM<sub>10</sub> above the Federal threshold.

## LOCALIZED CARBON MONOXIDE EMISSIONS

5.5-3 *Traffic generated by the proposed 1999 Specific Plan Amendment may cause the State 8-hour standard for CO to be exceeded at the intersection of Forest Trail/Main Street. Implementation of recommended mitigation measures to install a signal would reduce the impact at this intersection to a less than significant level.*

As previously summarized, the 1991 EIR identified a potential exceedance of the State 8-hour CO standard at two intersections. These intersections are further analyzed below as they relate to the proposed 1999 Specific Plan Amendment conditions:

- *Old Mammoth Road/Main Street:* Under the 1991 EIR, mitigated conditions for cumulative plus project conditions, the Old Mammoth Road/Main Street intersection would operate at LOS (Level of Service) A with a corresponding 8-hour CO concentration of 9.0 ppm (the 8-hour State standard is 9.0 ppm). (Refer to Section 5.4, *Traffic and Circulation*, for a complete definition of LOS.) Under the proposed 1999 Specific Plan Amendment, this same intersection would operate at LOS B (acceptable LOS). Although this intersection would operate at an acceptable LOS under both 1991 and 1999 Specific Plans, the mitigation measure recommended in the 1991 Specific Plan EIR for this location regarding prohibiting development within 50 feet of the intersection would still apply to the proposed 1999 Specific Plan Amendment project. According to the previous analysis, implementation of this mitigation measure would reduce potential CO concentration impacts at this intersection to a less than significant level.
  
- *Minaret Road/Main Street:* Under the 1991 EIR for cumulative plus project conditions, the Minaret Road/Main Street intersection would operate at LOS F with a corresponding 8-hour CO concentration of 9.6 ppm. Under the proposed 1999 Specific Plan Amendment, this same intersection would operate at LOS F without mitigation then be improved to LOS D (acceptable LOS) with proposed roadway/intersection improvements. Although the LOS would improve when compared to the 1991 analysis, the LOS would still decrease from C to D when compared to non-project conditions. The text of the 1991 EIR states that with a receptor distance of 50 feet from the roadway at this location, the 8-hour CO concentration would decrease to 8.7 ppm, below the 9.0 ppm State standard. However, a mitigation measure was not included in the 1991 EIR or 1994 EIR Addendum to condition the location of development at least 50 feet from the roadway. As such, this EIR for the 1999 Specific Plan Amendment recommends limiting development at the Minaret Road/Main Street intersection to 50 feet from the roadway. Like the 1991 EIR, it can be assumed that implementation of this development setback would reduce potential impacts from CO concentrations to a less than significant level.

In addition to the above two intersections, the LOS at one other intersection under the proposed 1999 Specific Plan Amendment would decrease to unacceptable levels when compared to without project conditions. This intersection and the potential for significant localized CO emissions are analyzed below.

- *Forest Trail/Main Street:* As stated in the project Traffic Impact Analysis, this intersection would operate at LOS F without project traffic

conditions (1997 Redevelopment Plan) and LOS F with project traffic conditions. The 1991 EIR did not quantify CO concentrations at this location. Section 5.4, *Traffic and Circulation*, recommends mitigation measures to install a signal at this location and improve the LOS from F to A. Implementation of that traffic mitigation measure would thereby reduce potential localized CO impacts to a less than significant level.

## CUMULATIVE IMPACTS

5.5-4 *The proposed 1999 Specific Plan Amendment, together with other future projects located outside of the Specific Plan area, may increase cumulative pollutant emissions within the Great Basin Valley Air Basin. The proposed 1999 Specific Plan Amendment would result in a significant and unavoidable impact due to the project's contribution to a current violation of PM<sub>10</sub> standards.*

A cumulative impact on air quality would be due to increased vehicle travel and fossil fuel consumption associated with on-going development in the Town, combined with development occurring outside of the area and elsewhere within the GBVAB. Although, the proposed 1999 Specific Plan Amendment would be consistent with General Plan buildout land uses for the Plan area and would not result in the generation of additional pollutant emissions beyond those anticipated in the previous environmental documentation prepared for the existing Specific Plan or General Plan, the project would contribute to a current violation of PM<sub>10</sub> State and Federal standards. This contribution would result in a significant and unavoidable impact based upon State standards.

## MITIGATION MEASURES

The following mitigation measures directly correspond to the impact statements in the Impacts analysis. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

## SHORT-TERM

5.5-1a *(Measure modified from Mitigation Measures 4.8-1(a) and 4.8-1(b) in the 1994 EIR Addendum):* In order to reduce fugitive dust emissions, each development project shall obtain permits, as needed, from the Town and the State APCD and shall implement measures during grading and/or construction of the individual development sites to ensure compliance with permit conditions and applicable Town and APCD requirements.

- a. The individual development projects shall comply with State, APCD, Town, and Uniform Building Code dust control regulations, so as to prevent the soil from being eroded by wind, creating dust, or blowing onto a public road or roads or other public or private property.
- b. Adequate watering techniques shall be employed on a daily basis to partially mitigate the impact of construction-generated dust particulates.
- c. Clean-up on construction-related dirt on approach routes to individual development sites/improvements shall be ensured by the application of water and/or chemical dust retardants that solidify loose soils. These measures shall be implemented for construction vehicle access, as directed by the Town Engineer. Measures shall also include covering, watering or otherwise stabilizing all inactive soil piles (left more than 10 days) and inactive graded areas (left more than 10 days).
- d. Any vegetative ground cover to be utilized on the individual development sites/improvements shall be planted as soon as possible to reduce the amount of open space subject to wind erosion. Irrigation shall be installed as soon as possible to maintain the ground cover.
- e. All trucks hauling dirt, soil or other loose dirt material shall be covered.

5.5-1b *(Measure modified from Mitigation Measure 4.8-2 in the 1994 EIR Addendum):* To reduce the potential of spot violations of the CO standards and odors from construction equipment exhaust, unnecessary idling of construction equipment shall be avoided.

#### LONG-TERM PM<sub>10</sub> MEASURES

5.5-2a *(Measure replaces related Mitigation Measure 4.8-5(a) in 1994 EIR Addendum):* In order to reduce emissions associated with both mobile and stationary sources (i.e., wood burning stoves and fireplaces), all individual development projects shall adhere to the regulations contained in the *Air Quality Management Plan for the Town of Mammoth Lakes* and Chapter 8.30, *Particulate Emission Regulations*, of the Town's Municipal Code. The commercial use tenants throughout

the Specific Plan area shall, at a minimum, include the following, as appropriate:

- Bicycle racks, lockers or secure storage areas for bicycles;
- Transit access, including bus turnouts;
- Site access design shall avoid queuing in driveways; and
- Mulch, groundcover and native vegetation to reduce dust.

5.5-2b (New Mitigation Measure): Each project shall contribute on a fair share basis to the Town's street sweeping operations in order to reduce emissions and achieve the required Federal standard.

5.5-2c (New Mitigation Measure): New development within the Specific Plan area shall not be permitted to utilize wood burning appliances unless the Federal standard is documented to not be exceeded.

### LOCALIZED CARBON MONOXIDE EMISSIONS

5.5-3a (Measure modified from Mitigation Measure 4.8-3 in the 1994 EIR Addendum): Development shall be prohibited within 50 feet of the Old Mammoth Road and Main Street intersection unless alternatives to setbacks acceptable to the Town of Mammoth Lakes are incorporated.

5.5-3b (New Mitigation Measure): Development shall be prohibited within 50 feet of the Minaret Road and Main Street intersection unless alternatives to setbacks acceptable to the Town of Mammoth Lakes are incorporated.

### CUMULATIVE IMPACTS

5.5-4 Additional mitigation measures beyond those recommended for construction and operation are not necessary.

### LEVEL OF SIGNIFICANCE AFTER MITIGATION

The 1999 Specific Plan Amendment would exceed State and Federal PM<sub>10</sub> significant standards thereby creating a significant and unavoidable air quality impact. On a cumulative level, the project would contribute to a current violation of the State and Federal PM<sub>10</sub> standards. This contribution would be significant and unavoidable.



## 5.6 NOISE

The purpose of this Section is to analyze project-related noise source impacts within the North Village Specific Plan area and surrounding land uses. This Section focuses on changes in the project, changes in circumstances and new information available since the preparation of the 1991 EIR (as further described in Section 1.1). The foremost piece of new information is the revision of the Noise Element of the General Plan in 1997. In addition, the 1991 EIR did not address the specifics of a village setting proposed by the 1999 Specific Plan Amendment. This Section evaluates short-term construction-related impacts as well as long-term buildout conditions based, in part, on the Traffic Study included as Appendix 16.3. Key reference citations for this Section include the Town of Mammoth Lakes General Plan Noise Element and Noise Ordinance. Refer to Appendix 16.6, *Noise Data*, for the assumptions used within this analysis. Mitigation measures are also recommended to minimize the noise impacts of the project.

### **EXISTING CONDITIONS**

#### **NOISE SCALES**

Decibels (dB) are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dB higher than another is judged to be twice as loud; and 20 dB higher four times as loud; and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). The A-weighted sound pressure level is the sound pressure level, in decibels, as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear. Examples of various sound levels in different environments are shown in Table 5.6-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

**Table 5.6-1  
SOUND LEVELS AND HUMAN RESPONSE**

<u>Noise Source</u>	<u>dB(A) Noise Level</u>	<u>Response</u>
	150	
Carrier Jet Operation	140	Harmfully Loud
	130	Pain Threshold
Jet Takeoff (200 feet; thence.) Discotheque	120	
Unmuffled Motorcycle Auto Horn (3 feet; thence.) Rock'n Roll Band Riveting Machine	110	Maximum Vocal Effort Physical Discomfort
Loud Power Mower Jet Takeoff (2000 feet; thence.) Garbage Truck	100	Very Annoying Hearing Damage (Steady 8-Hour Exposure)
Heavy Truck (50 feet; thence.) Pneumatic Drill (50 feet; thence.)	90	
Alarm Clock Freight Train (50 feet; thence.) Vacuum Cleaner (10 feet; thence.)	80	Annoying
Freeway Traffic (50 feet; thence.)	70	Telephone Use Difficult
Dishwashers Air Conditioning Unit (20 feet; thence.)	60	Intrusive
Light Auto Traffic (100 feet; thence.)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet; thence.)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Noise

Numerous methods have been developed to measure sound over a period of time. These methods include: 1) the Community Noise Equivalent Level (CNEL); 2) the Equivalent Sound Level (Leq); and 3) the Day/Night Average Sound Level (Ldn). These methods are described below.

### **Community Noise Equivalent Level (CNEL)**

The predominant community noise rating scale used in California for land use compatibility assessment is the Community Noise Equivalent Level (CNEL). The CNEL reading represents the average of 24 hourly readings of equivalent levels, known as Leq's, based on an A-weighted decibel with upward adjustments added to account for increased noise sensitivity in the evening and night periods. These adjustments are + 5 dBA for the evening, 7 p.m. to 10 p.m., and + 10 dBA for the night, 10 p.m. to 7 a.m. CNEL may be indicated by "dBA CNEL" or just "CNEL".

### **Leq**

The Leq is the sound level containing the same total energy over a given sample time period. The Leq can be thought of as the steady sound level which, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. Leq is typically computed over 1, 8 and 24-hour sample periods.

### **Day Night Average (Ldn)**

Another commonly used method is the day/night average level or Ldn. The Ldn is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the Leq. The Ldn is calculated by averaging the Leq's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

The maximum noise level recorded during a noise event is typically expressed as Lmax. The sound level exceeded over a specified time frame can be expressed as Ln (i.e., L90, L50, L10, etc.). L50 equals the level exceeded 50 percent of the time, L10 ten percent of the time, etc. The Town of Mammoth Lakes utilizes 60 dBA Ldn as a significance threshold for determining residential noise impacts.

As previously mentioned, people tend to respond to changes in sound pressure in a logarithmic manner. In general, a 1 dBA change in the sound pressure levels of a given sound is detectable only under laboratory conditions. A 3 dBA change in sound pressure level is considered a "just detectable" difference in most situations. A 5 dBA

change is readily noticeable and a 10 dBA change is considered a doubling (or halving) of the subjective loudness. It should be noted that a 3 dBA increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume; or by about a 7 mile per hour (mph) increase or decrease in speed.

For each doubling of distance from a point noise source, the sound level will decrease by 6 dBA. In other words, if a person is 100 feet from a machine, and moves to 200 feet from that source, sound levels will drop approximately 6 dBA. For each doubling of distance from a line source, like a roadway, noise levels are reduced by 3 to 5 decibels, depending on the ground cover between the source and the receiver.

Noise barriers provide approximately a 5 dBA Ldn noise reduction (additional reduction may be provided with a barrier of appropriate height, material, location and length). A row of buildings provides up to 5 dBA Ldn noise reduction with a 1.5 dBA Ldn reduction for each additional row up to a maximum reduction of approximately 10 dBA. The exact degree of noise attenuation depends on the nature and orientation of the structure and intervening barriers.

## STATE STANDARDS

The Office of Noise Control in the State Department of Health Services has developed criteria and guidelines for local governments to use when setting standards for human exposure to noise and preparing noise elements for General Plans. These guidelines include noise exposure levels for both exterior and interior environments. The outdoor maximum permitted noise standard varies with the land use. These guidelines are summarized in Table 5.6-2, *Noise and Land Use Compatibility Criteria*. State requirements specify that interior noise levels resulting from exterior sources do not exceed 45 dBA CNEL. This standard applies to all noise-sensitive land uses, which include: residential units, transient lodgings, hospitals, churches, nursing homes and educational facilities. Ultimately, it is the responsibility of each city/county to determine the acceptable noise level threshold in exterior and interior living environments.

## MAMMOTH LAKES NOISE ELEMENT

In addition to State noise standards, the Town of Mammoth Lakes has adopted noise standards as part of their General Plan. As previously stated above, the Federal government specifically preempts local control of noise emissions from aircraft, railroad, and interstate highways. However, local agencies may regulate noise levels of most other sources, may provide standards for insulation of noise receivers (either within the structure or by placement of noise barriers such as walls), and, through land use decisions, may reduce noise impacts by separating noise generators from noise sensitive uses.

**Table 5.6-2  
NOISE AND LAND USE COMPATIBILITY CRITERIA**

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE			
	Ldn or CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density	50-60	55-70	70-75	75-85
Residential-Multiple Family	50-65	60-70	70-75	75-85
Transient Lodging-Motel, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	65-85
Sports Arenas, Outdoor Spectator Sports	NA	50-75	NA	70-85
Playgrounds, Neighborhood Parks	50-70	NA	67.5-75	72.5-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	NA	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	NA

Source: Modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

**Notes: NORMALLY ACCEPTABLE**

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

**CONDITIONALLY ACCEPTABLE**

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

**NORMALLY UNACCEPTABLE**

New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

**CLEARLY UNACCEPTABLE**

New construction or development should generally not be undertaken.

**NA:** Not Applicable

Noise

As defined by the Noise Element, "stationary noise source" includes any fixed or mobile source not preempted from local control by existing Federal or State regulations. Examples of such sources include industrial or commercial facilities, and vehicle movements on private property. A "noise-sensitive land use" includes residential land uses, transient lodging, schools, libraries, churches, hospitals and nursing homes.

The stationary noise source standards of the Noise Element are to be applied at the receiving land use property line, or, in the case of upper floor receivers, at the location of outdoor activity areas such as decks or balconies.

The Town of Mammoth Lakes has established an outdoor living area noise standard of 60 dBA Ldn, while the indoor noise standard is 45 dBA Ldn. Typical noise and land use compatibility criteria are shown in Table 5.6-2, *Noise and Land Use Compatibility Criteria*. Compliance with these standards may require an acoustical analysis by a project developer prior to obtaining building permits, although they are used within this Section only as a guideline for the acceptability of the noise environment.

#### **MAMMOTH LAKES NOISE ORDINANCE**

Chapter 8.16 of the Town of Mammoth Lakes Municipal Code pertains to the regulation of excessive noise from *existing* uses. Section 8.16.070 (exterior noise limits) of the Municipal Code establishes noise levels that may not be exceeded based upon the nature of the receiving land use, the time of day that the noise occurs and the statistical distribution over time of the noise levels generated by the source of concern.

Except as required elsewhere in the Noise Ordinance, subsection 8.16.070.B of the Noise Ordinance establishes the statistical distribution over time for noise levels occurring during any one-hour time period based on the concept that noise levels of increasing intensity should be permitted for progressively shorter periods of time. Table 5.6-3, below, summarizes the standards of the Noise Ordinance based upon the above discussion and references to specific Town Ordinance Code sections. The Noise Ordinance specifies exceptions from this table.

Section 8.16.090 of the Noise Ordinance specifically addresses noise from construction activities. Construction noise is not allowed between the hours of 8:00 p.m. and 7:00 a.m. Monday through Saturday or at anytime on Sundays or holidays. For construction activities occurring during the permitted hours, and to the extent that it is "technically and economically feasible," the Noise Ordinance establishes a maximum construction noise level standard of 80 dBA when measured within a multi-family residential area (refer to Table 5.6-4, *Town of Mammoth Lakes Construction Noise Standards*, below). Due to several multiple-family residential uses located within and immediately adjacent to the proposed Specific Plan area, the North Village Specific Plan is situated within a Type II Area (Multi-Family Residential) as indicated in Table 5.6-4.

**Noise**

**Table 5.6-3  
TOWN OF MAMMOTH LAKES EXTERIOR NOISE ORDINANCE STANDARDS\***

Time of Day	Cumulative Number of Minutes/Hour (L <sub>n</sub> )**				
	30 (L <sub>50</sub> )	15 (L <sub>25</sub> )	5 (L <sub>8.3</sub> )	1 (L <sub>1.7</sub> )	0 (L <sub>max</sub> )
Day (7:00 a.m.-10:00 p.m.)	55 dBA	60 dBA	65 dBA	70 dBA	75 dBA
Night (10:00 p.m. - 7:00 a.m.)	50 dBA	55 dBA	60 dBA	65 dBA	70 dBA
<p>* As applied when the receiving land use consists of multi-family residential uses in a suburban setting. In cases where the noise of concern consists of music or speech conveying informational content, an impulsive or repetitive noise such as hammering or a distinctive screech or whine, the standards are to be reduced (made more restrictive) by 5 dB.</p> <p>** L<sub>n</sub> = noise level exceeded "n" percent of a specified time period (in this case, one hour). For example, a noise level of 55 dBA may not be exceeded for more than 30 minutes out of an hour (50% of the time) during the daytime hours.</p>					

Source: Mammoth Lakes Noise Ordinance, Chapter 8.16.

**Table 5.6-4  
TOWN OF MAMMOTH LAKES CONSTRUCTION NOISE STANDARDS\*  
(At Residential Properties)**

Time of Day	Type I Areas Single-Family Residential	Type II Areas Multi-Family Residential	Type III Areas Semi- Residential Commercial
Daily, 7:00 a.m. to 8:00 p.m. except Sundays and legal holidays	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sundays and Legal Holidays	60dBA	65 dBA	70 dBA
* Maximum noise levels for non scheduled, intermittent, short-term operation (less than 10 days) of mobile equipment.			

Source: Mammoth Lakes Noise Ordinance, Chapter 8.16.

With specific regard to snow removal activities, Section 8.16.100 of the Noise Ordinance provides an exemption for the performance of emergency work such as may be required to prevent or alleviate personal or property damage caused by an emergency. Although not specifically cited as such in the Noise Ordinance, the Town of Mammoth Lakes assumes that snow removal activities for purposes of public safety is emergency work when it occurs on public roadways, in parking lots or around places of business.

Noise

In addition to the Noise Ordinance standards summarized in Table 5.6-3, Subsection 8.16.070.G requires that the applicable noise limits be reduced (be made more restrictive) by 5 dBA in cases where the noise of concern consists of music or speech conveying informational content.

## EXISTING NOISE ENVIRONMENT

The major sources of noise in the Town of Mammoth Lakes are motor vehicles. As stated in the Noise Element of the General Plan, Main Street, east of Minaret Road is the only source of traffic noise that generates noise above 65 dBA. Levels of up to 75 dBA have been recorded at the intersection of Main Street and Old Mammoth Road. Vehicles using other streets, including Lake Mary Road, Meridian Boulevard, Forest Trail, and Sierra Park Road, contribute significantly to the total ambient noise level. The remainder of the ambient noise is produced by recreational vehicles including snowmobiles and off-road motorcycles, and construction operations.

### Ambient Noise Level Measurements

In order to quantify existing ambient noise levels in the project area, noise measurements were conducted by RBF Consulting on October 11, 1999. The noise measurement sites are representative of typical existing noise exposure within the North Village Specific Plan area.

Noise monitoring equipment used for the ambient noise survey consisted of a Larson Davis Laboratories Model LDL 820 sound level analyzer equipped with a Bruel & Kjaer (B&K) Type 4176 ½" microphone. The instrumentation was calibrated prior to use with a B&K Type 4230 acoustical calibrator to ensure the accuracy of the measurements, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters.

### 1997 Noise Element Ambient Noise Measurements

The 1997 Noise Element also contains ambient noise level data obtained during a community noise survey. The community noise survey included long-term (24-hour) and short-term noise measurements at six sites within the Mammoth Lakes area. Four of those sites were typical of residential areas within the Town limits. Measurements were conducted during the ~~winter~~ spring (April 1995) and summer (July 1995) months.

**Table 5.6-5  
EXISTING NOISE LEVELS  
(Based on Field Noise Measurements)**

Site Number	General Location	Time of Day	Leq	Lmax	Source of Peak Noise
1	Tennis court parking lot adjacent to Forest Trail	4:00 p.m.	65.6	79.5	Trucks on roadway
2	Northeast corner of Hillside Drive and Forest Trail intersection	5:30 p.m.	60.5	79.8	Cars and trucks accelerating up an incline
3	Behind transit stop between Miller's Siding and Canyon Boulevard	4:20 p.m.	60.3	70.2	Typical traffic noise
4	Along Hillside Drive in front of residential unit across from future Pedestrian Core access from Hillside Drive	4:50 p.m.	49.7	66.6	Typical traffic noise
5	Forest Trail/Canyon Blvd. intersection	5:05 p.m.	54.6	70.5	Typical traffic noise
6	Adjacent to Minaret Road at access to Ullr Lodge	5:20 p.m.	29.3	29.4	No significant traffic

Source: Noise Monitoring Survey conducted by RBF Consulting on October 11, 1999.

- Notes: 1. Leq = The sound level containing the same total energy over a given sample time period. Leq is typically computed over 1, 8, and 24-hour sample periods.  
2. Lmax = The maximum recorded sound level during the measurement period.

At the four residential locations, average daytime noise levels (as defined by the hourly Leq) ranged from about 35 to 65 dBA during the winter measurement period and from about 35 to 60 dBA during the summer measurement period. Ldn values either measured or estimated during the community noise survey for the 1997 Noise Element ranged from 47 to 76 dBA for the winter measurement period and from 44 to 56 dBA for the summer measurement period. Measured noise levels during the winter sample period were higher than those measured during the summer sample period due to high winds during the winter sample period.

The 1997 Noise Element also contains information on noise levels from snow removal and avalanche control operations. These are normal and existing noise sources within the Town of Mammoth Lakes. As reported in that document, snow removal activities on roadways and in parking lots generate noise levels of 68 to 87 dBA at 100 feet from the equipment and can occur at any time during the 24-hour day. Snow removal activities for purposes of public safety are considered emergency work and are therefore exempt from noise level limits of the Town Municipal Code.

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Avalanche control activities are conducted under the supervision of the U.S. Forest Service (USFS), and occur intermittently during the winter months. As reported in the Noise Element for the location of the Fire Station on Old Mammoth Road, maximum A-weighted sound levels from charge detonations ranged from 54 to 78 dBA.

In summary, ambient noise levels may be expected to vary considerably in the area surrounding the Specific Plan area due to weather conditions, proximity to major roadways and whether or not snow removal equipment is in use. This is evidenced by variations in ambient noise levels documented by the 1997 Noise Element and by the measurements conducted for this EIR analysis. These informational sources indicate that daytime hourly noise levels in the range of 40 to 55 dBA Leq are typical of most residential areas within the Town of Mammoth Lakes except during periods of high winds or other severe weather conditions, or while snow removal activities are in progress.

### **Computer Modeling**

The existing and future roadway noise levels within the vicinity of the Specific Plan area were projected using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), the roadway width, the average daily traffic (ADT), the vehicle travel speed, the percentages of auto and truck traffic, the roadway grade, the angle-of-view, the site conditions ("hard" or "soft"), and the percent of total ADT which flows each hour throughout a 24-hour period. The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from the project Traffic Study.

A 35 mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. ADT estimates were obtained from the project traffic report (refer to Appendix 16.6, *Traffic Impact Analysis*).

### **Existing Traffic Noise Levels**

Table 5.6-6, *Existing Traffic Noise Levels*, indicates the location of the 60, 65, and 70 Ldn noise contours associated with vehicular traffic along the following roadways as modeled with the aforementioned FHWA computer model. Vehicular noise along seven local roadways were modeled to estimate existing noise levels from mobile traffic.

**Table 5.6-6**  
**EXISTING TRAFFIC NOISE LEVELS**  
(Based on Traffic Volumes)

Roadway Segment	Distances from Roadway Centerline To: (Feet)			dBA @ 100 Feet From Roadway Centerline
	60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour	
Forest Trail west of Minaret Road	ROW	ROW	ROW	50.6
Canyon Boulevard east of Lakeview Drive	81	ROW	ROW	55.0
Lake Mary Road west of Miller Siding	91	ROW	ROW	58.9
Main Street east of Minaret Road	163	76	ROW	62.5
Main Street west of Old Mammoth Road	160	74	ROW	62.2
Minaret Road north of Mammoth Knolls Drive	94	ROW	ROW	59.2
Minaret Road south of Lake Mary Road/Main Street	74	ROW	ROW	57.6
Hillside Drive - Forest Trail to Canyon Boulevard	ROW	ROW	ROW	47.6

**ROW:** Noise contour contained within the roadway right-of-way.

Source: RBF Consulting, June 2000 (refer to Appendix 16.6 for assumptions used in these calculations).

As indicated in the above Table, existing vehicular generated noise levels along all the majority of roadway links modeled are well below the 60 Ldn noise standard with the exception of Main Street east of Minaret Road (62.5 dBA) and Main Street west of Old Mammoth Road (62.2 dBA). In addition to these two roadway links, four other roadway links have the Ldn extended to between 74 feet and 94 feet from roadway centerline and two of them have the noise level at 100 feet from the roadway centerline that is approaching (within 1.2 dBA) the 60 dBA Ldn.

### Location of Sensitive Noise Receptors

Several residential uses are located within and immediately adjacent to the Specific Plan area. Single and multiple-family residential uses are distributed throughout the Specific Plan area, however, these uses are primarily concentrated within the proposed Pedestrian Core area in the north-central portion of the Specific Plan area. A mix of multiple-family and single-family residences are situated along Hillside Drive and along Forest Trail. Numerous residential units are also located along Canyon Boulevard which extends westerly from the Specific Plan area to a proposed soil importation location in the vicinity of Canyon Boulevard and Forest Trail (refer to Section 3.0, *Project Description*). Although many of the existing residential units located within the

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proposed Pedestrian Core portion of the Specific Plan area would be removed with Specific Plan implementation, several residential units such as the Fireside Condominiums located along Millers Siding and Minaret Road would remain upon project completion.

### **Consistency Analysis**

The previous noise analysis contained in the 1991 EIR utilized existing conditions (1991), cumulative conditions, and cumulative plus project conditions (2005) traffic scenarios to model existing and projected future noise contours along adjacent roadway segments. Predicted noise levels were calculated for 50 feet from the roadway centerline.

The following noise analysis is based on existing and projected traffic data for roadway segments as contained in the *Traffic Impact Analysis* prepared by LSA revised March 2, 2000. Roadway segments modeled for existing conditions, existing plus specific plan conditions, and existing plus approved projects plus specific plan conditions, vary significantly from those previously modeled in the 1991 EIR. Since the time of the 1991 EIR preparation, existing and cumulative traffic conditions within the Town of Mammoth Lakes have changed and the General Plan Noise Element has been modified, thereby rendering a comparative analysis of long-term noise impacts concluded in the 1991 EIR to the findings rendered in the impact analysis below, inappropriate. While the noise analysis within the 1991 EIR provides noise levels calculated for 50 feet from the roadway centerline, the noise levels modeled for roadways contained in the following impact analysis identifies existing and future noise levels at 100 feet from the roadway centerline. In addition, it would be virtually impossible to replicate the exact assumptions (i.e., noise model parameters, including speeds, line-of-sight, and roadway geometrics) utilized in the 1991 noise analysis. Due to the aforementioned reasons, the following long-term noise impact discussion consists of a comparative analysis of existing conditions (based on 1995 traffic data as contained in the LSA Traffic Study) to the 1999 Specific Plan Amendment, as proposed.

It should be noted that the noise analysis contained in the 1991 EIR rendered conclusions that were inconclusive regarding the significance of long-term vehicular noise impacts which would result from Plan implementation.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation***

The 1991 EIR analyzed potential short-term construction impacts which would occur during development of the Specific Plan area. Noise levels up to 101 dBA at 50 feet from the noise source were assumed to occur during pile driving activities. The 1991

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EIR concluded that implementation measures, such as applying limitations to construction activities and the provision of noise mufflers for engine driven equipment, would reduce potentially significant short-term noise impacts to less than significant levels.

The 1991 EIR indicated that existing noise levels exceed 60 dBA on all major arterials and most streets and noise levels would increase as a result of cumulative development with and without implementation of the 1991 Specific Plan. According to the 1991 EIR, noise levels anticipated for year 2005 with implementation of the 1991 Specific Plan would not be significantly higher than noise levels projected without the project. As stated above, the methodology utilized within the 1991 EIR noise analysis results in inconclusive conclusions regarding the significance of potential long-term noise impacts.

Stationary noise impacts identified in the 1991 EIR are limited to the operation of the gondola. The gondola would be operated by electrical power and have a diesel back-up engine for emergencies. Both engines would be located outside the Specific Plan area, thereby reducing noise impacts. The 1991 EIR concluded that gondola operations would result in below ambient noise levels at sensitive receptors, and therefore result in insignificant noise impacts.

According to the 1994 EIR Addendum for the 1994 Specific Plan, the 1994 Specific Plan would not result in changes to the impacts, mitigation measures, or cumulative impacts with respect to noise issues (i.e., short-term construction, mobile, and stationary noise sources) outlined above beyond those identified in the 1991 Final EIR.

### ***Significance Criteria for this EIR***

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Environmental Checklist Form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to potential noise impacts. The issues presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed for this Section.

It should be noted that through the Initial Study process, the Town has made the determination that certain project effects would result in a "Less Than Significant Impact" or in "No Impact". Section 10.0, *Effects Found Not to be Significant*, provides a brief description of potential effects for which a "Less Than Significant Impact" or "No Impact" determination was made for potential noise impacts.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

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Noise

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (*refer to Impact Statements 5.6-1, 5.6-2, and 5.6-3*);
- Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels (*refer to Impact Statement 5.6-1*);
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (*refer to Impact Statements 5.6-2 and 5.6-3*);
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (*refer to Impact Statements 5.6-1 and 5.6-3*);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels (*refer to Section 10.0, Effects Found Not To Be Significant*); and
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels (*refer to Section 10.0, Effects Found Not To Be Significant*).

As stated above, a project is considered to have a significant noise impact where it causes an adopted noise standard to be exceeded for the project site or for adjacent sensitive receptors. The criteria in the Town General Plan and Municipal Code has been utilized in the analysis.

Potential impacts are grouped below according to topic. The numbered mitigation measures at the end of this Section directly correspond with the numbered impact statement.

### SHORT-TERM CONSTRUCTION NOISE IMPACTS

- 5.6-1 *Grading and construction within the Specific Plan area may result in temporary noise impacts to nearby noise sensitive receptors. Adherence to Town Code requirements as identified in the noise mitigation measure would reduce construction noise impacts to a less than significant level.*

Noise

During the construction of individual development projects within the Specific Plan area, noise from construction activities would potentially impact noise-sensitive land uses in the immediate area. Activities involved in construction would generate noise levels at 50 feet as indicated by Table 5.6-7, *Typical Construction Equipment Noise Levels*. Construction activities would be temporary in nature and would occur during the daytime hours. Construction activities would have to comply with the provisions of the Town Municipal Code which currently limit hours of construction to 7:00 a.m. to 8:00 p.m. Monday through Saturday and prohibit construction on Sundays or holidays. Permission of the Town Manager is required on Sunday. If approved, the Sunday hours would be from 9:00 a.m. to 5:00 p.m. in which the maximum noise level would be restricted to 65 dBA. In addition to limits on days and hours of construction, the Town's Noise Ordinance requires that construction noise not exceed a maximum of 80 dBA at the property line when the receiving land use consists of multi-family residential uses (Type II) (refer to Table 5.6-4, *Town of Mammoth Lakes Construction Noise Standards*).

**Table 5.6-7  
 TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS**

Type of Equipment	Maximum Level, dB (50 Feet; thence)
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Short-term construction noise impacts could occur as a result of development that requires trenching and pile driving activities associated with construction of the proposed subterranean parking structures. The Federal Transit Administration (formerly Urban Mass Transportation Administration) and U.S. EPA has identified a noise level of 103 dBA at approximately 25 feet from pile driving when no sound attenuation measures are in place (i.e., muffler on exhaust or temporary sound barrier). A muffler incorporated into the exhaust system or a temporary sound barrier properly placed around the pile driving site, can result in the reduction of noise levels to approximately 95 dBA at 25 feet from the noise source. At 50 feet the noise levels drop to 97 dBA (unmitigated) and 89 dBA (mitigated). At 200 feet, the mitigated noise level from pile driving would be 77 dBA and 71 dBA at 400 feet. Both conditions are below the Town's 80 dBA construction noise threshold for Type II land uses. At this time the exact location of pile driving sites has not been confirmed; however, if no residences are located within 200 400 feet of the pile driving locations, the Town's maximum noise level threshold is not expected to be exceeded under unmitigated conditions.

Noise

Should pile driving occur within 200 feet of existing residences, a temporary sound barrier around the pile driving site in conjunction with the exhaust muffler would further reduce the pile driving noise to within the Town's 80dBA construction noise standard and not adversely affect sensitive receptors. Furthermore, as previously discussed, construction activities would be required to comply with provisions outlined within Chapter 8.16 of the Mammoth Lakes Municipal Code which limit the hours of construction, thereby further reducing the significance of short-term construction noise (e.g., pile driving).

#### Truck Haul Route Noise Impacts

Excavated soil (approximately 22,000 cubic yards) primarily associated with construction within the Pedestrian Core area is proposed to be disposed of at the southwest corner of the intersection of Forest Trail and Convict Lane. Approximately eight trucks would haul the excavated dirt material from the Specific Plan area via Canyon Boulevard to the proposed disposal site. This is anticipated to occur for a period of approximately two months during the preliminary construction stages. Actual daily truck trips may vary, however, for the purpose of this analysis, average daily truck trips are anticipated to be approximately 128 trips per day (64 trips each way). Assuming that the 128 trips per day are evenly distributed over the 12 hour construction period (7:00 a.m. to 7:00 p.m.), approximately eleven (11) truck trips per hour would occur. Noise levels associated with the truck trips are anticipated to temporarily increase the ambient noise level along Canyon Boulevard (each truck by pass would last less than 5 seconds). As such, it is assumed that less than one minute of truck passing noise occurring each hour (i.e., 55 seconds). This temporary noise increase would occur for a maximum two month period and cease upon completion of the initial construction phases. As with the general construction activities, truck trips would be limited to the hours of construction as outlined within Chapter 8.16 of the Mammoth Lakes Ordinance Code. Therefore, a less than significant noise impact is anticipated to occur along the truck haul route.

### LONG-TERM NOISE IMPACTS

#### **Mobile Noise Impacts**

5.6-2 *Implementation of the 1999 Specific Plan Amendment may generate additional vehicular travel on the surrounding roadway network, thereby resulting in noise level increases along local roadways. Although project generated traffic is not concluded as significant, mitigation has been cited in accordance with the Town's Noise Ordinance Element and Title 24 of the California Code of Regulations to maintain the impact as less significant.*

Project implementation would result in additional traffic on adjacent roadways, thereby contributing noise levels on adjacent roadway segments; these impacts would result from project-related vehicle travel, thereby contributing to noise levels along adjacent

Noise

roadway segments. While densities have not been adjusted throughout the Specific Plan area since the preparation of the 1991 EIR, the square footage has remained generally the same as previously analyzed. Therefore, trip generation rates utilized for proposed land uses under the 1999 Specific Plan Amendment remain the same as the land uses within the 1994 Specific Plan.

In accordance with the project traffic study, mobile noise impacts from the surrounding street network were modeled for Existing Traffic Conditions and Existing Plus Approved Projects Plus 1999 Specific Plan Amendment Conditions. The analysis results are compared to the Town standard of 60 Ldn to determine the significance of noise impacts (it should be noted that identified estimates do not adjust for any existing noise barriers or differences in elevation and identify traffic noise only generated along a specific roadway segment).

A 35 mph average vehicle speed was assumed for Existing Plus Approved Projects Plus 1999 Specific Plan Amendment Conditions, with the exception of Canyon Boulevard which was modeled assuming a 25 mph average vehicle speed. This is considered conservative (a high estimate) as lower average speeds may occur, due to the majority of vehicle travel occurring in the day when higher vehicle use may cause slowing.

As indicated in Table 5.6-8, the majority of roadway segments modeled for Existing Plus Approved Projects Plus 1999 Specific Plan would result in projected vehicular generated noise levels below the 60 Ldn noise standard established by the Town of Mammoth Lakes. However, as mentioned above, two roadway segments which include Main Street east of Minaret Road and Main Street west of Old Mammoth Road are currently experiencing noise levels in excess of Town standards.

Implementation of the 1999 Specific Plan Amendment would result in an increase in vehicular generated noise levels along these roadway links which are projected to be 1.2 dBA along Main Street east of Minaret Road and 1.1 dBA along Main Street west of Old Mammoth Road. An approximate 2.5 dBA increase would occur along Minaret Road south of Lake Mary Road/Main Street (60.1 dBA). These increases are considered less than significant as they are below the 3 dBA "just detectable" change.

Additionally, Minaret Road north of Mammoth Knolls Drive would experience an approximate 1.2 dBA increase (from 59.1 dBA to 60.3 dBA) beyond existing conditions with project implementation. The 0.1 and 0.3 dBA exceedances along Minaret Road are not detectable by the human ear and no sensitive receptors are located along these roadway segments. Implementation of the 1999 Specific Plan Amendment would also result in a projected maximum increase of 5.5 dBA (from 47.6 dBA to 53.1 dBA) along Hillside Drive from Forest Trail to Canyon Boulevard. This affects several residences adjacent to the roadway (refer to Table 5.6-8, *60Ldn Noise Projections*). This increase is not considered significant as the 53.1 dBA noise level is well below the Town's 60

**Table 5.6-8**  
**60 Ldn NOISE PROJECTIONS**  
 (Based on Vehicular Generated Noise)

Roadway Segment	Distance From Roadway Centerline to 60 Ldn Contour (Feet)			Ldn at 100 Feet From Roadway Centerline		
	Existing Traffic Conditions	Existing Plus Approved Projects Plus 1999 Specific Plan Amendment Conditions	Change	Existing Traffic Conditions	Existing Plus Approved Projects Plus 1999 Specific Plan Amendment Conditions	Change
Forest Trail west of Minaret Road	25	30	+5	50.6	51.8	+1.2
Canyon Boulevard east of Lakeview Drive	49	54	+5	55.0	55.5	+0.5
Lake Mary Road west of Miller Siding	91	99	+8	58.9	59.5	+0.6
Main Street east of Minaret Road	163	197	+34	62.5	63.7	+1.2
Main Street west of Old Mammoth Road	160	189	+29	62.2	63.3	+1.1
Minaret Road north of Mammoth Knolls Drive	94	112	+18	59.1	60.3	+1.2
Minaret Road south of Lake Mary Road/Main Street	74	110	+36	57.6	60.1	+2.5
Hillside Drive - Forest Trail to Canyon Boulevard	16	37	+21	47.6	53.1	+5.5

**NOTES/ASSUMPTIONS:**

- Existing Conditions based on 1995 traffic volumes provided in Traffic Impact Analysis (refer to Appendix 16.3).
- Average daily trips (ADT) derived from traffic data as contained within *North Village Specific Plan Traffic Impact Analysis*, revised March 2, 2000.
- The "change" column represents the difference between Existing Traffic Conditions and Existing Plus Approved Projects Plus 1999 Specific Plan Amendment Conditions.
- Figures are based on the FHWA Highway Noise Prediction Model FHWA-RD-77-108, using a posted speed of 25 mph for Canyon Boulevard and speeds of 35 mph for the remainder of the roadway links modeled, observed and planned road geometry, and "soft" site.
- Without project traffic conditions were not provided in the Traffic Impact Analysis.
- Estimates do not adjust for any existing noise barriers, and are for traffic noise only.
- Ldn is based on a measure of the average noise level over a given time period called the Leq. The Ldn is calculated by averaging the Leq's for each hour the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

Noise

Ldn noise standard. Therefore, no significant long-term mobile noise impacts would occur with implementation of the 1999 Specific Plan Amendment.

## STATIONARY NOISE IMPACTS

5.6-3 *Long-term operations associated with the 1999 Specific Plan Amendment may result in the generation of on-site noise associated with loading/unloading activities, mechanical equipment, parking lots, plaza activities, outdoor music, etc. The analysis has concluded that with mitigation, stationary noise impacts associated with the 1999 Specific Plan Amendment would be reduced to less than significant levels for on- and off-site residences.*

Noise typically associated with operation activities of commercial/tourist uses would be generated by the following typical sources:

- Trucks traveling on the site, to and from loading docks;
- Activities at loading docks (maneuvering and idling trucks, banging and clanging of equipment);
- Public announcement (PA) systems;
- Mechanical equipment (air conditioners, trash compactors, emergency generators, etc.);
- Plaza activities including crowds and music events;
- Parking lot sweepers and snow plows; and
- Slow moving cars in parking lot (parking lot traffic).

The 1999 Specific Plan Amendment proposes that the Town's noise regulations would not apply to the internal real property lines within a master planned area or project site. A master planned area is defined as one development that is governed by a single set of master covenants, codes, and restrictions. Typically, this would mean that within a condominium project, instead of measuring noise levels at the perimeter of each unit for the purpose of determining compliance with Town noise regulations, noise levels would be measured at the condominium project boundary. The Town's threshold of significance for noise within a condominium complex has typically followed this criteria. Therefore, the discussion of stationary noise impacts is focused on impacts to adjacent sensitive receptors.

Although several noise sources would be introduced on the individual development sites, many of them would operate for brief periods of time, such as truck movements, trash compactors and trash collection, and parking lot sweepers/snow plows. These types of sources usually do not operate concurrently and can meet the hourly permitted standards described in the Town noise regulations.

Other daily noise sources, such as air conditioning equipment, parking lot/garage traffic, and loading dock activities, operate for comparatively longer periods of time.

Once development plans are known for a specific development site, pursuant to General Plan Noise Element Implementation Measure 5.2, a subsequent noise analysis shall be prepared during preparation of the Final Development Plans, demonstrating that site placement of these types of stationary noise sources with proper noise attenuation techniques, such as barriers, location and elevation factors, mufflers, landscaping, etc., will not exceed the Town's Noise Ordinance criteria, described in Table 5.6-3, for adjacent residences outside of a Master Plan area.

However, three specific activities must be evaluated within this program level environmental document for proposals made in the 1999 Specific Plan Amendment: PA systems, outdoor events, and operation of the gondola.

### **Daily Music and PA System Use**

The 1999 Specific Plan Amendment proposes uses which may utilize outdoor background music and PA systems. These will increase ambient noise levels in the vicinity. In an effort to reduce the significance of stationary noise impacts associated with the outdoor activities, background music, or PA systems, noise reduction measures, such as the use of directional speakers that are directed away from adjacent residential receivers, modification to speaker systems and sound level limitations would serve to reduce the potential for significant noise impacts to adjacent residential uses. In addition, the 1999 Specific Plan Amendment proposes to limit the hours of operation from 9:00 a.m. to 10:00 p.m. With the implementation of the aforementioned noise reduction or similar measures, it is anticipated that noise levels associated with outdoor background music and PA systems would not exceed the 55 dBA L50 and the 75 dBA Lmax hourly maximum noise level during any one hour time period between the hours of 7:00 a.m. and 10:00 p.m. in accordance with Chapter 8.16 of the Town's Noise Ordinance, as measured at the property line of a receiving land use.

### **Outdoor Events**

Although not specifically proposed by the 1999 Specific Plan Amendment, it is expected that the plaza and outdoor gathering places encouraged by the 1999 Specific Plan Amendment will host outdoor events and activities. The Town's Noise Ordinance considers outdoor activities that are "occasional outdoor gatherings, public dances, shows, sporting or entertainment events, subject to permit or license issued by the Town" to be exempt from the noise regulations. Therefore, activities which are defined as the above fall below the Town's threshold of significance and do not require additional mitigation.

## Adjacent Receptors

As previously stated, under the 1999 Specific Plan Amendment, the Town's Noise Ordinance would not apply to the internal real property lines within a master planned area. However, residences adjacent to a Master Plan area could be subject to potential increases in ambient noise levels due to crowd noise, daily background music, and traffic generated noise. Pursuant to the requirements of the General Plan, stationary noise sources may require incorporation of noise attenuation techniques such as shielding, orienting equipment away from adjacent residences, sound barriers or project redesign. If these typical methods of diminishing sound levels to the required thresholds are not proven to be adequate during the acoustical analysis, additional measures may be appropriate (with property owner concurrence), such as upgrading adjacent residential structures with building materials (i.e., sound transmission rated glass) or improving the adjacent site with landscaping, mounding or sound barriers to reduce interior noise levels in accordance with Town regulations.

## Gondola

The proposed gondola facility would be operated by electrical power and will have an emergency diesel back up engine. Anticipated noise associated with the gondola operations would be below ambient noise levels at sensitive receptors and therefore result in less than significant noise impacts. Operation of the gondola would also be limited to the hours of 7:00 a.m. to 10:00 p.m. pursuant to Chapter 18.6 of the Town's Noise Ordinance.

## CUMULATIVE NOISE IMPACTS

*5.6-4 Implementation of the 1999 Specific Plan Amendment, combined with cumulative projects, would increase the ambient noise levels in the site vicinity. Mitigation of impacts is determined on a project-by-project basis.*

Implementation of the proposed project, combined with development of cumulative projects, would increase ambient noise levels in the site vicinity. This increase would be due to both vehicular traffic noise along local roadways and stationary noise sources associated with development. The evaluation of noise impacts is typically determined on a project-by-project basis in order to focus mitigation on a particular noise source. As such, future development proposals within the Town would require separate discretionary approval and CEQA assessment which would address potential noise impacts and identify appropriate attenuation measures where appropriate. It is also noted that the Town's General Plan EIR did include an evaluation of noise impacts resulting from General Plan buildout.

## **MITIGATION MEASURES**

The following mitigation measures directly correspond to the identified impact statements included in the analysis Section. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

### **SHORT-TERM CONSTRUCTION NOISE**

- 5.6-1a      *(Measure modified from Mitigation Measure 4.9-1a of the 1994 EIR Addendum):* Pursuant to Chapter 8.16.090 of the Town's Noise Ordinance, construction activities shall be limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Saturday and prohibited on Sunday or holidays, or as otherwise permitted by Chapter 8.16.090.
- 5.6-1b      *(Measure modified from Mitigation Measure 4.9-1b in the 1994 EIR Addendum):* Construction equipment shall be muffled or controlled, if required, to meet Chapter 8.16 requirements for maximum noise generated by construction equipment. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers.
- 5.6-1c      *(New Mitigation Measure):* The construction contractor shall provide temporary sound barriers around pile driving sites to the satisfaction of the Town Engineer should such activities take place in areas within ~~200~~ 400 feet of existing residential units, if required to meet Chapter 8.16 requirements.

### **LONG-TERM NOISE**

- 5.6-2a      *(Measure modified from Mitigation Measure 4.9-2a from the 1994 EIR Addendum):* The proposed project shall be located or architecturally designed to reduce the project noise impacts upon properties adjacent to each master planned area or project property line, such that the exterior noise levels will not exceed Town Noise Ordinance requirements for an urban and multiple family setting. Design features could include setbacks, berms, landscaping, and architectural features, adjacent to both arterial and interior streets.
- 5.6-2b      *(Measure modified from Mitigation Measure 4.9-2b from the 1994 EIR Addendum):* Multi-family buildings shall be located or architecturally designed so the interior noise level will not exceed 45 Ldn. As a minimum, multi-family housing shall comply with Title 24 of the California Code of Regulations.

Noise

## STATIONARY NOISE

- 5.6-3a (New Mitigation Measure): Prior to Final Development Plan approval for individual development projects within the Specific Plan area, a subsequent noise analysis shall be prepared, to the satisfaction of the Town Engineer, which demonstrates the site placement of stationary noise sources would not exceed criteria established in Section 8.16 of the Town's Noise Ordinance Code at perimeter property lines of master planned areas or projects.
- 5.6-3b (New Mitigation Measure): Prior to Final Development Plan approval for individual development projects within the Specific Plan area, a subsequent noise analysis shall be prepared, to the satisfaction of the Town Engineer, which demonstrates the site placement of PA systems entertainment venues or other stationary noise sources would not exceed criteria established within the State Noise Insulation Standards (California Code of Regulations, Title 24) for adjacent residences.
- 5.6-3c (New Mitigation Measure): Outdoor PA systems shall not be permitted to operate between the hours of 10:00 p.m. and 7:00 a.m. and shall not exceed the Town's Noise Ordinance standards at perimeter property lines of master planned areas or project property lines. Adherence with this measure is subject to periodic site inspections by the Town of Mammoth Lakes.
- 5.6-3d (New Mitigation Measure): Directional speakers shall be shielded and/or oriented away from off-site residences to the satisfaction of the Town Building Inspector.
- 5.6-3e (New Mitigation Measure): The speaker system proposed for the Pedestrian Plaza shall be limited to the noise standards as contained in Chapter 8.16 of the Mammoth Lakes Municipal Code at perimeter property lines of the master planned areas or project property lines.

## CUMULATIVE NOISE

- 5.6-4 No mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 Final EIR and 1994 EIR Addendum for the North Village Specific Plan would occur with implementation of the proposed Specific Plan Amendment. Short-term, long-term, stationary and cumulative noise impacts are mitigated to less than significant levels.

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Noise



## 5.7 GEOLOGY, SOILS AND SEISMICITY

The purpose of this Section is to describe the geologic and seismic setting of the project area, identify whether, as a result of changes in the project, the project would have new potential significant environmental impacts, and to recommend mitigation measures to reduce the significance of such impacts. Information in this Section is based on various resources including the *1991 EIR*, the *Town of Mammoth Lakes General Plan EIR*, dated January 15, 1986, and the *Town of Mammoth Lakes General Plan*, dated October 14, 1987. A site-specific study for the 1999 Specific Plan Amendment was also utilized in this Section entitled *Preliminary Soils Report for Phase I Gondola Village*, prepared by Sierra Geotechnical Services Inc, dated June 2, 1999 (refer to Appendix 16.7).

### GEOLOGICAL CONDITIONS

#### Regional Setting

The Town of Mammoth Lakes is located near the southwest edge of the Long Valley Caldera. The Long Valley Caldera formed approximately 700,000 years ago from a catastrophic extrusion of magma. This Caldera is an oval depression, approximately 20 miles long and 9 miles wide surrounded by high mountains which constitute the Caldera walls. The Caldera and other geologic features such as Devil's Postpile, Mammoth Rock, and Crystal Crag are evidence that the Town of Mammoth Lakes region, though young geologically, has had a violent history. The Glass Mountains form the west and southwest walls and the Benton Range forms the east wall. Near the center of the Caldera, and off to the west, is a system of hills that mark the remnants of a resurgent dome. Mammoth Mountain is a smaller dome on the rim of the Caldera.

During the past three million years, glaciers have formed and melted several times in the eastern Sierra. The tillites preserved in the Town of Mammoth Lakes represent younger Pleistocene glacial deposits including: the Tahoe till, the Tioga till, and related outwash deposits of gravel and sand swept away from the glacial margins by meltwater streams.<sup>1</sup>

#### Topography

The land surface of the Town rises irregularly, but gently, toward the southwest from approximately 7,910 feet above mean sea level (msl) near the intersection of Joaquin Road and Main Street to approximately 8,070 feet above msl near Camp High off Lake

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<sup>1</sup> *Lodestar at Mammoth Final EIR*, prepared by EIP Associates, February 1991, Figure 4.1-2 and page 4.1-4.

Mary Road.<sup>2</sup> Topography ranges from level to rolling alluvial plains at about 7,200 feet above msl, to approximately 11,600 feet above msl at Mammoth Mountain Summit, west of Mammoth Lakes. The Specific Plan area elevation ranges from approximately 7,955 feet above msl in the southeastern section (near the intersection of Minaret Road and Main Street) to 8,070 feet above msl in the northwestern section.

Slope gradients in the Town vicinity range from relatively flat terrain in Sherwin Meadow to slopes of 50 percent or more on Mammoth Mountain. Slopes exceeding 30 percent in the Town's urban planning districts are found in portions of Old Mammoth (particularly the Bluffs area), Mammoth Slopes, Westridge and the Mammoth Knolls Planning Districts. Within the Specific Plan area itself, several small areas with slopes greater than 30 percent exist.

However, the majority of existing slopes within the project area are generally less than 5 percent and severe natural slope instabilities are localized. State Highway 203/Lake Mary Road roughly marks the boundary between low instability to the north (0 to 1 percent slopes) and moderated instability (1 to 5 percent) to the south.<sup>3</sup>

### Soils

The Town of Mammoth Lakes is situated near the junction of several different types of geologic material which include Pliocene volcanic flow rock (about 12 million to 3 million years old); Pleistocene through Holocene volcanic and pyroclastic rock (less than 3 million years old); Pleistocene glacial deposits (about 2.5 million to 10 thousand years old); and Holocene alluvium (less than 10 thousand years old). Approximately 80 percent of the developed area of the Town is underlain by glacial deposits (moraine).

Two primary soil categories are located throughout the Town of Mammoth Lakes area and include pleistocene glaciation and Long Valley Caldera volcanic deposits. The soil content south of SR-203 is primarily Tioga Till and Debris-Avalanche deposits extend from the northeast base of Lincoln Peak on Mammoth Mountain to the eastern edge of the Mammoth Lakes Town area.<sup>4</sup> The soil categories include the following types of soils: alluvials and tills, glaciated granites, pumice, rock glaciers, dissected domelands, flowlands, and moraines (sediments deposited by glacial movements), in varying stages of weathering and consolidation. The soils in Mammoth Lakes are sensitive to

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<sup>2</sup> Ibid.

<sup>3</sup> Ibid, page 4.1-6.

<sup>4</sup> U.S. *Geologic Map of Long Valley Caldera, Mono-Inyo Crater Volcanic Chain and Vicinity*, eastern California, prepared by the U.S. Geological Survey, 1989.

disturbance by development and have a moderate to high erosion potential (refer to Erosion discussion in the following Geotechnical Hazards subsection).<sup>5</sup>

Surficial earth materials within the Pedestrian Core portion of the project area consists of ancient landslide debris deposits within the fill material which covers the entire Specific Plan area. Underlying the ancient landslide debris deposits are volcanic and pyroclastic debris deposits.<sup>6</sup>

## GEOTECHNICAL HAZARDS

Several types of potential geologic hazards may occur in the vicinity of the Town of Mammoth Lakes that could affect existing and future land uses within the Specific Plan area. These hazards are not all of equal severity and would not affect land uses in the Specific Plan area to the same extent. As discussed below, these potential hazards include slope instability, erosion, seismicity, and various volcanic events. Geotechnical hazards, as they relate to the proposed Plan area, are discussed below.

### Slope Stability Hazards

Regional Hazards. Landslides, earthslips, mudflows, and soil creeps are expressions of soil conditions related to the instabilities created by steep slopes. These conditions are also related to shallow soil development, the presence of excess water, or the lack of shear strength in the soil or at the soil/rock interface. Each of these conditions is observable in Mono County, but usually is reported simply as a "landslide." Earthquake activity induces some landsliding, but most slides result from the weight of rain-saturated soil and rock exceeding the shear strength of the underlying material. Erosion of supporting material at the foot of constructed slopes is another major cause of sliding.

Local Hazards. Naturally occurring steep slopes are not a factor within the project area. As existing slopes within the Specific Plan area are generally less than 5 percent, severe natural slope instabilities are considered to be absent. The Lake Mary Road section roughly marks the boundary between low stability to the north (0 to 1 percent slopes) and moderate instability (1 to 3 percent slopes) to the south. As previously stated above, there are several small localized areas with slopes greater than 30 percent. These areas are liable to instabilities if they are further disturbed and not properly engineered.

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<sup>5</sup> *Eastern Sierra College Center Draft EIR*, prepared by L.K. Johnston & Associates, November 1, 1994, page 58.

<sup>6</sup> *Preliminary Soils Report for Phase I of Condola Village*, prepared by Sierra Geotechnical Services Inc., June 2, 1999.

The moraines south, west, and north of the Town of Mammoth Lakes are considered unstable, partly because they contain irregular deposits of clay that lack the strength to stand in steep slopes. Moraines in the center of Town and to the east are considered generally stable because of their relatively low topography, unless they are underlain by shallow groundwater.

The northwest portion of the Specific Plan area is reported to contain shallow groundwater levels. Slight to moderate groundwater seepage has been encountered in exploratory borings at depths ranging from 9 to 24 feet below ground surface (bgs). Heavy seepage was encountered at depths ranging from 37 to 44 feet bgs.<sup>7</sup> Groundwater elevations fluctuate seasonally being the highest in June and July due to the percolation of snowmelt. Typically groundwater depths vary a maximum of 10 to 15 feet in any given season. Therefore, the highest groundwater level expected within the northwest portion of the Specific Plan area is 22 feet bgs (refer to Section 5.6, *Hydrology and Drainage*).

### **Erosion Hazards**

Erosion potential varies throughout the Town of Mammoth Lakes. The highest erosion potential occurs in loose and/or shallow soils on steep slopes. Foundation components may be weakened by the loss of soil support created through erosion. If uncorrected, the effects can range from the nuisance level (sticking doors and windows) to the major structural damage level (shifted or collapsed foundations).

The loose, sandy portion of the Specific Plan area is subject to erosion, if its surface is disrupted or devegetated. Under existing conditions in the project area, the potentially erosive effects of overland flow from snowmelt and rainfall runoff are reduced by the ground-cover of fallen leaves and needles, and by the root systems of living trees. Also, the underlying till is dense enough, and contains sufficient silt-sized particles, to resist the relatively mild erosive forces.

### **Seismic Hazards**

Regional Seismic Activity. The Mono Lake-Long Valley region is part of one of the most active seismic regions in the United States. Low and moderate magnitude earthquakes occurring within the Long Valley Caldera are felt occasionally by residents of Mono and Inyo Counties. Very large shocks have occurred in the region and are expected to continue.

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<sup>7</sup> Ibid.

There are several active and potentially active fault zones within 60 miles of the Town of Mammoth Lakes.<sup>8</sup> These zones include faults that are historically active (during the last 200 years), those that have been active in the geologically recent past (the last 10,000 years, usually referred to as the Holocene) and those that have been active at some time during the Quaternary geologic period (the last two million years). The Mono Lake, June Lake, and Hilton Creek faults form the northern extension of the Sierra Nevada frontal fault system and are historically active. The southern extension of this system includes the main trace of the Sierra Nevada fault and the historically active Owens Valley fault. Holocene faults occur as branches within the major active fault zones and as segments of other faults in Mono and Inyo Counties. The faults that have been classified as Quaternary or older faults do not display evidence of recent movements and include the Bodie Hills, White Mountains, Death Valley-Furnace Creek, and Saline Valley faults.

Local Seismic Activity. Seismic activity in the vicinity of the Town of Mammoth Lakes is a result of continuing tectonic movement along the eastern front of the Sierra Nevada. Three historically-active faults located in proximity to the Plan area have the greatest potential to create significant ground shaking in the Town. These faults include the Hilton Creek fault (1980 earthquake), the Owens Valley fault (1972 earthquake) and the Chalfant Valley Fractures (1986 earthquake).<sup>9</sup> These three faults, as well as six other potentially active faults that also have the potential for ground shaking within the Town of Mammoth Lakes, are generally described below which indicates the general proximity of these faults to the Town of Mammoth Lakes).

- *Hilton Creek Fault:* The Hilton Creek fault was the apparent causative fault for the main shocks (RM > 6.0) of the Mammoth Lakes earthquakes of May 1980. At its nearest point, the Hilton Creek fault (including the northern splays) is approximately one mile southeast from the Town of Mammoth Lakes. Because of its close proximity to the Town and historic seismic activity, this fault would have the greatest potential for ground shaking in portions of the Specific Plan area.
- *Owens Valley Fault:* The Owens Valley fault is a major component of the Sierra Nevada boundary fault system. It extends from Coso Junction on the south to near Bishop on the north; a length of 56 miles. At its closest point, the Owens Valley fault is approximately 48 miles south of the Town of Mammoth Lakes.

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<sup>8</sup> *Lodestar at Mammoth Final EIR*, prepared by EIP Associates, February 1991, Figures 4.1-1 and 4.1-3.

<sup>9</sup> *Geologic/Seismic Hazards Report, Proposed Eastern Sierra College Center*, prepared by L.K. Johnson & Associates, November 1994, page C-13 (contained in Appendix to *Eastern Sierra College Center Final EIR*).

- *Chalfant Valley Fractures:* At their closest point, the Chalfant Valley fractures are about 36 miles east of the Town of Mammoth Lakes.
- *Other Faults:* Of the 37 active or potentially active faults within approximately 62 miles (100 km) of the Town, the three historically active faults which have the greatest potential to create seismic hazards in the Town are described above. However, six other potentially active faults that may have the potential for ground shaking in the Town include:
  - Hartley Springs Fault
  - Laurel-Convict Fault
  - Long Valley Caldera Faults
  - Mono Craters Caldera Faults
  - Silver Lake Fault
  - Wheeler Crest Fault

The Town of Mammoth Lakes will probably experience considerable seismic activity in the future due to multiple reasons including: 1) a high degree of crustal faulting in the Mono Lake and Long Valley area which may lead to the release of tectonic strain by frequent small or moderate earthquakes; 2) the present frequent moderate earthquakes and earthquake swarms along the Sierra Front fault which indicate the potential for a large earthquake; and 3) movement of magma beneath the Caldera which may be the cause of seismic events below the Long Valley Caldera.<sup>10</sup> It should be noted that each of the historically active faults are considered to be within an Alquist-Priolo Earthquake Fault Zone, however none crosses or trends towards the project area. Under the Earthquake Fault Zone Act, designated fault zones (from inferred or trace fault information), require special studies to determine the on-site extent of the faults prior to development in the zone.<sup>11</sup>

The California Division of Mines and Geology (CDMG) has included the Town of Mammoth Lakes within Seismic Zone III in their *Urban Geology Master Plan* with expected modified Mercalli Rating of "IX" or "X" at maximum earthquake intensities. (The "IX" Mercalli rating indicates that heavy damage to unreinforced structures would result and some structures would collapse. The "X" rating indicates that most masonry structures would be destroyed, and some well built wooden structures would be destroyed and public facilities would be damaged.)<sup>12</sup>

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<sup>10</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 152.

<sup>11</sup> *Ibid*, Figure 48 and page 153.

<sup>12</sup> *Ibid*, page 153 (as cited in *Urban Geology Master Plan*, 1973 Division of Mines and Geology, CDMG Bulletin).

Related Seismic Hazards. Other geotechnical hazards may result from seismic activity. These related hazards include surface rupture, ground shaking, landsliding, liquefaction, and seiche inundation as described below.

- *Surface Rupture:* Damage due to surface rupturing is limited to the actual location of the fault-line break, unlike damage from ground shaking, which can occur at great distances from the fault. As no known fault traces cross the project area, the potential for surface rupture in the project area is considered to be low.
- *Ground shaking:* As a general rule, the severity of ground shaking increases with proximity to the epicenter of the earthquake. Since the project area has primarily very low to moderate instability, the possibility of ground shaking is low.
- *Landslides:* Landslides move under the force of gravity. Triggering events for landslides include earthquakes, heavy precipitation, natural erosion and earthwork/grading. As previously stated above, severe slope instabilities are absent within the North Village Specific Plan area.
- *Liquefaction:* Another response to severe ground shaking that can occur in loose soils is liquefaction. Liquefaction occurs in areas with shallow groundwater and where finer grained sands make up a significant part of the near surface (less than 30 feet) soil section. Within Mammoth Lakes, areas of alluvium and moraine material with shallow groundwater have the potential for liquefaction.<sup>13</sup> However, as the project area is underlain by dense compacted soils, the liquefaction potential within the project area is considered to be low.
- *Seiche Inundation:* A hazard associated with seismicity near large bodies of water in mountainous regions is the generation of seiches, commonly known as sloshing or surge waves. As there are no existing large bodies of water within the proposed project area or adjacent to it, seiche inundation is not a seismic concern in the area.

### **Volcanic Hazards**

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake-Long Valley area, including at least ten eruptions in the Mono-Inyo volcanic chain during the past 600 years. The Long Valley Caldera is a center of volcanically-related

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<sup>13</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, Figure 56.

seismic activity. Earthquake swarms and surface rupturing in the Caldera are accompanied by uplift and deformation that have increased concerns about the possibility of renewed eruptive activity.<sup>14</sup>

Actual volcanic eruption in the vicinity of the Town of Mammoth Lakes has not occurred in historic times. The most recent eruption in the region occurred in 1890 beneath the southern portion of Mono Lake, about 35 miles north of the Town. Eruptions occurred approximately 1,400 A.D. within four miles of the Town at Mammoth Mountain and at the southernmost Inyo Crater. Both eruptions were of the "phreatic" type; that is, they produced steam, water, mud, and other gasses and materials, probably as a result of groundwater being heated by magma.<sup>15</sup>

The possibility of such an occurrence in the Mono-Long Valley area has resulted in increased monitoring of seismic and non-eruptive volcanic activity, and in increased efforts by local, State, and Federal offices to prepare emergency response plans. The potential hazards from future eruptions of volcanoes in the area are being studied by the U.S. Geological Survey and have given the chances of an eruption in the area in any given year a small possibility.<sup>16</sup> The Safety Element of the Mono County General Plan (1993) indicates a 1:1,000 annual likelihood of volcanic eruption in the Town vicinity.<sup>17</sup>

### **Snow Avalanches**

The Town of Mammoth Lakes General Plan Safety Element identifies portions of the Town as being in an area exposed to avalanche hazards. An avalanche is defined as a "mass of snow that sometimes contains rocks, soil, and ice moving rapidly downslope."<sup>18</sup> Avalanche hazard areas are categorized as high or moderate hazard zones. High avalanche hazard areas are not considered "safely developable" and moderate avalanche hazard areas are considered "conditionally developable". The Specific Plan area does not contain avalanche hazard areas.<sup>19</sup>

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<sup>14</sup> *Lodestar at Mammoth Final EIR*, prepared by EIP Associates, February 1991, page 4.1-21.

<sup>15</sup> *Ibid.*

<sup>16</sup> *U.S. Geological Survey, Fact Sheet-108-96*, 1996.

<sup>17</sup> *Eastern Sierra College Center Draft EIR*, prepared by L. K. Johnson and Associates, November 1, 1994, page 17.

<sup>18</sup> *Town of Mammoth Lakes General Plan*, October, 1987, page 186, as cited in the U.S.F.S. *Avalanche Handbook*, November 1978.

<sup>19</sup> *Ibid*, Figure 51.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation for North Village***

Topography. The 1991 EIR for the 1991 Specific Plan concluded that an unavoidable significant impact associated with topographical alterations to the Specific Plan area would occur with Plan implementation. No additional unmitigatable topographic conditions were identified within the 1991 EIR. A Statement of Overriding Considerations for this finding was adopted by the Town Council.

Slope Instability. The 1991 EIR for the 1991 Specific Plan concluded that with incorporation of recommended mitigation measures, potentially significant impacts associated with existing or newly created unstable slopes within the Specific Plan area would be reduced to less than significant levels.

Soils. The 1991 EIR for the 1991 Specific Plan did not analyze potential hazards associated with ground fracturing and/or differential changes due to subsidence and/or the presence of collapsible soils.

Erosion Hazards. According to the 1991 EIR for the 1991 Specific Plan, potential significant impacts associated with soil erosion would be reduced to less than significant levels with adherence to standard specifications outlined within the comprehensive Erosion and Sediment Control Plan required prior to issuance of grading or building permits. Long-term erosion impacts associated with the 1991 Specific Plan were previously analyzed within the 1991 EIR. The 1991 EIR concluded that with the design of manufactured slopes pursuant to applicable Town codes and standards, long-term erosion impacts would be reduced to less than significant levels.

Seismic Hazards. The 1991 EIR for the 1991 Specific Plan indicated that the Specific Plan area is not subject to known impacts associated with earthquake-induced landsliding, liquefaction, or seiche inundation hazards. In addition, the 1991 EIR concluded that with the incorporation of recommended mitigation measures outlined within required geotechnical studies for individual developments on a project-by-project basis, seismic ground shaking within the Specific Plan area would be reduced to less than significant levels.

Volcanic Hazards. According to the 1991 EIR, due to the North Village Specific Plan's central location within the Town of Mammoth Lakes, the Specific Plan is subject to the same flowage phenomena, tephra eruption, and gas migration hazards as the rest of the developed portion of the Town. The 1991 EIR concluded that with adherence to the Town's General Plan Safety Element and mitigation measures include in the General Plan EIR, impacts associated with volcanism would be reduced to less than significant levels.

The 1994 EIR Addendum did not identify additional project or cumulative impacts associated with geology, soils, and seismicity, beyond those included in the 1991 EIR.

***Significance Criteria for this EIR***

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Environmental Checklist Form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to Geology, Soils and Seismicity. The issues presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed.

It should be noted that through the Initial Study process, the Town has made the determination that certain project effects would result in a "Less Than Significant Impact" or in "No Impact". Section 10.0, *Effects Found Not to be Significant*, provides a brief description of potential effects for which a "Less Than Significant Impact" or "No Impact" determination was made for Geology, Soils and Seismicity.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

**Geology and Soils**

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issues by the State Geologist for the area or based on other substantial evidence of a known fault (*refer to Impact Statement 5.7-6*);
  - Strong seismic ground shaking (*refer to Impact Statement 5.7-6*);
  - Seismic-related ground failure, including liquefaction (*refer to Impact Statement 5.7-3 and 5.7-6*);
  - Landslides (*refer to Impact Statement 5.7-2*);
- Result in substantial soil erosion or the loss of topsoil (*refer to Impact Statement 5.7-4*);

- Be located on expansive soils, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial risks to life or property (refer to *Impact Statement 5.7-3*);
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (refer to Section 10.0, *Effects Found Not to be Significant*);

#### Mineral Resources

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State (refer to Section 10.0, *Effects Found Not to be Significant*); and/or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan or other land use plan (refer to Section 10.0, *Effects Found Not to be Significant*).

Potential impacts are grouped below according to topic. The numbered mitigation measures at the end of this Section directly correspond with the numbered impact statement.

### GEOLOGICAL CONDITIONS

#### Topography

5.7-1 *Specific Plan implementation may alter the existing topography within the North Village Specific Plan area converting an under-developed setting to an urbanized developed condition. Although the proposed project would not result in topographical impacts beyond those previously analyzed in the previous environmental documentation for the Specific Plan, mitigation previously identified in the 1994 EIR Addendum is recommended.*

Both the 1991 Specific Plan, the 1994 Specific Plan and the 1999 Specific Plan Amendment involve alteration to existing landforms. Although much of the Specific Plan area is currently developed, it continues to maintain a rural character. Development proposed as part of both Specific Plans would result in the conversion of existing land uses to higher densities which would require the modification of existing on-site topography, including vegetation removal and contour grading. Currently, the Specific Plan area includes natural, irregular slopes which would be modified by proposed buildings and landscaping at buildout of the area. The 1991 EIR concluded that an unavoidable and significant impact would occur even with

mitigation measures that require a project applicant to comply with the Town's grading regulations. Efforts to achieve this shall be indicated on project grading plans and are subject to the review and approval of the Town Engineer. Based on the similarity of the project impacts, no new significant topographical impacts are anticipated to occur with implementation of the proposed 1999 Specific Plan Amendment.

Construction effects associated with topographical alterations, including earthwork, dust, noise, and the creation of stockpiles or debris would create nuisances for remaining on-site residents and adjacent residents situated along the perimeter of the Specific Plan area. Construction impacts are discussed in other sections of this EIR but are short-term in nature and would cease upon project completion. These impacts are less than significant.

### **Slope Instability**

*5.7-2 Modifications to existing topography may occur during grading phases within the North Village Specific Plan area, potentially creating new or increased slope instability. Impacts would be reduced to less than significant levels with implementation of recommended mitigation measures.*

Slopes within the project area are generally less than five percent and therefore severe natural slope instabilities are absent. On-site soil conditions are considered very dense and existing manufactured slopes have been engineered to provide adequate stability. The Specific Plan area does contain localized areas with slopes that exceed 30 percent which would require remediation if planned for future development. Implementation of requirements set forth within the Specific Plan, which recommend balancing cut and fill levels on individual project sites within the Specific Plan area in conjunction with the preparation of site specific geotechnical studies would minimize the extent of the impact. Impacts beyond those previously identified within the 1991 EIR would not occur with development of the proposed 1999 Specific Plan Amendment.

*A Preliminary Soils Report* was prepared for the northeast portion of the Specific Plan area. This Study concluded that significant adverse conditions associated with landslides are not present. Implementation of grading specifications as outlined within the Report would serve to reduce potential post development slope instability impacts in this area to less than significant levels (refer to Appendix 16.7, *Soils Report*).

### **Soils**

*5.7-3 Ground fracturing and differential changes in elevation associated with subsidence and the presence of collapsible/loose sandy soils may impact the North Village Specific Plan area. Impacts would be reduced to a less than significant level with adherence to Town Code requirements.*

Future development on collapsible/loose sandy soils could potentially affect the structural integrity of individual development projects, depending on the location of the individual development site within the Specific Plan area. However, implementation of recommended mitigation measures, which include removal and recompaction of collapsible/loose sandy soil, would reduce impacts in this regard to a less than significant level. Future proposed projects within the Specific Plan area would be reviewed on a case-by-case basis to determine if further geologic review is required in order to determine site specific geotechnical measures and improvements necessary for development. Such studies would be provided prior to building permit issuance, as directed by the Town's Engineer, and would include design requirements to reduce site-specific geologic hazards to a less than significant level.

According to the *Preliminary Soils Report* prepared for the northwest portion of the Pedestrian Core area, dated June 2, 1999, numerous exploratory borings were conducted throughout the site to determine the subsurface geologic character and depth to groundwater (refer to Appendix 16.7, *Geotechnical Report*, for the location and depth of exploratory borings). The Report indicates that ancient landslide debris deposits underlie the existing fill deposits throughout this portion of the Pedestrian Core area. Underlying the ancient landslide materials are volcanic and pyroclastic debris. Mitigation measures recommended within the Report would serve to reduce potential soil impacts to less than significant levels.

## GEOTECHNICAL HAZARDS

### Erosion Hazards

5.7-4 *Grading and excavation activities are required for construction within the North Village Specific Plan area; thereby, potentially resulting in the temporary exposure of soils to short-term erosion by wind and water. Impacts would be reduced to a less than significant level with implementation of an Erosion and Sediment Transport Control Plan pursuant to the requirements of the Town of Mammoth Lakes, County, and Lahontan Regional Water Quality Control Board.*

The North Village Specific Plan area is slightly erosion prone in its natural condition and moderately erosion-prone where soils are disturbed by human activities. During construction of individual development sites within the Specific Plan area, erosion may temporarily occur along freshly-graded slopes and increase existing sediment load in the storm drain system, potentially resulting in flood conditions within the area.

Implementation of erosion and sediment controls during construction would mitigate potential impacts in this regard to a less than significant level. As recommended in Section 5.6, *Drainage and Hydrology*, of this EIR, an Erosion and Sediment Control Plan shall be prepared for development projects requiring a grading permit in

accordance with applicable Town, and Lahontan Regional Water Quality Control Board (LRWQCB) standards. The Plan shall specify erosion/sediment control measures such as reducing exposed graded areas from potential runoff through the usage of straw bale sediment barriers, filter berms, and filter inlets and soil stabilizers on disturbed soils. With implementation of the recommended erosion control measures outlined within the required Plan, potential erosion impacts during the construction phase of individual development proposals would not exceed those previously identified within the 1991 EIR.

5.7-5 *Long-term erosion may occur in areas of development within the North Village Specific Plan area where soils with moderate erosion potential are located. Impacts would be reduced to less than significant levels with adherence to applicable Town, and Lahontan Regional Water Quality Control Board requirements.*

Development within the North Village Specific Plan area may increase erosion rates beyond existing conditions in those areas which contain soils with moderate erosion potential. These impacts would be mitigated to a less than significant level through the provision of adequate local and site drainage facilities and site design in accordance with applicable Town, and LRWQCB standards (refer to mitigation measures in Section 5.6, *Drainage and Hydrology*). Erosion impacts would be further reduced with adherence to standard engineering practices related to manufactured slopes associated with foundation excavations and pad cuts so as not to increase the soil erosion potential to moderately high or high. With implementation of recommended control measures required by the Town, and LRWQCB adopted standards, potential erosion impacts would not exceed those previously identified within the 1991 EIR. These impacts and mitigation measures are similar to the 1994 EIR Addendum.

### **Seismic Hazards**

5.7-6 *Development within the North Village Specific Plan area may increase the number of people potentially affected by moderate to strong ground shaking due to earthquakes on one or more active faults in the region. Impacts associated with seismic ground shaking would not result in hazardous conditions greater than impacts identified in the General Plan EIR. Potential impacts would be reduced through adherence to requirements set forth in the current version of the Uniform Building Code (UBC).*

The entire Mammoth Lakes region and approximately 45 percent of California is located within the Uniform Building Code (UBC) Seismic Zone 4, the highest activity zone in the Code. Although no known faults exist within the North Village Specific Plan area, the area would experience ground motion and effects from earthquakes generated along active faults off-site. Due to the Town's close proximity to the Hilton

Creek fault, Owens Valley fault and Chalfant Fractures, a major earthquake occurring in the vicinity may be expected to produce moderate to extreme ground shaking and lurching within the Specific Plan area. However, as previously stated above, the Specific Plan area is not subject to known surface faulting, earthquake-induced landsliding, liquefaction, or seiche inundation hazards. Measures contained within the UBC and the Town's General Plan and General Plan EIR set forth minimum construction standards that would also ensure, to a degree, that structures were built to withstand minor seismic events without failure.<sup>20</sup> The Town's General Plan EIR concludes that hazards related to seismic activity would remain significant and unavoidable even after mitigation (i.e., adherence to UBC standards and General Plan policies). A Statement of Overriding Considerations for this finding was adopted by the Town Council. Nonetheless, the project applicant would be required to demonstrate compliance with the UBC, the Town's Municipal Code, General Plan and General Plan EIR, and other applicable standards prior to issuance of grading permits. As such, no impacts beyond those previously identified and in the General Plan EIR and the 1991 EIR are anticipated to occur.

Most of the detailed recommendations regarding specific techniques and designs to reduce, eliminate, or avoid geologically related hazards would be provided by the required geotechnical reports for individual development projects within the Specific Plan area pursuant to the Town's standard requirements. Plan review, field inspection, and site observation would also be involved in the mitigation of geotechnical effects. The completed site development plans would be reviewed by the Town to determine conformance with the recommended geotechnical procedures. Final field inspection of the mitigation measures would be performed by a Certified Engineering Geologist, or a similarly qualified professional, during the earthwork and construction operations. The observation of cuts, fills, backfills, foundation excavations, and the preparation of pavement subgrades would take place during these phases of site development. The recommendations of the individual geotechnical reports and the inspecting professional would be incorporated in the construction plans and activities.

Liquefaction is the loss of strength of cohesionless soils when the pore water pressure in the soil becomes equal to the confining pressure. Liquefaction generally occurs as a "quicksand" type of ground failure caused by strong groundshaking. The primary factors influencing liquefaction potential include groundwater, soil type, relative density of the sandy soils, confining pressure, and the intensity and duration of ground shaking. Due to the seasonal fluctuation of groundwater within the region the highest groundwater level on-site is anticipated to be encountered at 22 feet bgs. The maximum foundation depths for the proposed development is less than 15 feet; therefore, the potential for liquefaction to occur during a seismic event is considered

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<sup>20</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 157.

to be low. Adherence to recommendations contained within the aforementioned *Preliminary Soils Report* prepared for the northwest portion of the Plan area would serve to further reduce the potential for structures to be affected by liquefaction.

### **Volcanic Hazards**

*5.7-7 Development within the North Village Specific Plan area may increase the number of people which could be affected by hazards related to volcanism. Impacts would be reduced to a less than significant level with adherence to the UBC, the Town's Municipal Code, General Plan and General Plan EIR, Volcanic Hazards Response Plan, and other hazard emergency plans.*

Geotechnical hazards in the Specific Plan area related to volcanic activity are possible as explained in the Existing Conditions discussion of this Section. Although no eruptions have occurred in this portion of the Long Valley Caldera during the last 10,000 years, the behavior of the Mono-Inyo volcanic chain during that time indicates that this local possible vent zone is a likely location of a future eruption. As evident from the Regional Geologic Map (Figure 4.1-4 of the 1991 EIR), shifting this seismic activity several miles in any direction would not significantly alter the hazards analysis for the Town.<sup>21</sup>

The possibility of volcanic related hazards in the Mono-Long Valley area has resulted in increased monitoring of seismic and non-eruptive volcanic activity, and in increased efforts by local, State and Federal offices to prepare emergency response plans regarding potential hazards from future volcano eruptions in the area. Recognition of the potential for volcanic activity in the Specific Plan area assists the community and other agencies in preparing and updating appropriate emergency response plans.<sup>22</sup> The Town has an Emergency Management Plan, adopted May 1999. The General Plan EIR identified hazards associated with volcanic events as unavoidable significant impacts. A Statement of Overriding Considerations was adopted by the Town Council. The 1999 Specific Plan Amendment would not result in volcanic hazardous conditions which exceed impacts identified in the General Plan EIR and 1991 EIR. As such, no significant impacts would occur in this regard.

### **CUMULATIVE IMPACTS**

*5.7-8 Development of the North Village Specific Plan area, combined with future development, may result in an increase in development areas that would be affected by geologic impacts. Cumulative development within the Town would*

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<sup>21</sup> *North Village Specific Plan Final EIR*, prepared by EIP Associates, February 1991, page 4.1-15.

<sup>22</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 151.

*not exceed Geology, Soils and Seismicity impacts previously addressed within the General Plan EIR.*

Cumulative development in the Town would increase the amount of exposed soils during grading and may result in increased erosion and downstream sedimentation. However, due to the short-term nature of grading and construction activities, cumulative impacts resulting from erosion and sedimentation are not anticipated to be significant. The risk of seismic activity and groundshaking is common to the Town of Mammoth Lakes area and to all cumulative development in much of California and has been determined to be a significant unavoidable impact in the General Plan EIR. A Statement of Overriding Considerations was adopted by the Town Council for this impact. Cumulative impacts would be mitigated through individual design features.

### **MITIGATION MEASURES**

The following Mitigation Measures directly correspond to the impact statements identified in the Impact analyses. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

### **GEOLOGICAL CONDITIONS**

#### **Topography**

- 5.7-1 *(Measure restated from Mitigation Measure 4.1-3 in the 1994 EIR Addendum):* Prior to issuance of grading or building permits, geotechnical studies shall be completed and their recommendations shall be incorporated in the project design, as stipulated in the Town's Safety Policy #26.

#### **Slope Instability**

- 5.7-2a *(Measure modified from Mitigation Measure 4.1-1a in the 1994 EIR Addendum):* Soils and foundation analyses shall be approved by Town staff prior to final project design approval, as stipulated in the Town's Safety Policy #18. All measures required by the Town shall be incorporated into final grading and building plans.
- 5.7-2b *(Measure modified from Mitigation Measure 4.1-1b in the 1994 EIR Addendum):* The project applicant shall provide grading plans and receive approval from the Town Engineer. Said plans shall also show that new slopes within the project area are designed pursuant to slope

requirements set forth within the Specific Plan and the standard's of the Town's Municipal Code.

- 5.7-2c *(Measure modified from Mitigation Measure 4.1-1c in the 1994 EIR Addendum):* All work shall be overseen by a licensed Civil Engineer (CE), Certified Engineering Geologist (CEG), or similar appropriately qualified professional, who shall report to the Town Engineer in order to ensure the standards of the applicable Codes are met.

## SOILS

- 5.7-3 Refer to Mitigation Measure 5.7-1.

## GEOTECHNICAL HAZARDS

### Erosion Hazards

- 5.7-4 *(Measure modified from Mitigation Measure 4.1-2 in the 1994 EIR Addendum):* A comprehensive Erosion and Sediment Transport Control Plan shall be prepared by the project applicant and approved by the Town Engineer prior to the issuance of any grading or building permits. The Plan shall be included in the project design, as stipulated in the Town's Safety Policy #18. The Plan shall also meet the requirements of the Regional Water Quality Control Board and the Town Municipal Code.
- 5.7-5 Refer to Mitigation Measure 5.7-4 above.

### Seismic Hazards

- 5.7-6 *(Measure restated from Mitigation Measure 4.1-4 in the 1994 EIR Addendum):* The project applicant shall complete the geotechnical studies and incorporate their recommendations in the project design, as stipulated in the Town's Safety Policy #26. All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.

### Volcanic Hazards

- 5.7-7 *(Measure modified from Mitigation Measure 4.1-5b in the 1994 EIR Addendum):* Each project operator shall cooperate with the Town in designing and disseminating information to assist citizens and visitors in responding to emergency situations that are likely to arise (Safety Policy

#31). All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.

**CUMULATIVE IMPACTS**

5.7-8 No mitigation measures are required. Individual projects will be subject to review and approval by Town Engineer and mitigated on a project-by-project basis through site specific studies and compliance with applicable Town, State, and Federal codes.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 EIR, 1994 EIR Addendum and Town General Plan EIR for the 1999 Specific Plan Amendment. No additional significant impacts have been identified.



## 5.8 HYDROLOGY AND DRAINAGE

This Section identifies that there is a change in the project description and analyzes potential impacts on existing drainage patterns and flood control facilities in the North Village Specific Plan area, as well as the potential effects on the groundwater supply and quality. Mitigation measures are recommended to reduce potential impacts to less than significant levels. Information in this Section is based on the *Town of Mammoth Lakes General Plan* dated October 1987, the *Town of Mammoth Lakes General Plan Environmental Impact Report (EIR)* dated January 15, 1986, and the *Mammoth Lakes Storm Drainage Master Plan* dated July 1984. Additional reference documents include the *North Village Specific Plan Final EIR* dated 1991, the *Juniper Ridge Revised Master Plan EIR* dated December 20, 1989, the *Lodestar at Mammoth Final EIR* dated February 1991, and the *Storm Drainage Study for the North Village Specific Plan*, dated December 1999 prepared for the 1999 Specific Plan Amendment and the supplement engineering analysis related to hydrology/hydraulics provided by the project proponent engineering consultant.

### EXISTING CONDITIONS

#### REGIONAL HYDROLOGICAL SETTING

The Town of Mammoth Lakes is located within the 45,000-acre Mammoth Basin. The approximately 71-square mile Basin is part of the Long Valley Subunit of the Owens Valley Hydrologic Unit on the Lahontan Drainage Province. The Basin generally flows northeast and east from Mammoth Crest, at an elevation of 11,600 feet above mean sea level (msl) on the southwest, to the Hot Creek Gorge in the Upper Owens Valley at an elevation of 6,950 feet above msl on the northeast. The Basin includes many alpine lakes, surface streams, and springs which are all tributary to Mammoth Creek or Hot Creek. Mammoth Creek serves as the principal drainage course through the Town of Mammoth Lakes and flows into Hot Creek at a point east of United States (U.S.) Highway 395. Hot Creek then flows easterly into the Owens River. The total length of the Mammoth Creek/Hot Creek drainage system is approximately 18 miles.

#### Major Regional Watersheds

The Mammoth Basin contains six distinctive major watersheds. Watersheds I through V comprise the major tributary areas of Mammoth Creek upstream of U.S. Highway 395. Downstream of U.S. Highway 395 (where the stream name changes to Hot Creek), the remaining Basin area has been combined into Watershed VI, even though minor drainage distinctions could be made. Watershed I encompasses the Lakes Basin and contains the largest and most numerous lakes within the Mammoth Basin. All of the developed portions of the Mammoth Basin are located in Watersheds II and III.

Watershed II, located immediately downstream of Area I, includes those portions of Mammoth Mountain and the Town which drain directly into Mammoth Creek. Watershed III drains into Murphy Gulch which ultimately drains into Mammoth Creek near U.S. Highway 395. This watershed contains most of the developed areas of the Mammoth Lakes community. The North Village Specific Plan area is located entirely within Watershed III.

## GENERAL DRAINAGE AND RUNOFF POLICIES/ISSUES

Continued buildout of the Mammoth Lakes community has gradually increased the density and extent of the urbanized area, thereby, resulting in greater peak flows from snow melt and rain storms (refer to Runoff in the Mammoth Lakes Urban Area table in Appendix 15.4 of this EIR). As this growth occurred, erosion and flooding severity has continued to increase, as well as surface water quality degradation in Mammoth and Hot Creeks. Recognizing the need for control of these potential hazards, the Mono County Public Works Department prepared the *Mammoth Lakes Storm Drainage Master Plan* dated July 1984, which included a Master Plan Report, Design Manual, and Implementing Ordinance. The *Storm Drainage Master Plan* (SDMP) was primarily formulated to control the existing drainage and erosion problems by establishing a program to rehabilitate existing development areas, while also providing policies, standards and procedures to guide future development.

The SDMP identifies several existing drainage problems in the Town of Mammoth Lakes. These include the following:

- Lack of a stable drainage system in the major portion of the community;
- Roadside and slope erosion due to uncontrolled runoff in poorly defined channels from steep areas;
- Drainage which crosses private property;
- Development in or near the natural drainage channels;
- Undersized culverts and channels;
- Lack of maintenance to prevent clogging; and
- Discharge of runoff from developed areas directly to Mammoth Creek resulting in high sediment loads to the creek and water quality degradation.

The SDMP also includes guidelines for erosion control for the Mammoth Lakes area. In an effort to remedy drainage and erosion problems, the erosion guidelines prescribe requirements which must be followed during all phases of development involving either 1) six or more dwelling units, or 2) commercial developments involving soil disturbance on one-quarter acre or more.<sup>1</sup> The erosion guidelines also provide a basis for consistent design of storm drainage and erosion control facilities.<sup>2</sup>

### **Existing Drainage Facilities**

In 1975, a major storm drainage project established the project area's backbone storm drain system from Mammoth Slopes to Mammoth Ranger Station via Canyon Boulevard, Berner Street, Alpine Circle, and Main Street in the North Village Specific Plan area. This system, described in detail in the SDMP, discharges into Murphy Gulch just east of the Mammoth Ranger Station. A 43,560 square foot siltation basin was constructed at the downstream end of Murphy Gulch channel in conjunction with these drainage improvements.<sup>3</sup>

### **Existing Local Watershed Conditions for North Village Specific Plan**

The effects of surface runoff can be evaluated on either a (1) regional level as previously described in the SDMP, or (2) based upon a local level which focuses on the surface runoff generated from the specific plan area only. The local watershed or drainage area which is encompassed by the Specific Plan area includes approximately 71.5 acres, 31.5 acres or 44 percent of the specific plan area is located in the northerly portion and 40.0 acres or 56 percent is located in the southerly portion. The Specific Plan development drainage areas are located within the Mammoth Lakes SDMP delineated drainage subareas III-5, III-7, and III-8. The quantity of existing storm runoff generated by the local watershed is influenced by the amount of existing impervious area primarily associated with roads and existing structures. There are existing underground storm drain facilities, culverts, and other small drainage facilities, but they have limited hydraulic conveyance capacity. The majority of the existing runoff generated by this area is primarily conveyed by existing natural swales, ditches, and open channels. The existing roadway network and alignment also influences the surface drainage patterns for runoff not intercepted within underground storm drain systems. The roadway also functions as a drainage conveyance system.

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<sup>1</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 166.

<sup>2</sup> *Mammoth Lakes Storm Drainage Master Plan*, Mono County Public Works Department, July 1984, page 5-13.

<sup>3</sup> *Mammoth Lakes Storm Drainage Master Plan*, Mono County Public Works Department, July 1984, page 3-33.

### Local Watershed Description and Conditions

The surface drainage pattern of the northerly local watershed (31.5 acres) generally flows in an easterly direction along Berner Street from the western boundary. The northerly local watershed is contained within the regional SDMP subareas III-7 and III-8, with the majority located within subarea III-7. Additional quantities of offsite generated surface runoff travel through the specific plan area from the upper watershed, since the specific plan area is located within the larger SDMP regional watershed.

The surface drainage patterns for the southerly local watershed (40.0 acres) within the Specific Plan area also generally flows in an easterly direction along several distinct flowpaths. The surface drainage from the southerly watershed does not combine with the northerly area drainage within the specific plan area, but does combine further downstream within the larger regional watershed. The southerly local watershed is contained within the regional SDMP subarea III-5. Small drainage courses deliver flows to Minaret Road and cross through existing pipe culverts.

The local watershed for the Specific Plan area can be characterized by ground slopes which range from mild to steep. There are some existing structures and buildings within the Specific Plan area which add impervious surface area. However, the density of the existing development or amount of existing impervious surface within the specific plan area is estimated to be approximately 27.7 acres of impervious area out of the 71.5 acre specific plan local watershed area. A local watershed analysis to evaluate project generated surface hydrology was prepared by the project proponent's engineering consultant and resulted in delineating the project site drainage area into 19 separate smaller subareas to facilitate the analysis and characterization of the areas. The study quantified the estimated amount of impervious area associated with each of the individual subareas and is summarized in the following table.

### Existing Drainage Facilities

There is a limited amount of existing drainage facilities within the Specific Plan area, as previously identified, and the amount of existing drainage facilities limits the available hydraulic conveyance capacity within this area, and also restricts the level of flood protection. The existing facilities include existing underground storm drain pipes, pipe culverts, natural drainage courses, earthen channels, and drainage inlets. Additional drainage improvements have been identified for the Specific Plan area which are required to implement the regional drainage system. However, the ultimate drainage system will not operate correctly and provide the desired level of flood protection until all components of the larger regional drainage system are completed.

**Table 5.8-1  
 EXISTING SPECIFIC PLAN LOCAL WATERSHED IMPERVIOUS AREA QUANTITIES**

North Village Watershed Subarea	Location	Mammoth SDMP Subarea	Area (acres)	Percent Impervious Area
A-1	Northern	III-7	1.6	45%
A-2	Northern	III-7	2.2	45%
A-3	Northern	III-7	2.5	54%
A-4	Northern	III-7	1.2	76%
A-5	Northern	III-7	1.2	25%
A-6	Northern	III-7	2.2	20%
A-7	Northern	III-7	4.25	18%
A-8	Northern	III-7	1.0	90%
A-9	Northern	III-7	1.2	90%
A-10	Northern	III-7	1.53	16%
A-11	Northern	III-8	8.92	33%
A-12	Northern	III-8	3.74	47%
B-1	Southern	III-5	6.6	90%
B-2	Southern	III-5	5.8	16%
C-1	Southern	III-5	3.4	30%
C-2	Southern	III-5	1.6	35%
C-3	Southern	III-5	8.4	17%
C-4	Southern	III-5	7.2	35%
C-5	Southern	III-5	7.0	9%

Existing roadway culvert pipes provide cross drainage across road locations in order to maintain natural drainage patterns associated with natural channel or drainage courses. The existing culverts and underground storm drain pipe do not have adequate hydraulic conveyance capacity to convey 100-year flowrates. Runoff from larger storm events which exceed the hydraulic capacity of the existing drainage facilities will follow a secondary overland flow path which is generally defined by the natural topography or the street sections. There are only a few existing street inlets which intercept roadway drainage to underground storm drains and the remainder of the roadway drainage discharges into the existing natural channels or is conveyed within the street section. The limited number of street inlets corresponds to the limited amount of existing underground storm drain within the specific plan area.

One of the major facilities that extends through the specific plan area is a portion of a 54-inch diameter main line trunk storm drain system has been previously installed. Additional existing drainage facilities are summarized below based upon information contained within the SDMP and the studies prepared by the project proponent's engineering consultant.

**Table 5.8-2  
 EXISTING DRAINAGE FACILITIES**

Facility	SDMP Subarea	Description
24" culvert	III-8	Roadway culvert crossing
18" culvert	III-8	Roadway culvert crossing Forest Trail
54" storm drain	III-8, III-7	Regional storm drain extending upstream of the specific plan area to intercept flows in Canyon Blvd and outlet downstream or east of the specific plan area in Murphy Gulch
48" drainage inlet	III-8	Circular inlet to intercept the majority of the surface drainage in the natural drainage course for the upstream area of Subarea III-8 and discharge into the 54" trunk S.D.
24" x 36" surface inlet	III-7	Inlet located along Minaret to intercept flow and discharge to 54" trunk SD
36" culvert	III-5	Roadway culvert crossing of Minaret
36" storm drain	III-5	Storm drain within Minaret which extends from a 36" and 24" storm drain lateral along Main Street

SDMP = Storm Drain Master Plan

Existing Drainage Facilities Hydraulic Capacities

The hydraulic capacity of the existing drainage facilities within the Specific Plan area represents the available flood protection through conveyance in (1) underground storm drains, (2) culverts, (3) street drainage inlets, and (4) street section conveyance. Engineering analysis of the hydraulic capacity of these facilities were prepared for the controlling or limited facilities and are summarized below.

**Table 5.8-3  
 EXISTING DRAINAGE FACILITIES ESTIMATED AVAILABLE HYDRAULIC CAPACITIES**

Drainage Facility	Location	Operating Condition Assumptions	Capacity (cfs)
24" culverts	Culverts crossing Joaquin Rd., Lupin St., Mono St., Manzanita St.	Headwater max. 3.0 feet above top of pipe culvert	30 cfs
18" culverts	Culverts crossing Joaquin Rd., Lupin St., Mono St., Manzanita St.	Headwater max. 3.0 feet above top of pipe culvert	16 cfs
36" culvert	Culvert crossing in watershed subarea C-3	Max. headwater is 3.15 ft	36 cfs
24" culvert	East side of Minaret Road		30 cfs
Dbl-36" culverts	Culvert crossing in watershed subarea C-5	Max available headwater depth 7.8 feet	2.80 cfs
Canyon Blvd Street Section	Upstream of Crystal Drive	Street slope = 0.0672	168 cfs
Canyon Blvd. Street Section	Upstream of Horshoe Drive	Street slope = 0.054	152 cfs
Canyon Blvd. Street Section	Upstream of Lakeview Blvd	Street slope = 0.056	156 cfs
Canyon Blvd. Street Section	Upstream Minaret Road	Street Slope = 0.036	85 cfs
Drainage Swale	Adjacent to Alpine Circle	Slope = 0.04167 Manning n = 0.015	depth = 1.4 316 cfs
48" - 54" trunk storm drain	From Canyon Blvd. through Berner Blvd.	Downstream end of North Village (Berner St Storm Drain)	240 cfs
48" - 54" trunk storm drain	From Canyon Blvd. through Berner Blvd.	Storm Drain outlet to Murphy Gulch	585 cfs

### Storm Drainage Master Plan Improvements-General

As previously mentioned, the SDMP sets forth an improvement program to rehabilitate existing developed areas as well as policies, standards and procedures to guide future development. The SDMP identifies general drainage improvements throughout the Town which would remedy existing drainage problems or deficiencies and accommodate General Plan buildout development. Construction of the SDMP facilities can be spread out over a number of years. This would allow facilities to be built as they are needed or as further development occurs. Three priority levels have been established in the SDMP for construction of the improvements as summarized below:

- Priority 1 improvements focus primarily on eliminating existing drainage and erosion control problems;
- Priority 2 improvements include solutions to less critical drainage problems and facilities required to provide adequate drainage trunk capacity for the ultimate development; and
- Priority 3 improvements include the remainder of SDMP facilities, which are principally improvements for local storm drainage.

The SDMP strives to retain or improve natural streams where possible, rather than replacing them with storm pipes (for aesthetic, economic and functional purposes). Storm pipes would be placed in streets where feasible, however, some easements would be required on private property, primarily where existing development has occurred near stream zones.

#### North Village - SDMP Facilities

The required drainage facilities for the Specific Plan area have been identified in the Mammoth Lakes SDMP and the site specific drainage studies prepared by the proponent engineering consultant for the 1999 Specific Plan Amendment. The proposed drainage facilities include the portion of the regional drainage systems located within the Specific Plan boundaries and local drainage facilities to intercept and convey flows generated within the Specific Plan area. The portions of the SDMP regional drainage facilities within the Specific Plan area limits should be implemented as part of the development. The regional storm drain facilities, however, are generally storm drain systems which service a larger drainage area than just the Specific Plan area and extend further upstream and downstream of the project. Implementing the portion of the SDMP facility within the Specific Plan area would not ensure that the system would be conveying ultimate flowrate or providing the desired level of protection until all components of the entire system have been implemented. In order to provide the required flood protection during the interim period during which only

a portion of the SDMP facilities in Subareas III-5, III-7, and III-8 have been implemented additional drainage conveyance must be provided by surface drainage through open channels or street hydraulic capacity. The SDMP drainage facilities which are identified within the Specific Plan area are shown in Table 5.8-4. Construction of these facilities as part of the Specific Plan would ensure the long term implementation of the required flood protection system. Proposed development within the Specific Plan area should ensure that adequate drainage and flood protection is provided for the "interim" condition until the remaining upstream and downstream SDMP facilities are implemented.

**Table 5.8-4  
 BACKBONE MASTER PLAN STORM DRAIN FACILITIES  
 REQUIRED WITHIN THE NORTH VILLAGE SPECIFIC PLAN**

Specific Plan Area Location	SDMP Subarea	Drainage Improvement Description
The Village - Phase I	III-7	48" diameter storm drain parallel to existing 42" storm drain then expanding to 72" diameter storm drain extending east parallel to Berner Street
Berner Street	III-7	Extend new 54" diameter parallel to existing 54" storm drain from junction of new 72" storm drain to Specific Plan downstream boundary
Minaret and Forest Trail Roundabout Intersection	III-8	2 -48" diameter road culvert crossing street intersection and 48" storm drain extending downstream from intersection to join
Community Center	III-8	Installation of 24" storm drain extension to Mammoth Knolls from proposed 48" storm drain in Forest Trail
Canyon Blvd. realignment	III-5	24" and 36" storm drain from interception point along Lake Mary Road and connect downstream to 36" culvert at intersection of Lake Mary and Minaret Road 36" line along east side Minaret Road south of Main Street
Fireside Condominiums	III-5	Extension of 18" diameter storm drain along west side of Minaret Road local onsite storm drain system

SDMP = Storm Drain Master Plan

The proposed drainage facilities must be designed to accommodate potential surface flows from drainage generated offsite in the upper watershed, beyond the Specific Plan boundary. The portion of the existing SDMP trunk storm drain system which traverses the Specific Plan area has severely limited hydraulic capacity compared to the ultimate

anticipated design discharge from the regional watershed. An estimate of the potential offsite surface flows which would be tributary to the western or upstream Specific Plan boundary was developed based upon available hydraulic capacities of the existing drainage facilities. The existing storm drain catch basins along Canyon Boulevard have an estimated interception capacity of 380 cfs, however, the estimated ultimate 100-year peak discharge from the SDMP for this location is 466 cfs at Hillside Road. The excess 86 cfs would be conveyed within the Canyon Boulevard street section based upon the available hydraulic capacity and continue through North Village in Canyon Boulevard and Berner Street. Additional surface flows from the Knolls area also enter Berner Street near the easterly boundary of North Village, increasing the total 100-year quantity to approximately 320 cfs within the street section. The surface flow is contained within the Berner Street and the westerly end of Alpine Circle street section with estimated 100-year street flooding depths of 0.66 feet for pre- and post-development. The surface flows conveyed within Alpine Circle will exit the street and enter an old drainage channel near the northeasterly end of the street. The estimated flooding depths and flow widths in the channel are 1.4 feet and 28 feet, respectively.

The runoff quantities within the southern portion of the North Village Specific Plan are not as large as the flows associated with the northern portion of the Specific Plan area which has a significant off-site component including the trunk storm drain line. The existing flows from the southern portion of the Specific Plan area are not conveyed in any existing storm drain. The downstream drainage facilities which would be potentially impacted by these flows from the specific plan area would include the Sierra Valley sites and the drainage facilities consist of a small drainage ditch with 18-inch culverts under Joaquin, Mono, and Manzanita Streets. The SDMP has identified that these facilities do not currently have adequate hydraulic capacity to convey the estimated ultimate 100-year flows of 139 cfs or even the existing flow rates. The existing culverts only have a maximum capacity of 13 cfs and the drainage channel has a capacity of approximately 24 cfs. The existing channel will have to be enlarged to the recommended 6-foot base width trapezoidal section as indicated in the SDMP to accommodate the 100-year flows and the culverts will need to be removed and replaced with double 48-inch diameter pipe culverts.

The implementation and phased construction of the major storm drain facilities will depend upon the phased construction of development within the Specific Plan area. Depending upon the flood protection provided by the facilities, some facilities will require complete installation for a particular phase of development to proceed. The proposed 24-inch storm drain within Lake Mary Road to the Miller Siding Road will need to be installed when Canyon Boulevard is realigned. The proposed design is to ensure that the drainage will be conveyed within the street rather than the current condition which allows the street flows from Miller Siding Road to discharge onto the adjacent property to the east.

### North Village Proposed Local Drainage Facilities

The surface drainage generated within the Specific Plan development areas will be intercepted by proposed smaller diameter underground storm drain pipes and surface inlets designed to correspond to specific development site plans and constraints. The onsite local storm drain will intercept smaller return period storm runoff and convey the flow to stormwater retention facilities as required by the Lahontan Regional Water Quality Control Board. These retention facilities will either be above- or below-ground stormwater storage facilities. These smaller local drainage facilities will connect to the SDMP drainage systems from the retention facilities within the Specific Plan area. The design storm frequency for the drainage facilities are based upon the City design manual which includes:

- The "drainage system" should transport the 100-year flow without damage to property. The system capacity can include both capacity of the underground facility and above ground conveyance in the street section.
- Storm drain facilities under 48" diameter requires minimum sizing for the 20-year flow.

### North Village Surface Hydrology

A detailed hydrology study was prepared by the project proponent's engineering consultant to quantify the anticipated design storm runoff quantities and evaluate the potential impacts to the surface hydrology with proposed developed. In general, development will modify the surface hydrology through the following characteristics: (1) increase the amount of impervious surface area, (2) provide a more efficient drainage system which will deliver or convey the flow faster than the natural system, (3) increase the amount of effective runoff volume and the apparent peak discharge for the same storm return period, and (4) decrease the amount of time runoff travels from the most remote point in the watershed to the outlet, or the "time of concentration".

The hydrology analysis which was prepared to study the specific plan area utilized the criteria and methodology outlined in the *Design Manual - Mammoth Lake Storm Drainage and Erosion Control* (July 1984). The rational method procedure was used to estimate 100-year peak flow rates for a local watershed analysis of the Specific Plan area, evaluating both "existing" and "development" watershed conditions for the nineteen individual subareas. A unit hydrograph analysis was prepared to evaluate the regional watershed impacts at the downstream Specific Plan boundary and potential changes to flooding downstream. The hydrograph procedure provides estimates of both the runoff volume and discharge variation over time while the rational method only provides estimate of the peak discharge.

The "rational method" procedure outlined in *Design Manual - Mammoth Lake Storm Drainage and Erosion Control* involves applying the basic rational formula ( $Q = CIA$ ) to determine the peak flow and estimating a composite runoff coefficient (C) from the natural areas, road surface, paved surfaces. The runoff coefficient associated with the natural area must be estimated for both "winter" and "summer" storms. The winter storm will typically generate the higher runoff fraction than the summer storm for the same hydrologic soil type. The representative subarea "time of concentration" used to determine the rainfall intensity for a specific storm frequency is based upon the total of the "overland flow" and "channel" components. The rainfall intensity applied in the rational method equation utilizes both the "winter" and "summer" storm values to calculate different peak discharges representative of either storm. The peak discharges calculated for both the winter and summer storms are compared and the larger discharge is the controlling peak flowrate.

The estimated 100-year peak discharge results of the rational method analysis for the hydrology study are summarized in the following tables for the nineteen Specific Plan local watershed subareas. The representative watershed characteristics for both the "existing" or pre-development and developed land use conditions are presented in the tables. The twelve watershed subareas with an "A" designation are tributary to trunk storm drain line from Canyon Boulevard. The winter storm typically is the controlling storm condition for the natural watershed conditions, however, when the amount of impervious area increases with the developed condition, then the summer storm will generate the larger peak flow rate.

The "unit hydrograph" analysis was prepared to analyze the regional watershed associated with the northern portion of the Specific Plan area, subarea "A" (31.5 acres) and the entire offsite drainage area (1,003 acres). The Soil Conservation Service (SCS) unit hydrograph procedure is the methodology adopted in the *Design Manual - Mammoth Lake Storm Drainage and Erosion Control* (July 1984). The results of the hydrograph analysis for a concentration point at the downstream Specific Plan boundary indicates that the peak discharge would occur within 1.3 hours of the rainfall. The estimated 100-year peak discharge for the "pre-development" condition is 466 cfs and the "developed" condition peak discharge is 470 cfs.

**Table 5.8-5  
EXISTING CONDITION WATERSHED CHARACTERISTICS  
AND 100-YEAR FLOW RATES**

Watershed Subarea	Area (acres)	Controlling Storm Type	Time of Conc. (min)	Runoff Coeff. (C)	Q <sub>100</sub> (cfs)
A1	1.6	Winter	1.05	0.71	1.6
A2	2.2	Winter	0.47	0.71	2.7
A3	2.5	Winter	0.35	0.74	3.5
A4	1.2	Summer	0.55	0.68	1.9
A5	1.2	Winter	0.2	0.63	1.7
A6	2.2	Winter	0.2	0.42	3.0
A7	4.25	Winter	1.22	0.45	3.7
A8	1.0	Winter	0.2	0.86	1.9
A9	1.2	Winter	0.2	0.84	2.3
A10	1.53	Winter	0.95	0.61	1.3
A11	8.92	Winter	0.2	0.51	13.5
A12	3.74	Winter	0.2	0.72	6.1
B1	6.6	Winter	1.1	0.67	6.0
B2	5.8	Winter	0.52	0.86	7.8
C1	3.4	Winter	0.45	0.71	4.2
C2	1.6	Winter	0.86	0.66	1.5
C3	8.4	Winter	1.06	0.60	3.8
C4	7.2	Winter	0.865	0.66	6.9
C5	7.0	Winter	0.86	0.57	5.8

**Table 5.8-6  
 DEVELOPED CONDITION WATERSHED CHARACTERISTICS  
 AND 100-YEAR FLOW RATES**

Watershed Subarea	Area (acres)	Controlling Storm Type	Time of Conc. (Hrs)	Runoff Coeff. (C)	Q <sub>100</sub> (cfs)
A1	1.6	Summer	0.39	0.72	2.1
A2	2.2	Winter	0.2	0.8	3.9
A3	2.5	Summer	0.2	0.84	4.9
A4	1.2	Summer	0.2	0.9	2.5
A5	1.2	Winter	0.2	0.86	2.3
A6	2.2	Winter	0.2	0.79	3.8
A7	4.25	Summer	0.22	0.63	6.2
A8	1.0	Winter	0.2	0.86	1.9
A9	1.2	Winter	0.2	0.86	2.3
A10	1.53	Summer	0.31	0.78	2.4
A11	8.92	Winter	0.2	0.67	13.5
A12	3.74	Winter	0.2	0.72	6.1
B1	6.6	Winter	1.05	0.87	8.0
B2	5.8	Winter	0.52	0.86	7.8
C1	3.4	Winter	0.45	0.82	4.8
C2	1.6	Winter	0.86	0.79	1.8
C3	8.4	Winter	1.06	0.79	5.0
C4	7.2	Winter	0.86	0.79	8.3
C5	7.0	Winter	0.86	0.79	8.1

## EXISTING SURFACE WATER QUALITY

The quality of surface water in the Mammoth Basin is generally excellent. Levels of total dissolved solids (TDS), algae, bacteria and other qualitative indicators are very low in comparison to Federal drinking water standards. Streams fed by melting snow and runoff from the high Sierras are generally calcium carbonate in character with TDS concentrations averaging 20 milligrams per liter (mg/l). Surface water quality is considered to be excellent.<sup>4</sup>

The Lahontan Regional Water Quality Control Board (LRWQCB) reports that urban surface runoff and storm water drainage have adversely affected the water quality within Mammoth Creek. Runoff from paved surfaces has increased the concentrations of nutrients, organic compounds, heavy metals and petroleum deposits in the creek. Excessive surface drainage from streets and parking lots has also caused premature degradation of asphaltic concrete surfaces, especially on Canyon Boulevard. Material eroded or leached from these surfaces is eventually washed into the creek. An incomplete existing storm drainage system, largely developed in response to specific development requirements in the Town, tends to add to runoff problems; hence drainage problems are prevalent.<sup>5</sup> Both the Town's General Plan and the *Mammoth Lakes Storm Drainage Master Plan* include remedial actions to correct existing storm drainage deficiencies and improve water quality. In addition, the Lahontan RWQCB requires all development to implement specific runoff water quality control measures which include structural controls such as retention/detention basins, which could be implemented in the overall design of drainage facilities for development sites. Additionally, the Town requires development and redevelopment projects to prepare appropriate erosion and runoff control measures to protect adjacent properties, drainage courses, and Mammoth Creek from the adverse effects of runoff.<sup>6</sup>

Of the eight Mammoth Community Water District production wells maintained by the District, two of the wells contain high quality water with low dissolved mineral content and low calcium carbonate hardness. This well water can be pumped directly into the water distribution system for direct use. The remaining six wells contain water with a higher dissolved mineral content and calcium carbonate hardness and also contain iron and manganese at levels that exceed State Health Department standards. These

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<sup>4</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, pages 162 through 164.

<sup>5</sup> *Town of Mammoth Lakes General Plan*, October 1987, page 32.

<sup>6</sup> *Ibid*, page 34.

well supplies therefore currently require treatment prior to delivery into the water distribution system.<sup>7</sup>

#### Summary of Lahontan Erosion Control Guidelines

The Lahontan Regional Water Quality Control Board has adopted specific erosion control requirements and guidelines for development. These requirements will influence the nature of the drainage facilities for the Specific Plan area and should be incorporated into the initial planning for all development within the study area. Some of the critical requirements which are related to the drainage facilities include the following:

- Drainage collection, retention, and infiltration facilities shall be constructed and maintained to prevent transport of the runoff from a 20-year, 1-hour storm from the project site. (20-year, 1-hour design storm for the Mammoth Lakes area is equal to 1.0-inch per hour);
- Where possible, existing drainage patterns shall not be significantly modified;
- During construction, temporary erosion control facilities shall be used as necessary to prevent discharge of earthen materials from the site during periods of precipitation; and
- Implementation of permanent erosion control facilities upon completion of construction.

#### **EXISTING GROUNDWATER CONDITION**

The water supply for Mammoth Lakes has historically been obtained from Lake Mary and groundwater supplies provided by the Mammoth Community Water District (MCWD).

The Town of Mammoth Lakes is located within the Long Valley Groundwater Basin. The Basin is bordered to the west and southwest by the Sierra Nevada Mountains, to the north by Bald and Glass Mountains, and to the east by Round Mountain. The movement of groundwater in the shallow non-thermal system is generally from west to east, and southeasterly towards the river gorge area where it may seep through the tufaceous deposits into Owens Valley. Recharge occurs around the Long Valley Caldera rim, within the western portion, and beneath the resurgent area in the

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<sup>7</sup> Correspondence from Mr. Gary Sisson, Operations and Maintenance Manager, Mammoth Community Water District, January 6, 1996 (contained in Appendix 15.5, *Correspondence*).

northwestern-central portion of the Caldera. Groundwater discharge also occurs in springs located around the Caldera rim, and along the south and east sides of the resurgent area.

Groundwater hydrology in the Mammoth Basin is complex and not well understood. Subsurface water in portions of the Basin has been measured at less than ten feet beneath the surface. These saturated soils are presumed fed by lateral migration of subsurface water courses and probably do not represent the Basin's true subsurface hydrology.<sup>8</sup> Geophysical studies have identified at least two separate aquifers in the Town of Mammoth Lakes planning area. These aquifers are estimated to be at least 500 feet deep, but are otherwise undefined. The aquifers supply water to Mammoth Creek, Hot Creek, and lakes in the Lakes Basin.<sup>9</sup> The California Department of Water Resources estimates that subsurface flows into the Mammoth Lakes Basin equals the surface flows. In the Hot Springs area, groundwater flows are estimated to be somewhat greater than surface flows.

The groundwater extraction rate in the Mammoth Community Water District over the past seven years has averaged 1,452 acre-feet per year with a maximum of 2,385 acre-feet in 1992 and a minimum of 1,012 acre-feet in 1996. The District's groundwater supply system currently consists of eight production wells. (Refer to Section 5.10, *Public Services and Utilities*, for additional information regarding groundwater.)

According to the 1991 EIR prepared for the 1991 Specific Plan, depth to groundwater within the Specific Plan area is anticipated not to occur within 50 feet of ground level surface. However, *the Preliminary Soils Report for Phase I Gondola Village*, dated June 2, 1999, indicated that The Village at Mammoth portion of the Specific Plan contains shallow groundwater levels. Slight to moderate groundwater seepage has been encountered in exploratory borings at depths ranging from 9 to 24 feet below ground surface (bgs). Heavy seepage was encountered at depths ranging from 37 to 44 feet bgs.<sup>10</sup> Groundwater elevations fluctuate seasonally being the highest in June and July due to the percolation of snowmelt. Typically groundwater depths vary a maximum of 10 to 15 feet in any given season. Therefore, the highest groundwater level expected within The Village portion of the project area is 22 feet bgs.

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<sup>8</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 167.

<sup>9</sup> *Ibid.*

<sup>10</sup> *Ibid.*

## FLOODPLAIN MAPPING

Existing flood zone hazards are established by the Federal Emergency Management Agency (FEMA), which provides flood insurance subsidies and federally financed loans for property owners in flood-prone areas. FEMA has been responsible for administration of the National Flood Insurance Program (NFIP) since its inception in 1978. Through this Program, analyses are conducted to determine the magnitude of flood risk that exists in communities throughout the U.S. Within these communities, individuals would be eligible to purchase flood insurance for structures and contents exposed to flooding if the community joined the NFIP. The Murphy Gulch area is a designated flood zone by the Federal Insurance Administration (FIA). A special study of the flooding potential of Mammoth Creek has been prepared by FEMA and appropriate measures have been included in the Town Development Code to reduce potential flood hazards.

Figure 52, as contained in the Town of Mammoth Lakes General Plan, also identifies several potential "flood hazard" areas in the Town. The North Village Specific Plan area is not located within the immediate vicinity of Mammoth Creek or Murphy Gulch and not situated within the Flood Hazard Zone of Flood Hazard Study Zone as delineated on Figure 52.

### North Village Localized Flooding/Existing Drainage Deficiencies

The northern portion of the Specific Plan area potential for flooding is primarily associated with the limited capacity of the existing 48-inch to 54-inch trunk storm drain which extends through the Specific Plan area from Canyon Boulevard and continues along Berner Street. The original trunk storm drain was only designed to convey 240 cfs through the North Village area and 550 cfs at the outlet structure located adjacent to the Forest Service Visitor Center. These hydraulic design capacities compare to anticipated ultimate 100-year flows of approximately 720 cfs through the North Village and 1,770 cfs at the outlet to Murphy Gulch. The existing street inlets or catch basins in Canyon Boulevard cannot intercept all of the estimated 100-year flows and approximately 86 cfs remain on the surface through North Village, contained in the street section along Canyon Boulevard and Berner Street. Additional surface flow from the Knolls area enters Berner Street near the easterly boundary of the specific plan and the total 100-year surface flow within the street section is estimated to be approximately 320 cfs. The estimated flooding depth is approximately 0.66 feet. This surface flow contained within Berner Street exits at Alpine Circle and enters an old drainage channel near the northeasterly end of the street. The estimated 100-year flow depth and width in this channel is 1.4 feet and 28 feet, respectively.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation for North Village***

The 1991 EIR for the 1991 Specific Plan addressed potential impacts associated with increased surface runoff velocities from the Specific Plan area and stated that they would constitute a significant adverse impact on downstream flooding. The 1991 Specific Plan incorporated a drainage plan to control excess flow which would occur from development of the Plan area. Improvements proposed as part of the drainage plan included an additional 54-inch storm drain pipe installed parallel to the existing storm drain, modifications to portions of an existing 42-inch pipe, and a storm drain installed in Minaret Road. The 1991 EIR concluded that implementation of recommended mitigation measures and drainage improvements would reduce potentially significant surface runoff impacts to less than significant levels.

The 1991 EIR for the 1991 Specific Plan concluded that the quality of surface runoff could significantly be degraded as a result of development and short-term erosion associated with construction activities. The EIR concluded that with implementation of recommended mitigation measures impacts to water quality would be reduced to less than significant levels.

According to the 1991 EIR for the 1991 Specific Plan, runoff from developed area would result in an incremental increase of contaminants in the surface runoff due to the increase in urban development, however would not result in a significant impact on water quality. The 1991 Specific Plan included storm drain improvements which would reduce the potential for pollutants to enter surface waters.

The 1991 EIR for the 1991 Specific Plan concluded that the quality of groundwater would not be affected by project construction activities, and will result in less than significant impact to groundwater quantity and quality.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures, or cumulative impacts with respect to hydrology and drainage beyond those identified in the 1991 EIR.

### ***Significance Criteria for this EIR***

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to Hydrology and Drainage. The issues presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed.

It should be noted that through the Initial Study process, the Town has made the determination that certain project effects would result in a "Less Than Significant Impact" or in "No Impact". Section 10.0, *Effects Found Not to be Significant*, provides a brief description of potential effects for which a "Less Than Significant Impact" or "No Impact" determination was made for Hydrology and Drainage.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

- Violation of any water quality standards or waste discharge requirements (see *Impact Statement 5.8-2 and 5.8-3*);
- Substantial depletion of groundwater supplies or substantial interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted) (see *Impact Statement 5.8-4, also refer to Section 5.8, Public Services and Utilities*);
- Substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site (see *Impact Statement 5.8-1*);
- Substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (see *Impact Statement 5.8-1*);
- Creation or contribution of runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provision of substantial additional sources of polluted runoff (see *Impact Statement 5.8-1*);
- Otherwise substantial degradation of water quality (see *Impact Statements 5.8-2 and 5.8-3*);
- Housing placement within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (refer to *Section 10.0, Effects Found Not to be Significant*);

- Placement within a 100-year flood hazard area structures which would impede or redirect flood flows (*refer to Section 10.0, Effects Found Not to be Significant*); and/or
- Exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (*refer to Section 10.0, Effects Found Not to be Significant*).

Potential impacts associated with drainage and water quality are categorized below according to topic. Mitigation measures at the end of this Section directly correspond to the impact statements below. Refer to Section 5.8, *Public Services and Utilities*, for an analysis regarding potential impacts to groundwater supply and recharge.

## DRAINAGE AND RUNOFF

5.8-1 *Surface runoff velocities, volumes and peak flow rates may increase due to the increase in impervious surfaces associated with the Specific Plan area. Impacts would be reduced to less than significant levels with incorporation of recommended mitigation measures.*

As discussed in the Existing Conditions portion of this Section, several developed areas in the Town of Mammoth Lakes are currently subject to periodic flooding. Past development activities in the community, which were implemented under limited development control, have created uncontrolled runoff and erosion problems, subsequently resulting in occasional flooding and water quality degradation. The uncontrolled runoff accelerates erosion, thereby, increasing sediment loads and creating water quality impacts to water courses such as Mammoth Creek. As large portions of land within the Specific Plan area are currently built, future development within the Specific Plan area and the increased utilization of parcels would further increase the amount of impervious surfaces in the area. This increase would cause a decrease in the amount of water infiltration and result in greater surface runoff quantities at higher velocities when compared to existing conditions.

Improvements associated with the proposed 1999 Specific Plan Amendment would not require substantial modifications to planned drainage improvement facilities for the area, as identified in the General Plan or SDMP. Drainage improvements associated with the Specific Plan, together with improvements identified in the *Mammoth Lakes SDMP*, provide adequate drainage facilities to accommodate anticipated flow increases. Implementation of the SDMP would improve storm drain deficiencies throughout the Specific Plan area to mitigate drainage and runoff impacts to a less than significant level.

Hydrology and Hydraulic Impacts

The hydrology study prepared for the 1999 Specific Plan Amendment quantified changes in surface runoff quantities both on a (1) local watershed level and (2) regional watershed level or perspective. The proposed development of the 64.1 acre Specific Plan area would result in an increased amount of impervious surfaces which impacts the amount of runoff by reducing potential infiltration and increasing effective runoff. The proposed development would increase the amount of impervious area from 27.7 acres to 53.5 acres, a change of 25.3 acres or 93 percent increase of impervious area from the existing conditions. A summary of the changes to the estimated amount of impervious area is summarized in Table 5.8-7 for the local Specific Plan watershed subareas.

The rational method analysis quantified the changes in the estimated 100-year peak discharges from the Specific Plan local watershed subareas. The comparison of the runoff developed from the individual subareas from the "existing" and "developed" land use conditions is summarized in the following table. In general, the results indicate that local subarea flowrates increase with the proposed development if evaluated on the local watershed level. However, one effect which is not accounted for in this flowrate analysis is the attenuation effect from proposed on-site retention facilities which would be implemented to provide storage for the 20-year, 1-hour storm event. The stormwater storage facilities would provide a significant mitigation measure to changes in the surface hydrology and this effect is not quantified. The rational method results indicated that the estimated 100-year flowrates in the northern portion of the Specific Plan would increase at a local watershed level from 30 percent to 90percent depending upon the subarea.

The potential impacts of the Specific Plan surface hydrology to the downstream drainage facilities is a function of the overall timing for the regional watershed compared to the Specific Plan drainage area. The northern portion of the Specific Plan area local watershed is tributary to a 1,003 acre upstream regional watershed area. The unit hydrograph procedure was utilized to quantify the potential impacts of the Specific Plan area development peak flows to the larger regional watershed flowrates. The results indicate that for the larger regional watershed, the estimated 100-year peak discharge for the "existing" or current watershed conditions is 466 cfs while development of the Specific Plan area would increase to only 470 cfs, a net change of 4 cfs. Table 5.8-7 estimates the changes in peak discharge for different portions of the

**Table 5.8-7  
 SUMMARY OF SPECIFIC PLAN AREA IMPERVIOUS AREA CHANGES**

Watershed Subarea	Area (acres)	Existing Percent Impervious	Developed Percent Impervious	Change Percent Impervious	Change in Impervious Area (acres)
A1	1.6	45	64	19	0.30
A2	2.2	45	72	27	0.59
A3	2.5	54	90	36	0.9
A4	1.22	76	100	24	0.29
A5	1.2	25	88	63	0.76
A6	2.2	20	69	49	1.07
A7	4.5	18	50	32	1.44
A8	1.0	90	90	0	0
A9	1.2	90	90	0	0
A10	1.53	16	80	64	0.98
A11	8.92	33	33	0	0
A12	3.74	47	47	0	0
B1	6.6	90	90	0	0
B2	7.8	16	90	74	5.77
C1	3.4	30	70	40	1.36
C2	1.6	35	70	35	0.56
C3	8.4	17	70	53	4.45
C4	7.2	35	70	35	2.52
C5	7.0	9	70	61	4.27

cfs = cubic feet per second

**Table 5.8-8  
SUMMARY OF SPECIFIC PLAN AREA  
COMPARISON OF LOCAL WATERSHED 100-YEAR PEAK DISCHARGES**

Watershed Subarea	Area (acres)	Existing 100-year Peak Flow (cfs)	Developed 100-year Peak Flow (cfs)	Change in Peak Flow (cfs)	Percent Change
A1	1.6	1.6	2.1	0.5	31
A2	2.2	2.7	3.9	1.2	44
A3	2.5	3.5	4.9	1.4	40
A4	1.22	1.9	2.5	0.6	32
A5	1.2	1.7	2.3	0.8	47
A6	2.2	2.0	3.8	1.8	90
A7	4.5	3.7	6.2	2.5	67
A8	1.0	1.9	1.9	0	0
A9	1.2	2.3	2.3	0	0
A10	1.53	1.3	2.4	1.1	84
A11	8.92	13.5	13.5	0	0
A12	3.74	6.1	6.1	0	0
B1	6.6	6.0	8.0	2.0	33
B2	7.8	7.8	7.8	0	0
C1	3.4	4.2	4.8	0.6	14
C2	1.6	1.5	1.8	0.3	20
C3	8.4	3.8	5.0	1.2	
C4	7.2	6.9	8.3	1.2	17
C5	7.0	5.8	8.1	2.3	40

cfs = cubic feet per second

Specific Plan area when evaluated on the "local" watershed level. This is different from the comparison of potential change in flowrate when evaluating the larger "regional" watershed for downstream impacts. This analysis indicates that the change of the peak discharge downstream of the project would increase less than 1 percent and should not require additional mitigation beyond current proposed measures. The differences in changes to apparent downstream discharge result from timing of the runoff hydrograph for the regional watershed compared to the local Specific Plan watershed area. Also, the impact from the change in impervious cover for the entire watershed is not considered significant since the Specific Plan is only contributing 31.5 acres to the total 1035 acres, or approximately 3 percent.

## SURFACE WATER QUALITY

5.8-2 *Grading, excavation and construction activities associated with development of individual sites within the North Village Specific Plan area could impact water quality as a result of sheet erosion of exposed soils and subsequent deposition of particles and pollutants in drainage ways. Impacts would be reduced to a level less than significant with incorporation of recommended mitigation measures.*

During construction of the individual development sites runoff from disturbed areas may contain silt and debris, resulting in short-term increases in the existing sediment load in the storm drain system. This redeposit of eroded material could be a source of pollutants which could be absorbed by soil particles and transported to the storm drain system. As a result, water quality could be impaired as well as the water-carrying capacity of the drainage channel reduced; potentially aggravating current flood conditions. Without mitigation, the significance of this impact would vary depending upon the level of construction activity, weather conditions, soil conditions, and the increased sedimentation of drainage systems within the local area of the individual development sites.

During construction on the development sites, mitigation in the form of erosion control measures would be necessary to prevent the erosion of exposed soils during periods of heavy rainfall. Erosion would be most serious along freshly-graded slopes. However, as recommended in the mitigation measure discussion of this Section, during the interim period before the ground cover takes hold, straw, wood chips and plastic (visqueen) can be used as stabilizing agents. With implementation of erosion control measures, the total debris produced from the individual development sites would be lower when compared to existing conditions due to the reduction in area of exposed soils.

### Permanent Surface Water Quality Measures

The primary permanent storm water quality feature which is required to be implemented with all development within the Specific Plan area is stormwater retention facilities which meet the requirement of the Lahontan Regional Water Quality Control Board. Stormwater retention storage volume must be provided for runoff from all disturbed and impervious surfaces generated by a 20-year, 1-hour storm (1-inch rainfall). The stormwater retention can be in the form of surface or underground stormwater retention storage with sufficient volume to accommodate runoff from the disturbed areas. The stored stormwater collected within the retention facilities is evacuated through percolation or infiltration into the soil. Some critical issues associated with underground retention storage should be addressed in the design of these facilities which include:

- Above ground presettling should be provided for the stormwater to reduce the amount of sediment and fine materials or trash which can collect in underground collection systems. Underground facilities are not very conducive to maintenance for sediment removal and provisions should be incorporated.
- Provisions to monitor the operation of the facility should be provided and the ability to gage the amount of sediment collected in the basin floor. Criteria should be established when material must be removed because of lost or dead storage volume. In addition, the reduction of percolation rates must be monitored to ensure an adequate drain time of the stored volume is provided.
- Drainage conveyance systems, such as the local drainage pipes, primarily intercept the development runoff and natural area runoff is not collected in these systems discharging to the basins.
- Minimum criteria regarding the proximity and setbacks should be implemented for buildings and grading. Typical requirements include 20 feet downslope or 100 feet upslope from building foundations or property line, not allowed in fill slopes.

It should be noted that general grading activities, including those related to demolition and construction, are regulated by the Uniform Building Code (UBC), which requires erosion control. In addition, construction activities disturbing five acres or more of land are required to comply with National Pollutant Discharge Elimination System (NPDES) permits requiring erosion, siltation and contaminated runoff control. These guidelines and regulations ensure that appropriate erosion and pollution control measures are implemented as construction occurs throughout the Town. With

implementation of required erosion control measures, as contained in the *Mammoth Lakes SDMP* and with compliance of UBC and NPDES requirements, construction-related erosion and water quality impacts would be mitigated to a less than significant level.<sup>11</sup> Also refer to Impacts discussion and recommended mitigation measures regarding dust and erosion control in Sections 5.5, *Air Quality*, and 5.7, *Topography, Soils and Seismicity*.

5.8-3 *Development within the Specific Plan area may result in a long-term increase of surface runoff, potentially impacting the quality of storm water and urban runoff, and subsequently impacting water quality. Impacts would be reduced to less than significant levels with incorporation of recommended mitigation measures.*

Storm water quality is generally affected by the length of time since last rainfall, rainfall intensity, urban uses of the area, and the quantity of transported sediment. Typical urban water pollutants usually results from motor vehicle operations, oil and grease residues, fertilizer/pesticide uses, human/animal littering, careless material storage and handling, and poor property management.

The Environmental Protection Agency (EPA) has identified street surfaces as the primary source of pollution in urban areas. The street-generated pollutants typically contain atmospheric pollution, tire-wear residues, petroleum products, oil and grease, fertilizer and pesticide washoffs, industrial chemical spills, as well as litter and animal dropping types of wastes. The pollutants are washed from street surfaces by a rainfall adequate enough to produce sufficient runoff.<sup>12</sup>

Storm water management is the key for control and prevention of water quality degradation. There are many Best Management Practices (BMPs) available for achieving the best possible water quality. BMPs are required by local authorities, and with proper implementation, BMPs protect the receiving waters from degradation. Common BMPs include structural controls such as detention basins, swales and filter strips, and nonstructural controls such as erosion and sediment control measures.

As previously described above in the Drainage and Runoff Analysis, the Specific Plan identifies structural controls for drainage and water quality. Construction facilitated

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<sup>11</sup> Page 4.1-22 of the *North Village Specific Plan Final EIR*, dated 1991, concludes that with implementation of a comprehensive Erosion and Sediment Control Plan prior to issuance of grading or building permits, water quality impacts associated with construction activities would be less than significant.

<sup>12</sup> The amount of pollutants washed off the street surface is a function of the amount of pollutants on street surfaces and the rainfall amount. EPA has determined that there is a relationship between the rainfall and the percent of contaminant removed. Typically, 0.5 inches of rainfall is required to remove 90 percent of the total accumulated pollutants on the street surface.

by the Plan would also be subject to the *Mammoth Lakes SDMP* and applicable codes/ordinances which include non-structural controls such as erosion control plans. With implementation of these required controls and with construction of the drainage and water quality projects identified as part of the Specific Plan area, long-term impacts resulting from increased surface and urban pollutant runoff would be mitigated to a less than significant level (also see previous discussion in Drainage and Runoff analysis regarding water quality impacts).

## GROUNDWATER

5.8-4 *Implementation of the 1999 Specific Plan Amendment may effect groundwater recharge within the basin. Project subdrain systems could also impact water quality. Impacts would be reduced to less than significant levels with adherence to State, County, and Town Code requirements regarding dewatering discharges.*

Recharge to the underlying aquifer occurs from the valley fill. Development would remove approximately 27.7 acres of pervious surface and decrease the recharge area of the basin; however, the total basin area is 248,600 acres and this decrease would not significantly impact groundwater recharge. However, the implementation of the retention basins with development would assist in providing some additional recharge to offset loss of infiltration area.

Groundwater for the majority of the community is not anticipated to occur within 50 feet of the ground surface. Construction of new development, would not require excavation below the water table and would not result in significant impacts to groundwater.

## CUMULATIVE IMPACTS

5.8-5 *The proposed project along with other future development may result in increased hydrology and drainage impacts in the area. Impacts must be evaluated and mitigated to less than significant levels on a project-by-project basis.*

Ultimate development within the proposed project area and within the Town of Mammoth Lakes would contribute to a cumulative increase in runoff volume in the area. Future developments within the area would be required to mitigate potential impacts to hydrology and drainage to less than significant levels on a project-by-project basis.

## MITIGATION MEASURES

The following mitigation measures directly correspond to the identified impact statements analyzed in the Impacts discussion. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

### **DRAINAGE AND RUNOFF**

5.8-1a *(New Mitigation Measure)*: All drainage collection, retention, and infiltration facilities on the individual development sites shall be constructed and maintained in accordance with the *Mammoth Lakes SDMP* and shall be designed in accordance with the *Master Plan Design Manual*, to the satisfaction of the Town of Mammoth Lakes Town Engineer, prior to the issuance of grading permits.

5.8-1b *(Measure modified from Mitigation Measure 4.2-1a in the 1994 EIR Addendum)*: A more complete hydrology analysis for design purposes shall be required to be completed to estimate the amounts of runoff which will be required to be retained on-site for each development. The analysis shall be approved prior to issuance of a grading permit.

5.8-1c *(Measure restated from Mitigation Measure 4.2-1c in the 1994 EIR Addendum)*: The following water conservation procedures shall be incorporated into project elements where feasible:

- Landscape with low water-using plants;
- Install efficient irrigation systems that minimize runoff and evaporation and maximize the water that will reach the plant roots, such as drip irrigation, soil moisture sensors, and automatic irrigation systems; and
- Use pervious paving material whenever feasible.

### **WATER QUALITY**

5.8-2a *(New Mitigation Measure)*: An Erosion and Sediment Control Plan shall be prepared by the project proponents of individual development projects prior to issuance of grading permits. The Plan shall be reviewed and approved by the Town of Mammoth Lakes and the Lahontan Regional Water Quality Control Board and be in accordance with the erosion control guidelines as contained in the *Mammoth Lakes SDMP* and be in compliance with the Water Quality Control Plan (for the

Lahontan Region [Basin Plan]). General grading activities, including those related to demolition and construction, would be regulated by the Uniform Building Code and Town of Mammoth Lakes Grading Ordinance. The required Erosion and Sediment Control Plan shall outline methods that will be implemented to control erosion and sediment transport from graded or cleared portions of the individual redevelopment/ improvement sites.

5.8-2b *(New Mitigation Measure)*: Prior to issuance of grading permits for individual development projects of five acres or greater in size, the project applicant/ owner shall file for a National Pollutant Discharge Elimination System (NPDES) permit with the Lahontan Regional Water Quality Control Board and abide by the conditions of the permit as issued. A copy of the Notice of Intent, Storm Water Pollution Prevention Plan, and Monitoring Plan shall be submitted to the Town of Mammoth Lakes Engineering Department prior to commencing grading operations.

5.8-2c *(Measure modified from Mitigation Measure 4.2-3a in the 1994 EIR Addendum)*: For individual development projects involving construction of six or more dwelling units or commercial developments that involve soil disturbance on  $\frac{1}{4}$  acre or more, a Waste Discharge Report (related to soil disturbance) shall be prepared by the individual project applicant(s) and submitted to the Lahontan Regional Water Quality Control Board not less than 90 days before the intended start of construction activities of a new development to obtain a Waste Discharge Permit or waiver to ensure that proper control measures for the protection of water quality are taken and adhered to during all phases of the development project. A copy of the Waste Discharge Report shall be submitted to the Town of Mammoth Lakes engineering division prior to issuance of a grading permit for the project.

5.8-2d *(New Mitigation Measure)*: The Report of Waste Discharge shall contain a description of, and time schedule for implementation, for both the interim erosion control measures to be applied during project construction, and short- and long-term erosion control measures to be employed after the construction phase of the project. The descriptions shall include appropriate engineering drawings, criteria, and design calculations. The report guidelines are as follows:

- Drainage collection, retention, and infiltration facilities shall be constructed and maintained to prevent transport of the runoff from a 20-year, 1-hour design storm from the project site. A 20-

year, 1-hour design storm for the Mammoth Lakes area is equal to 1.0 inch (2.5 cm) of rainfall in 1 hour.

- Surplus or waste materials shall not be placed in drainage ways or within the 100-year flood plain of surface waters.
- All loose piles of soil, silt, clay, sand, debris, or earthen materials shall be protected in a reasonable manner to prevent any discharge to waters of the State.
- Dewatering shall be done in a manner so as to prevent the discharge of earthen materials from the site.
- All disturbed areas shall be stabilized by appropriate soil stabilization measures by October 15 of each year.
- All work performed between October 15th and May 1st of each year shall be conducted in such a manner that the project can be winterized within 48 hours.
- Where possible, existing drainage patterns shall not be significantly modified.
- After completion of a construction project, all surplus or waste earthen material shall be removed from the site and deposited at a legal point of disposal.
- Drainage swales disturbed by construction activities shall be stabilized by the addition of crushed rock or riprap, as necessary, or other appropriate stabilization methods.
- All nonconstruction areas shall be protected by fencing or other means to prevent unnecessary disturbances.
- During construction, temporary erosion control facilities (e.g., impermeable dikes, filter fences, hay bales, etc.) shall be used as necessary to prevent discharge of earthen materials from the site during periods of precipitation or runoff.
- Revegetated areas shall be regularly and continually maintained in order to assure adequate growth and root development. Physical erosion control facilities shall be placed on a routine

maintenance and inspection program to provide continued erosion control integrity.

- Where construction activities involve the crossing and/or alteration of a stream channel, such activities shall be timed to occur during the period in which streamflow is expected to be lowest for the year.

5.8-3 (New Mitigation Measure): Best Management Practices (BMPs) shall be implemented as part of future individual development sites to the satisfaction of the Lahontan Regional Water Quality Control Board and NPDES Program requirements in order to protect the receiving waters from degradation and correct existing problems. BMPs include structural controls such as retention/detention basins, oil-water separators, which could be implemented in the overall design of the proposed drainage facilities for individual development sites.

#### GROUNDWATER

5.8-4 No mitigation measures are required.

#### CUMULATIVE IMPACTS

5.8-5 No mitigation measures are required.

#### LEVEL OF SIGNIFICANCE AFTER MITIGATION

No unavoidable significant impacts beyond those previously identified in the 1991 EIR and 1994 EIR Addendum for the North Village Specific Plan and the Town of Mammoth Lakes General Plan EIR would occur with implementation of the proposed 1999 Specific Plan Amendment. Drainage, runoff, water quality, groundwater and cumulative impacts are mitigated to a level that is less than significant.

## 5.9 BIOLOGICAL RESOURCES

The purpose of this Section is to identify whether as a result of new and updated information on biological resources and a new project description, if there are new impacts on biological resources. The section identifies existing biological resources on-site and in the vicinity, analyze potential project-related impacts to these resources (including sensitive species) and recommend mitigation measures to reduce and significance of impacts which are identified. Information in this Section is based on the *Update Report on Biological Resources Within the North Village EIR Project Area* (Resource Concepts, Inc., November 2, 1999), the *Botanical Survey of the North Village Project Areas* (Mark Bagley, Consulting Biologist, October 1999), the *Forest Condition Survey* (David E. Early, Professional Forester, no date), and the *1991 EIR* (1991). This Section describes the biological character of the site in terms of vegetation, flora, wildlife, and wildlife habitats, and analyzes the biological significance of the site in view of Federal, local and State laws/policies.

### EXISTING CONDITIONS

#### METHODOLOGY

Biological resources in the Specific Plan area were assessed based on queries of the California Natural Diversity Data Base ((CNDDDB), a Department of Fish and Game inventory of sensitive plants, animals, and natural communities) and previous environmental reports from the area. A plant was considered a special status species if it was Federally or State listed or proposed as a rare, threatened, or endangered species (USFWS 1996a, 1996b); or listed as a sensitive or watch list plant by the Inyo National Forest (U.S. forest Service 1998a, 1998b); or a CNDDDB special plant (CNDDDB 1999); or listed by the California Native Plant Society in their inventory of rare and endangered plants of California.

In 1990, a botanical resources survey of the North Village study area was conducted by Mark Bagley and Scott Hetzler on July 18 and August 16. These were times when nearly all of the plants in the area were in flower or fruit and, therefore, most identifiable. Field surveys were conducted by systematically walking survey transects over the portions of the study area with native vegetation and along the borders of the previously developed and disturbed areas. These walking transects were approximately 50 feet apart.

The proposed revisions to the North Village project as set forth in the 1999 Specific Plan Amendment have not altered the 1990 boundaries of the North Village study area; however, they have added the Intrawest Lot 222 study area to the project. Though not within the North Village Specific Plan area, the "Pit" (Lot #222) was included in this

reconnaissance since it is proposed as a fill area for export material from the development of the Specific Plan area.

Botanical resources were reassessed on the North Village study area during field surveys conducted by Mark Bagley on October 14 and 15, 1999, and assessed on the Lot 222 study area by Mark Bagley on October 14, 1999. This was potentially late in the growing season and some of the plants were dormant and dry, but the majority of the herbaceous species were still in fruit, some still with flowers. All plant taxa observed were still recognizable to genus, most to species. However, this late in the season some taxa that occur in the plan area may have been missed due to their low observability when dormant.

As in 1990, field surveys in 1999 were conducted in the North Village study area by systematically walking survey transects over the portions of the study area with native vegetation and along the borders of the previously developed and disturbed areas. Due to prior surveys conducted in 1990 and their negative results with respect to sensitive botanical resources, 1999 surveys in the North Village study area were conducted at a reduced level of intensity with the survey transects spaced approximately 50 to 100 feet apart. Survey transects in the Intrawest Lot 222 study area were systematically walked approximately 30 to 50 feet apart over the entire study area.

As in 1990, the 1999 field surveys were floristically based, that is all parts of the project area with native vegetation were surveyed the all vascular plant species encountered in the survey area were identified to at least genus and to the level necessary to ensure that they were not special status plant species. A list was made of all plant species encountered, with the exception of exotic cultivated species found only in irrigated areas near buildings. Plants not readily identifiable in the field were collected for later determination by Mark Bagley.

In addition to the botanical resources field surveys described above, a site reconnaissance was conducted on October 25 and 26, 1999 by Resources Concepts, Inc., to document current habitat and wildlife observations.

## VEGETATION

### North Village Study Area

As reported in the 1991 EIR (EIP Associates 1991), native vegetation in the North Village study area consists of a Jeffrey pine-fir forest community. This forest community has been fragmented into relatively small areas (less than ten acres) by previous urban development within and surrounding the study area. Jeffrey pine fir forest is a relatively common and widespread upland vegetation type in California. It

is abundant from the Mt. Lassen area southward on the west site of the Sierra Nevada, but is more scattered in the eastern Sierra Nevada from Lake Tahoe to the Mt. Whitney region; it is also scattered in the higher portions of the North Coast Ranges, Klamath Mountains and Transverse Ranges.

The forest vegetation in the study area appears to be little changed since the 1990 surveys. As the name of Jeffrey pine-fir forest community suggests, observations were of Jeffrey pines (*Pinus jeffreyi*) with white fir (*Abies concolor*) and red fir (*Abies magnifica*) as common associates. South of Highway 203 and Lake Mary Road, on the lowest elevation areas of the site, the forest is dominated by Jeffrey pine and white fir. In the higher elevation areas of the site, the forest is dominated by Jeffrey pine and white fir. In the higher elevation areas in the west and north portions of the site the forest is dominated by Jeffrey pine and red fir. Patches of remaining forest in the more intermediate elevations east of Minaret and north of Highway 203 are a mixture of Jeffrey pine, white fir and red fir.

In densely forested areas there is an open understory, mostly of litter and bare ground with very little understory vegetation except for occasional young firs. In more open undisturbed forest areas, with more sunny patches, the understory vegetation is relatively open and patchy; it consists primarily of scattered shrubs and grasses with occasional other herbs. Common understory shrubs include bitter brush (*Parsia tridentata*), big sagebrush (*Artemisia tridentata*), Bloomer's goldenbush (*Ericameria Bloomberg*), snowberry (*Symphoricarpos rotundifolius*), Sierra currant (*Ribes cereus*), tobacco brush (*Canthus valuations*), and greenleaf manzanita (*Arctostaphylos patula*). The most common grasses include western needle grass (*Achnatherum occidentale*), squirreltail grass (*Elymus elymoides*), California brome (*Bromus carinatum*), and Wheeler bluegrass (*Poa wheeler*). Other perennial herbaceous species most frequently include Anderson's lupine (*Lupinus andersonii*), naked wild buckwheat (*Eriogonum nudum*), bush-Gila (*Linanthus nuttallii* spp. *pubescens*), spreading phlox (*Phlox diffuse*), flat-seeded rock-cress (*Arabis platysperma*), pussy paws (*Calyptridium umbellatum*), and Ross' sedge (*Carex Rossi*).

Disturbed areas, where soils have been cleared or compacted, occur in some forested areas, along roadsides, and in and adjacent to developed areas. Common species in roadsides and other disturbed areas include annuals such as wild pepper-grass (*Lepidium virginicum* var. *Virginicum*), diffuse gayophytum (*Gayophytum diffusum*), prickly coryphantha (*Coryphantha muricata*), sweet clover (*Melilotus* spp.), goat's beard (*Tragopogon dubius*), and goosefoot (*Chenopodium* sp.); common perennials include squirreltail grass, intermediate wheatgrass (*Elytrigia intermedia* ssp. *intermedia*), California brome, Anderson's lupine, white clover (*Trifolium repens*), hoary-aster (*Machaeranthera canescens* var. *canescens*), and woolly mullein (*Verbascum thapsus*).

Despite the statement to the contrary in the 1991 EIR, few annual species occur in the forest in the North Village study area. This paucity of annuals is typical in montane conifer forests in the Eastern Sierra Nevada and contrasts with higher annual species diversity found in the lower elevation desert plant communities to the east and south. A total of eight annual species were observed in relatively undisturbed forest sites during the 1990 and 1999 field surveys of the study area (Table 2 of the *Botanical Survey of the North Village Project Areas*, Mark Bagley, October 1999). The only one of these that can be considered abundant, at least in widely scattered patches, is whisker Bruce (*Linanthus celiacus*). Other annuals that were most frequently encountered in the forest included hoary-aster, prickly coryphantha, and diffuse gayophytum. Annual species diversity was much higher in disturbed areas within the study site. Nearly all of the 30 annual species observed in the 1990 and 1999 field survey of the study area occur in roadside and other disturbed areas. Of these, 22 species were observed only in disturbed areas and more than half of these (12) are weedy exotic species (see Table 5.9-1).

#### **Intrawest Lot 222 Study Area**

Native vegetation in the Lot 222 study area (the area proposed to be a depository for grading export) consists of Jeffrey pine-fir forest covering most of Lots 37-39, Lot 70 and relatively small areas above the pit in Lot 222 (refer to Figure 3, *Lot 222 Preliminary Base Plan*, of Appendix 16.9.1, *Botanical Survey*). The forest community in this study area is a remnant of the forest that has been all but eliminated in the surrounding area by housing development. This forest is a moderately dense stand of Jeffrey pine and red fir, with occasional western white pine. The forest understory is very open, mostly bare ground and litter with occasional young trees, a few shrubs of greenleaf manzanita and bush chinquapin (*Chrysolepis sempervirens*), and scattered herbs including squirreltail grass, western needle grass, flat-seeded rock-cress, and Ross' sedge. Jeffrey pine-fir forest is a relatively common and widespread upland vegetation type in California.

More than half of the Lot 222 study area consists of disturbed habitats where soils have been graded or excavated. This includes the pit covering most of Lot 222, a narrow dirt road along the south edge of Lot 222, and roadside areas around the north and east portions of the study area. Disturbed habitats in this area are relatively open, with much bare ground and scattered plants. The steep slopes of the pit have widely scattered tobacco brush, a few greenleaf manzanita, scattered seedlings and saplings of the forest trees, and a few seedlings and saplings of white fir and mountain hemlock (*Tsuga mertensiana*) not found elsewhere on site. The relatively flat floor of the pit has widely scattered young pines, generally less than one meter tall and all less than two meters. There are no more than two dozen young pines on the pit floor, mostly Jeffrey pine with a few lodgepole and western white pine. The most abundant plant in the pit area is Anderson's lupine which covers about 30 to 40 percent of the floor. The most

abundant herbs in the disturbed habitats include squirreltail grass, needle grass (*Achnatherum occidentale*, *A. nevadensis*), and Anderson's lupine. Other common herbs in disturbed habitats include prickly coryphantha, wild pepper-grass, Holboell's rock-cress (*Arabis hillbilly* var. *retrofracta*), diffuse gayophytum, naked wild buckwheat, goat's beard, and Ross' sedge. Nine annual species were observed in disturbed habitats here, none in the forest.

## FLORA

A total of 129 plant taxa, occurring in 33 plant families, were recorded from the North Village study area (Table 2 of the *Botanical Survey of the North Village Project Areas*, Mark Bagley, October 1999). Fifty of the taxa (39 percent) were observed only on roadsides and other disturbed habitats. Of these 50 taxa, 23 are weedy exotic species.

A total of 52 plant taxa, occurring in 19 plant families, were recorded from the Intrawest Lot 222 study area (Table 3 of the *Botanical Survey of the North Village Project Areas*, Mark Bagley, October 1999). The forest area contains only 14 taxa, while the larger disturbed habitat area contains 49 taxa. Nine weedy exotic species occur in disturbed habitats on the site, but none in the forest.

## PLANT SPECIES OF CONCERN

The 1991 EIR (EIP Associates) reported that a search of the California Natural Diversity Data Base (CNDDDB) indicated a potential for five species of concern: Hoary Draba, Kobresia, Mono Milk Vetch, Mono Lake lupine and Mono County lupine.<sup>1</sup>

As detailed in Table 5.9-1, *Special Status Plant Species*, the 1999 search of the CNDDDB indicated a potential for six species of concern: Mono milk-vetch, seep kobresia, Mono Lake lupine, scalloped-leaved lacerate, Yosemite bulrush, and Pine City sedum.

Two of the species analyzed in the 1991 EIR, Hoary Draba and Mono County Lupine, were not reported in the 1999 CNDDDB search. The 1991 EIR reported that the Hoary Draba occurs at elevations higher than the present site, and in a different habitat as well. This species is common in other states as indicated by the California Native Plant Society (CNPS).<sup>2</sup> Further, Hoary Draba was not seen during field surveys conducted in April and May 1990, and it is unlikely that it occurs on the site.

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<sup>1</sup> Ibid., page 4.3-2.

<sup>2</sup> Ibid.

**Table 5.9-1  
SPECIAL STATUS PLANT SPECIES  
(reported to occur in the vicinity of the Town of Mammoth Lakes)**

Scientific/Common Name (Plant Family) / Life Form	Rank or Status <sup>1</sup>					Flowering Period and Distribution	Elevational Range and Habitat Preferences
	INF	FWS	DPG	NDDB	CNPS		
<i>Astragalus Monoensis</i> var. <i>monoensis</i> Mono milk-vetch (Fabaceae) herbaceous perennial	S	SC	CR	S2.2	L1B 223	June-August. SE from near Mono Craters to near Mammoth Lakes and Benton Crossing, Mono Co.	7600-7900 ft. Open, dry pumice flats of sand and gravel, and on road cuts. Sometimes with sagebrush scrub.
<i>Kobresia bellardii</i> seep kobresia (Cyperaceae) herbaceous perennial	WL	—	—	S1.3	L2 311	August. In Calif. only at two sites: Convict Basin and Cooney Lake (Virginia Ck. Basin), Mono Co., Oregon, Idaho, Utah; circumboreal.	In Calif. 9700-10,600 ft. Subalpine-alpine meadows, mesic alpine fell-fieldsand subalpine coniferous forest on carbonate substrates.
<i>Lupinus duranii</i> Mono Lake lupine (Fabaceae) herbaceous perennial	WL	SC	—	S2.2	L1B 223	May-July. Mono Basin and Long Valley, from near Lundy Lake to near Mammoth Lakes, Mono Co.	6500-8500 ft. Open, dry pumice flats of sand and gravel. Sometimes with sagebrush scrub.
<i>Pedicularis crenulata</i> scalloped-leaved lousewort (Scrophulariaceae) herbaceous perennial	—	—	—	S1.2	L2 311	June-July. In Calif. Only one occurrence near Convict Creek, Mono Co. Rocky Mountains.	In Calif. 6900-7550 ft. Wet meadows, streambanks.
<i>Scirpus clementis</i> Yosemite bulrush (Cyperaceae) herbaceous perennial	—	—	—	S3.3	L4 113	July-August. High Sierra Nevada, from Inyo and Tulare through Mono and Tuolumne counties.	7900-11,850 ft. Dry to wet meadows, streambanks.
<i>Sedum pinetorum</i> Pine City sedum (Crassulaceae) herbaceous perennial	WL	SC	—	—	—	July. Known from one 1913 specimen, location ambiguous, "near Pine City above Mammoth." Now considered mislabeled and not occurring in Calif.	Probably 9000-9500 ft. (if label is correct). Habitat unknown.

Table continued on next page

**Table 5.9-1  
Special Status Plant Species  
(continued)**

<sup>1</sup> Rank or status abbreviations:

INF ranks (Inyo National Forest, U.S. Forest Service 1998a, 1998b): S - Forest Region 5 Sensitive Plant, WL - Inyo National Forest Watch List Plant.

FWS (U.S. Fish and Wildlife Service) listings under the Endangered Species Act (USFWS 1996a, 1996b): FE = federally-listed, endangered; FT = federally-listed, threatened; PE = federally-proposed, endangered; PT = federally-proposed, threatened; SC = species of concern (formerly Candidate 1 or 2 species).

DFG (California Department of Fish and Game) listings under the California Endangered Species Act (CNDDDB 1999): CE = state listed, endangered; CT = state-listed, threatened; CR = state listed, rare.

NDDB (California Natural Diversity Data Base, a section within DFG) ranks (CNDDDB 1999): S1 = extremely endangered; S2 = endangered; S3 = restricted range, rare; S4 = apparently secure; S5 = demonstrably secure. A more precise degree of threat is sometimes expressed by a decimal followed by a number. The possible range of values is 1-3 with 1 signifying the most threatened and 3 the least threatened. Example: A species ranked S2.1 is endangered and extremely threatened in California. Uncertainty about the rank of an element is expressed in two major ways: 1) by expressing the rank as a range of values: e.g., S2S3 means the rank is somewhere between S2 and S3; and 2) by adding a ? to the rank; e.g., S2?, this represents more certainty than S2S3, but less than S2.

CNPS (California Native Plant Society) ranks (Skinner and Pavlik 1994): L1A = List 1A, plants presumed extinct in California; L1B = List 1B, plants rare and endangered in California and elsewhere; L2 = List 2, plants rare, threatened, or endangered in California, but more common elsewhere; L3 = List 3, plants about which we need more information - a review list; and L4 = List 4, plants of limited distribution - a watch list. The three numbers below are the R-E-D (rarity-endangerment-distribution) code. R code: 1 = rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time; 2 = distributed in a limited number of occurrences, occasionally more if each occurrence is small; 3 = distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported. E code: 1 = not endangered; 2 = endangered in a portion of its range; 3 = endangered throughout its range. D code: 1 = more or less widespread outside California; 2 = rare outside California; 3 = endemic to California.

Source: *Botanical Survey of the North Village Project Areas*, Mark Bagley, Consulting Biologist, October 1999, Page 9.

Mono County lupine is known only from the type locality "between Mammoth and Earthquake Fault, Mono County, California " and was collected by the horticulturist Lester Towntree on July 16, 1935. It was named by Alice Eastwood of the California Academy of Sciences (CAS) from this one specimen,<sup>3</sup> no other examples are known, and no other populations have been located. According to the original description no habitat was given, but it can be assumed that it would be coniferous forest.<sup>4</sup> Mono County lupine was not found during the field surveys.

As noted above, the 1999 CNDDDB revealed that six special status plant species have been reported to occur in the vicinity of the Town of Mammoth Lakes. For each of these species, information was gathered on status, flowering period, general distribution, known elevational range, and habitat preferences (refer to Table 5.9-1). This information was gathered from a review of listings of species status plants (CNDDDB 1999, Skinner and Pavlik 1994, U.S. Forest Service 1998a, 1998b, USFWS 1996a, 1996b), previous environmental reports from the area.

No records of any of these special status plants were found from the project area. None of these species were observed in the project area in the 1990 and 1999 surveys nor were any other special status plant species found or expected to occur in the project area.

Five of the six species shown on Table 5.9-1 were included, along with four others, on the sensitive plant list from the Sherwin Ski Area EIS (U.S. Forest Service 1990). The four species included on the Sherwin Ski Area list that are not included here are: Mono manzanita (*Arctostaphylos uva-ursi* var. *monoensis*), Mono buckwheat (*Eriogonum ampullaceum*), Sharsmith's stickseed (*Hackelia sharsmithii*), and Mono County lupine (*Lupinus sublinatus*). The Mono manzanita is no longer considered a special status plant because this variety is no longer recognized; it is considered a synonym of *A. uva-ursi*, a common taxon. Mono buckwheat is no longer a special status plant because it is too common and has been dropped from the Inyo National Forest, USFWS, CNPS, and CNDDDB lists. Sharsmith's stickseed was not included on Table 5.9-1, because the known northern limit for this species is in the vicinity of Kearsarge Pass and Dragon peak, approximately 65 miles to the southeast. Additionally, the lower elevational limit of the species is at about 9,850 feet, considerably higher than the upper elevation

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<sup>3</sup> Ibid., Page 4.3-3.

<sup>4</sup> Ibid.

of the current study sites. Mono County lupine is no longer considered a special status plant because it is no longer recognized as a valid species; it is now included as a synonym of *Lupinus argenteus* var. *argenteus*, a common taxon.

Seep kobresia (*Kobresia bellardii*) was not included on the Sherwin Ski Area list, but was included in the 1991 North Village EIR (EIP Associates 1991). One of the two known populations of seep kobresia in California is found about eight miles southeast of the Town of Mammoth Lakes in the Convict Basin. The species is known in California only from carbonate substrates, a habitat feature not found in the current study areas. Additionally, it is known in California only at much higher elevations (above 9,700 feet) than found in the project areas.

Two of the species on Table 5.9-1 are Mono milk-vetch (*Astragalus monoensis* var. *monoensis*) and Mono Lake lupine (*Lupinus duranii*), both species of which are known at Smokey Bear Flat, about three miles to the northeast. These two species are found in open, pumice flats; habitat not encountered within the project areas.

Two other species on Table 5.9-1, scalloped-leaved lousewort (*Pedicularis crenulata*) and Yosemite bulrush (*Scirpus clementis*), occur in meadows and on streambanks. These habitats were not found in the project areas. Scalloped-leaved lousewort is a Rocky Mountain species with a single known occurrence in California, located along Convict Creek approximately eight miles southeast of the Town of Mammoth Lakes. Although the project area occurs near the lower elevation limit reported for Yosemite bulrush, this species typically occurs in subalpine and alpine areas at higher elevations.

The other species on Table 5.9-1, Pine City sedum (*Sedum pinetorum*), is a poorly understood taxa known from a single collection. The type of specimen of Pine City sedum, the only specimen ever collected, is labeled as being collected in 1913 "near Pine City above Mammoth" (Pine City no longer exists, but was an old mining camp located in the Mammoth Lakes Basin). There has been some speculation that the original specimen may have been mislabeled and not have come from California at all. This is the conclusion reached in the *Jepson Manual* (Hickman, 1993), and followed by CNPS and CNDDDB which no longer list Pine City sedum because it is not considered to occur in California.

Mammoth popcorn-flower was not listed in Table 5.9-1 since it has no State or Federal listing status. However, this species is recorded on the California Native Plant Society List 2 as a plant that is threatened, endangered or rare in California, but more common elsewhere. Only one occurrence of Mammoth popcorn-flower has been recorded on the Old Mammoth USGS 7.5 minute quadrangle at a location known as The Bluffs, Mammoth. The habitat association described in the record is Great Basin scrub, pinyon-juniper woodland. It is unlikely that Mammoth popcorn-flower would be found

within the undeveloped portion of the project area, which is dominated by Jeffrey pine coniferous forest.

### **The Pit Area**

The "Pit" Area is nearly void of vegetation.

## **WILDLIFE**

The scattered growths of mixed conifers on the proposed project site have low structural diversity and, as a result, are relatively low in animal species and numbers. While Lodgepole Pines provide little in the way of wildlife values, the Jeffrey Pine component of this mixed conifer ecosystem is valuable to wildlife due in large part to the food value of their seeds. Pine seeds are included in the diets of more wildlife species than any other genus of trees except the oak.<sup>5</sup> The bark and foliage also serve as important food sources for squirrels such as Douglas's Squirrel and Lodgepole Chipmunk and Mule Deer. Jeffrey Pines also provide vital nesting cover for several bird species such as the Pygmy Nuthatch, Brown Creeper, White-Headed Woodpecker and Clark's Nutcracker all recorded on or near the project site.

Despite the encroachment of urbanization with its disturbance of habitats and wildlife species themselves and the introduction of pets which harass and destroy many wild animals, the project site is still being used by wildlife. During the 1991 field surveys, a Coyote was observed near the site, Black Bear scats were plentiful and a number of Mule Deer were seen in addition to the smaller birds and mammals which can exist near human developments. In general, the area continues to provide good wildlife habitat values, particularly on the undisturbed sites.

Wildlife species observed during the two-day reconnaissance in 1999 included Douglas squirrel, California ground squirrel, Clark's nutcracker, Steller's jay, and common crows.

### **Wildlife Species of Concern**

Although no threatened or endangered wildlife species were known to reside on the project site in 1990 and none were observed during the wildlife survey, a 1990 search of the CNDDDB for sensitive wildlife species which might occur on the study area or in nearby areas indicated that two State listed species, the Great Grey Owl (Endangered) and the Wolverine (threatened) and one listed Federal species, the Spotted Owl (threatened) are known to have occurred in the region. The proximity of human

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<sup>5</sup> Ibid.

habitation and the absence of suitable habitats for these species within project boundaries argues strongly for their absence from the site.

Specific searches for the Spotted Owl were conducted throughout the project site every other night for eight consecutive nights between April 12 and 20, 1990. Beginning about one hour after official sunset, recorded Spotted Owl calls were played at 100 meter intervals along transects through or near the project site following guidelines provided in the *Spotted Owl Inventory and Monitoring Handbook*.<sup>6</sup>

No responses were elicited from Spotted owls during this survey.<sup>7</sup> Only one Great-horned Owl was heard calling from the Lodgepole Pine forest south of the project on the night of April 14, 1990. The results of this survey in conjunction with the lack of suitable habitat components such as old trees, snags, a more complete canopy closure and available water on the project site indicate strongly that the Spotted Owl is not present in the area.

In addition to the listed species, three species classified by the California Department of Fish and Game as species of special concern in California were found to have distributional ranges which include the project site. These include the Northern Goshawks, the Yellow Warbler and the Pacific Fisher. Again, for the reasons stated above for listed species, it is extremely unlikely that any of these candidate species would be able to utilize the project sites.

The 1999 CNDDDB Search identified few wildlife species with records of occurrence within the Old Mammoth area (Appendix A, *Natural Diversity Data Base Report*, of Appendix 16.9.2, *Update Report on Biological Resources*). Of these, two wildlife species were not analyzed in the previous NEPA/CEQA documents. These included the Sierra Nevada Red Fox (*Vulpes vulpes necator*) and the Owens Sucker (*Catostomus fumeiventris*).

The Sierra Nevada red fox is listed in California as a threatened species, and is included on the Federal list as a species of concern. Currently its status in the state is uncertain due to insufficient survey efforts. Sierra Nevada red fox is one of the many subspecies of red fox. It is very difficult to distinguish between the Sierra Nevada subspecies and other non-native subspecies of red fox. One sighting of Sierra Nevada red fox from 1988 is recorded within the Old Mammoth area, near the road crossing Deadman Creek, south of the White Wing Work Center.

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<sup>6</sup> Ibid., page 4.3-4.

<sup>7</sup> Ibid.

The home range of the red fox ranges between one and eight square miles. Red fox adapt easily to changes in environment and can survive well in and around human development. Red fox can survive on an extremely varied diet consisting of rodents, fruit, vegetation, insects, garbage and young deer. Red fox depend on hunting and scavenging for food during the winter months, relying on members of the rodent family as the predominant food source. Den sites are important during the winter months for thermoregulation, resting and rearing young.

No sign of red fox or fox dens were seen within the project area. Any incidental use of the project area by red fox would be expected to be minimal due to the lack of understory cover, and associated low population of rodents.

The Owens Sucker is known to occur in Mammoth Creek and Hot Creek, near the Hot Creek fish hatchery. Owens Sucker has no state or federal listing status, and is listed by the California Department of Fish and Game as a species of concern. There is no fishery habitat within the project area.

A similar reconnaissance of the "pit" area was conducted in conjunction with the North Village evaluation. Presently, the "Pit" (Lot 222) is nearly void of vegetation with no existing wildlife value.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation for North Village***

According to the 1991 EIR, any loss of a plant species of concern would be considered significant. Field surveys done in late June, 1990, a time of flowering for all species of concern, failed to find any of the six species of concern. As a result it is expected that there would be no significant adverse effects on any species of concern.

The recreational and commercial developments proposed for this site would result in the alteration of most of the scattered native vegetation and wildlife resources presently on the property. Cover may actually be increased in some areas as a result of landscape planting; however, this increase may not increase habitat values since the replacement vegetation would be "urban" and represents a loss of plant species diversity. This would be considered a potentially significant impact of the 1991 Specific Plan which would be reduced to a less than significant level after mitigation.

The 1991 EIR further notes that the 1991 Specific Plan would result in a change in vegetation from conifer forest to urban development within portions of undisturbed vegetation. As in the case of changes in vegetation cover, this change in vegetation will likely result in a lowering of habitat values. The change must be considered less

than significant due to fragmented nature of the habitat. Implementation of specified mitigation measures would mitigate impacts in this regard to a less than significant level. Additionally, development of the project would result in the loss of 25 acres of fragmented native wildlife habitat which was considered to be a less than significant impact.

However, the 1991 EIR considered, for purposes of that EIR, that loss of vegetation cover and loss of large, specimen trees would be considered significant impacts (EIP Associates). The 1991 EIR stated "loss of cover is considered significant since it results in lowered wildlife habitat values and can lead to soil erosion, blowing dust, and other environmental problems. Implementation of specified mitigation measures would mitigate impacts in this regard to a less than significant level.

Disturbances and disruptions during project construction scatter/disperse and fragment existing wildlife communities on-site, forcing survivors into already occupied habitats to cause cumulative negative impacts on all wildlife in the area. The 1991 EIR determined that this is a potentially significant impact that would be reduced to a less than significant level with mitigation.

Increased erosion and siltation as a result of construction and grading activities could alter vegetation in the project area. The 1991 EIR determined that this is a potentially significant impact that would be reduced to a less than significant level with mitigation.

According to the 1994 Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures, or cumulative impacts with respect to biological resources.

#### ***Significance Criteria for this EIR***

The determination of impacts in this analysis is based on a comparison of maps depicting project grading limits and maps of the site's biological resources. All construction activities, including staging and equipment areas, are assumed to be contained within the limits of grading. Both direct and indirect impacts on biological resources have been evaluated. Direct impacts are those that involve the initial loss of habitats due to grading and construction. Indirect impacts are those that would be related to disturbance from construction activities (e.g., noise, dust) and use of the project sites.

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Environmental Checklist Form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to Biological Resources. The issues

presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed. In addition, all grading and clearing associated with development within the Town is subject to Section 17.16.050 of the Town Zoning Code. This provision provides required procedures and criteria to clear existing trees and vegetation.

It should be noted that through the Initial Study process, the Town has made the determination that certain project effects would result in a "Less Than Significant Impact" or in "No Impact". Section 10.0, *Effects Found Not to be Significant*, provides a brief description of potential effects for which a "Less Than Significant Impact" or "No Impact" determination was made for Biological Resources.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

- If the project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Game and Wildlife Service (see Impact Statement 5.9-1).
- If the project has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Game and Wildlife Service (see Impact Statement 5.9-2).
- If the project has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (see Section 10.0, *Effects Found Not To Be Significant*).
- If the project interferes substantially with the movement of any native or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site (see Impact Statement 5.9-3).
- If the project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (see Impact Statement 5.9-4).

- If the project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (see Section 10.0, *Effects Found Not To Be Significant*).

Section 15065(a), *Mandatory Findings of Significance*, of the CEQA Guidelines states that a project may have a significant effect on the environment if "...the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species...".

An evaluation of whether an impact on biological resource would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource or those that would obviously conflict with local, State or Federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population -or region-wide basis.

The actual and potential occurrence of these resources within the project vicinity was correlated with the previously identified significance criteria to determine whether the impacts of the proposed project on these resources would be significant.

Potential impacts are grouped below according to topic. The numbered mitigation measures at the end of this Section directly correspond with the numbered impact statements.

## SPECIES OF CONCERN

5.9-1 *Project implementation may affect species identified as a candidate, sensitive, or special status species. No species of concern identified through the CNDDDB search were observed in the project areas nor are they expected to occur, thus, impacts are concluded as less than significant.*

Special Status Plant Species. No Forest Sensitive or Watch List plant species and no Federal or State listed or proposed rare, threatened or endangered plant species were observed in the project area. No plant species otherwise considered to have special status were found to occur within the project area, and none have been previously reported. None of the special status plants listed on Table 5.9-1 were observed in the

project areas nor are they expected to occur because the project area is at too low an elevation and/or does not contain the appropriate habitats. Thorough surveys throughout the project area were conducted at times when special status plant species were expected to have been growing and in flower or fruit and therefore most observable. The proposed 1999 Specific Plan Amendment project would therefore have no impact to any special status plant species and no mitigation measures are recommended.

Special Status Wildlife Species. No significant adverse effects to any of the previously identified wildlife species of concern is expected to occur within the North Village project area due to the absence of suitable habitats as well as the proximity to human habitation.

The "Pit" area is nearly void of vegetation with no existing wildlife value. Therefore, use of the "Pit" as a fill area for export material from the project site would not adversely affect any species of concern.

## SENSITIVE NATURAL COMMUNITY

*5.9-2 Project implementation may have a substantial adverse effect on a sensitive natural community. Implementation of specified mitigation would reduce impacts to less than significant levels.*

Development in accordance with the 1999 Specific Plan Amendment would result in the alteration or elimination of native vegetation and wildlife resources presently on the property.

Because of the foraging, nesting and roosting opportunities provided by these habitats, their loss would cause the extirpation or displacement of most wildlife presently residing on the site. The more mobile birds and mammals such as the Coyote and Mule Deer would be dispersed into nearby, undeveloped areas. Less mobile mammals, reptiles and amphibians would be destroyed during construction. Some of the bird species observed during the field survey adapt to planned, landscaped urban environments and may return to the site after project completion.

Jeffrey pine-fir forest covers the undeveloped areas within the North Village project study area and is the only native vegetation type there. This type of upland vegetation is not considered sensitive. It occurs elsewhere in the Mammoth and Mono Basin areas of the eastern Sierra Nevada, and extensively in other areas of California (Holland 1986).

Implementation of the proposed project would require clearing and grading of portions of the Specific Plan area, thus resulting in the removal of numerous trees of varying sizes and conditions. Mitigation requiring that a Tree Conditions Survey be conducted for each development site and that the recommendations included therein be implemented by the project applicant would reduce impacts in this regard to a less than significant level (see Mitigation Measure No. 5.9-2h). Each Tree Conditions Survey would provide an inventory of trees of special concern 130 inches DBH and above (specimen trees) along with information for each tree including tree number, species, diameter, height, drip line radius, condition rating and mistletoe infection rating. Additionally, compliance with the Town's Zoning Code Section 17.16.050 regarding grading and clearing, would further reduce this potential impact to a less than significant level.

Project impacts in portions of the 1999 Specific Plan Amendment area could potentially result in complete loss of native vegetation in certain areas. The loss of Jeffrey pine-fir forest would represent only a very small portion of the existing Jeffrey pine-fir forest that occurs in the Mammoth and Mono Basin areas of the eastern Sierra Nevada. Jeffrey pine-fir forest is not considered a sensitive vegetation type and the forest in the project area has already been highly fragmented by previous urban development within and surrounding the project areas. Potential project impacts to native vegetation would therefore not be considered significant from a botanical resource point of view and no mitigation measures are recommended.

The "Pit" area is nearly void of vegetation with no existing wildlife value. Therefore, use of the "Pit" as a fill area for export material from the project site would not have a substantial adverse effect on any sensitive natural community.

Reclamation of the "pit" by filling with suitable plant growth material (soil) would potentially enhance wildlife values by providing increased vegetation for food and cover. It is recommended that fill material be seeded with a grass/forb seed mixture to provide temporary stabilization of soils until permanent land uses are established. Eventual development of the site with associated landscaping would in all likelihood increase wildlife values of the area for birds, small mammals and invertebrates.

## WILDLIFE CORRIDOR

5.9-3 *Project implementation may interfere substantially with the movement of a native resident or migratory wildlife species. Analysis has concluded that impacts are less than significant.*

The loss of wildlife habitat in California, especially in this rapidly developing area, threatens the continued existence of a number of wildlife species which depend on

these areas for most or all of their life requirements. In addition to the water, food and shelter available in these montane habitats, forest corridors are used for concealment during daily passages to and from foraging and nesting sites and during seasonal migrations in much the same way that man uses a highway. Any activity which interrupts or blocks these corridors severely restricts or eliminates their use by wildlife.

According to the Draft Environmental Impact Statement (EIS) for the Sherwin Ski Area, 1988, two deer herds exist in the vicinity of the North Village project area.<sup>8</sup> These are the Sherwin Grade and Buttermilk deer herds. The following excerpt from the Draft EIS describes deer migration in the area:

*"For the most part, the Sierra escarpment presents a physical barrier between winter and summer ranges for the Sherwin and Buttermilk herds. Based upon radio telemetry studies, only three access points to summer range have been identified for those portions of these herds which migrate north from winter range. The first migration route is situated at the base of Mammoth Rock and provides deer access between staging areas. The second migration route connects Duck Pass and the staging area via Solitude Canyon and Sherwin Lakes. The Solitude Canyon migration corridor is unique from the standpoint that only a few trails, and in some instances one trail, due to topographic constraints. The third route is from the northern portion of the staging area to San Joaquin Ridge."*

There is no evidence which suggests that any of these migration routes has changed significantly since the 1988 DEIS was prepared.<sup>9</sup> Migration routes are long-standing traditional use areas that are in this case constrained by steep regional topography. Based on this data, development of the 1999 Specific Plan Amendment would not interfere substantially with the movement of any native resident or migratory wildlife corridors.

The "Pit" area is nearly void of vegetation with no existing wildlife value. Further, the area is surrounded by residential development on all sides. Therefore, use of the "Pit" as a fill area for export material from the project site would not interfere substantially with the movement of any native resident or migratory wildlife corridors.

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<sup>8</sup> Resource Concepts, Inc. correspondence, December 21, 1999.

<sup>9</sup> Ibid.

## CUMULATIVE

5.9-4 *Cumulative development in the project area may, directly and indirectly, adversely affect the area's biological resources. Cumulative biological impacts are mitigated on a project-by-project basis and in accordance with the Town's requirements.*

When viewed in conjunction with other major developments planned for the Town of Mammoth Lakes, the loss of trees and other native vegetation, as well as the loss of wildlife habitat and the displacement of wildlife species in the Specific Plan area, could be considered a negative cumulative effect. However, cumulative impacts are mitigated on a project-by-project basis and in accordance with the Town's requirements.

## MITIGATION MEASURES

The following mitigation measures directly correspond to the identified impact statement analyzed in the Impacts discussion. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

## SPECIES OF CONCERN

5.9-1 No mitigation measures are required.

## SENSITIVE NATURAL COMMUNITIES

5.9-2a *(Measure modified from Mitigation Measure 4.3-1(a) in the 1994 EIR Addendum):* The project shall preserve existing native vegetation to the maximum extent feasible. Landscaping shall emphasize the use of native plants indigenous to the Jeffrey Pine-Fir Forest plant community. Whenever possible, native plants used on-site shall be selected for their replacement habitat value. Site designs shall be subject to the Design Review procedure of the Town.

5.9-2b *(Measure restated from Mitigation Measure 4.3-1(d) in the 1994 EIR Addendum):* Landscape materials shall be used that allow for the protection and preservation of existing trees. Native plant species, preferably from seed or cuttings from local plants, shall be used where possible. The Landscape Plan shall be approved by the Planning Director prior to issuance of any construction permits.

- 5.9-2c *(Measure restated from Mitigation Measure 4.3-1(e) in the 1994 EIR Addendum):* Irrigation, fertilization, and other landscape management practices shall be designed to minimize effects on existing trees and other vegetation.
- 5.9-2d *(Measure modified from Mitigation Measure 4.3-4(a) in the 1994 EIR Addendum):* To the extent possible, native vegetation shall be retained and protected during construction. A Revegetation Plan, prepared by a qualified Landscape Architect and approved by the Town of Mammoth Lakes, shall be completed prior to the commencement of the project which will describe in detail the species of trees and shrubs which will be used, where they will be planted, and in what numbers, and the methods of planting and maintenance which will ensure successful growth. It shall include a monitoring program to follow the progress of new plantings and ensure replacement of unsuccessful plants. Landscaping with native species of trees and shrubs shall be undertaken to enhance wildlife use of cleared areas.
- 5.9-2e *(Measure modified from Mitigation Measure 4.3-4(b) in the 1994 EIR Addendum):* Under AB3180, once mitigation plans designed to off-set habitat losses are approved and the specific areas where they will be located are identified, the proponent must provide a program to monitor their progress for a period of time (usually three to five years) deemed sufficient by the Planning Director to assure their successful development. Adequate security shall be deposited with the Town to ensure successful implementation of this measure.
- 5.9-2f *(Measure modified from Mitigation Measure 4.3-5 in the 1994 EIR Addendum):* All construction activities, including movement and storage of vehicles and the storage of building and other materials, shall be confined to areas slated for development. Care shall be taken during construction to avoid damage to vegetation and habitats not directly involved in project construction. Any vegetation inadvertently damaged outside of the area slated for development shall be replaced on a one-to-one basis on- or off-site. Off-site replacement shall require the approval of the Town Planning Director.
- 5.9-2g *(Measure restated from Mitigation Measure 4.3-6 in the 1994 EIR Addendum):* To prevent erosion and siltation into intermittent creeks, areas cleared of vegetation, fill or other materials shall be stabilized after clearing and grading. Hay bales, silt screens or similar devices shall be used to prevent siltation. To further protect the drainage system and

prevent erosion, all grading and construction shall be completed during the summer months, or after October 15 of each year be in a condition to be stabilized within 48 hours should inclement weather threaten.

- 5.9-2h *(Measure modified from Mitigation Measure 4.3-1(b) in the 1994 EIR Addendum):* A Forest Condition Survey shall be conducted by a professional forester and approved by the Town of Mammoth Lakes, prior to the commencement of each individual development project. All trees greater than 12-inches DBH (Diameter breast height (54 inches above ground)) and significant stands on each project site shall be mapped prior to issuance of grading permits or clearing. A registered forester or arborist shall then determine the age and condition of these trees and whether they should be retained or removed based upon health and visual significance of the trees, except for removal required by approved improvements. Once this determination is made, those trees shall be retained and integrated into the design of each project. A program of specific protection measures shall be prepared by the developer and approved by the Town prior to issuance of any construction permits (e.g., construction fencing, grading controls, grading design, etc.). Any trees removed unavoidably by each final project approval shall be in accordance with Town policies. Off-site replacement shall require approval by the Town's Planning Director.
- 5.9-2i *(Measure modified from Mitigation Measure 4.3-1(f) in the 1994 EIR Addendum):* Slash generated from construction or thinning operations shall be ~~piled and burned, chipped, or~~ hauled from the site concurrent with the operation to prevent a breeding site for IPS. Logs shall be removed from the site as soon as possible.
- 5.9-2j *(Measure restated from Mitigation Measure 4.3-1(c) in the 1994 EIR Addendum):* Construction and site development, such as grading and trenching, shall be prohibited within the dripline of retained trees. Equipment shall not be stored or driven under trees. Grading shall not cover the ground surface within the dripline of existing trees. Grading limits shall be clearly defined and protected.

#### WILDLIFE CORRIDOR

- 5.9-3 No mitigation measures are required.

**CUMULATIVE IMPACTS**

5.9-4 No mitigation measures are required.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 EIR and 1994 EIR Addendum for the North Village Specific Plan and the Town of Mammoth Lakes General Plan EIR would occur with implementation of the proposed project. Impacts to species of concern, sensitive natural communities, wildlife corridors, and cumulative conditions are mitigated to a less than significant level.

## 5.10 PUBLIC SERVICES AND UTILITIES

The purpose of this Section is to recognize that changes in circumstances have occurred in the Public Service and Utility conditions and standards. The analysis in this Section focuses upon public services, recreation, and utilities and service systems. Information in this Section was obtained from the Town of Mammoth Lakes General Plan, the 1999 Specific Plan Amendment and correspondence from public service and utility agencies (refer to Appendix 16.10, *Correspondence*). Public services include fire protection, police protection, schools, snow removal/roadway maintenance and libraries. Recreation includes neighborhood parks, regional parks, and other recreational facilities. Utilities and service systems include wastewater, water and solid waste.

This Section includes an Existing Conditions discussion which provides background information necessary to understand potential impacts of the proposed project. The criteria by which an impact may be considered potentially significant is provided along with a discussion of impacts pursuant to Appendix G of California Environmental Quality Act (CEQA). Mitigation measures are identified in an effort to reduce potential impacts to less than significant levels.

### INTRODUCTION

One of the most prominent factors since the 1994 EIR Addendum related to public service and utility impacts is a Resolution (98-06) adopted by the Town Council in February 1998 which established a development impact mitigation program for public facilities and improvements. This mechanism was not available for consideration when the impact evaluation was conducted for the 1991 EIR and 1994 EIR Addendum. The Development Impact Fee (DIF) Mitigation Program affects several subject areas which are included in this Program EIR evaluation. They include snow removal, roadway maintenance, parks and recreation and library services. Law enforcement and fire services also apply for specified equipment and facility needs. The impact section of Chapter 5.10 incorporates this provision into the analysis.

The DIF Mitigation Program provides the Town with the authority for imposing and charging development impact fees. The Ordinance directs the Town Council to set fees and describes specific public facilities or improvements to be financed. A Development Fee Calculation Report published in 1997 analyzed the impacts of contemplated future development on existing facilities in the Town and analyzed the need for new facilities and improvements required by new development.

Land uses referenced as being affected by the DIF include single- and multi-family dwellings, mobile home, resort lodging, commercial lodging, specific plan lodging,

resort or specific plan commercial, general commercial and industrial. An Impact Fee Program is referenced as an attachment to Resolution 98-06.

The DIF provision has been presented in this Introduction in order for the reader to gain an understanding of the extent of the program with regard to services and utilities. The North Village Specific Plan is specifically referenced in the Impact Fee Program attachment. The complete program is available for review at the Town offices.

## **EXISTING CONDITIONS**

### **PUBLIC SERVICES**

#### **Fire Protection**

Fire protection and emergency response to the urbanized portions of Mammoth Lakes are provided by the Mammoth Lakes Fire Protection District. The District covers approximately eight square miles and operates from two fire stations. Properties surrounding the built area of the Town are within the Inyo National Forest and are therefore protected by the U.S. Forest Service, as is the Mammoth Mountain Ski Area.

The data provided below was obtained from correspondence with the Mammoth Lakes Fire Protection District dated October 15, 1999. The Mammoth Lakes Fire Protection District serves the project area using the two local stations. The primary or first-in station is located at 3150 Main Street (Fire Station No.1) within 1.5 miles of the project area. This station consists of three engines, one truck, one medium rescue unit and the County Paramedic ambulance. Approximate response time to the project area from the primary station is less than five minutes. Currently, Fire Station No.1 is operating at maximum capacity, both in terms of personnel and building capacity. The current condition of the building does not meet seismic safety requirements and is not adequate to support any physical additions to the structure as a result of increased demand. The Department is in the process of identifying a permanent location to build a new Fire/Police Safety Center. Construction of the new Center is anticipated to take approximately one to two years. Should alternative funding for a new Fire/Police Safety Center not be available, new developments would be required to contribute their fair share in order for the facility to be constructed.

The second station is located at 1574 Old Mammoth Road (Fire Station No.2) within three miles of the project area. This station consists of two engines, and one truck. Both of the stations are staffed with a set of volunteer personnel who are in compliance with National Fire Protection Association recommendations. Volunteer personnel currently at the District consists of 65 firefighters and two paramedics. The area currently has a rating of three, as a result of the recent Insurance Service (ISO) evaluation conducted within the Town of Mammoth Lakes.

### **Police Protection**

The Mammoth Lakes Police Department provides police protection services and parking enforcement to the Town. The leased police facility is located at 568 Old Mammoth Road, approximately 1.5 miles from the project area. The Department is in the process of identifying a permanent location to build a new Fire/Police Safety Center. Construction of the new Center is anticipated to take approximately one to two years. Should alternative funding for a new Fire/Police Safety Center not be available, new developments would be required to contribute their fair share in order for the facility to be constructed.

The Mammoth Lakes Police Department provides service within the Town's corporate boundary (approximately four square miles), consisting of undeveloped and developed public forest lands, as well as privately owned, developed and undeveloped properties. Mammoth Lakes Airport is located approximately 10 miles from the Town and is also serviced by the Department. In addition, the Mammoth Lakes Police Department serves as "first responder" to the "Red's Meadow" area located in Madera County, approximately 15 miles outside the Town limits. This area is only accessible during the non-winter months from July through October and is used by campers and day hikers.

Department staff is currently comprised of 16 sworn officers, three non-sworn support staff, and two animal control officers. The Police Department maintains a total of seven marked patrol vehicles and three un-marked vehicles assigned to Detective, Chief and Lieutenant.

Non-emergency "routine" call response times within the Town limits average approximately six minutes, while emergency response times typically average four minutes.

In the event of a natural disaster, such as earthquakes or a volcanic eruption, the Mono County Sheriffs Department is responsible for implementing the Mono County Emergency Plan, as well as providing 'mutual aid' in conjunction with the Town of Mammoth Lakes Police Department. Traffic control and accident investigations for State Route (SR) 203 are performed by the California Highway Patrol. The Inyo National Forest also has law enforcement personnel in the area.

### **Schools**

The project site falls under jurisdiction of the Mammoth Unified School District (MUSD). MUSD presently has several schools which would serve the project site (refer to Table 5.10-1, *School Facilities*).

**Table 5.10-1  
 SCHOOL FACILITIES**

School	Location	Grade Levels	Maximum Capacity	Present Enrollment
Mammoth Elementary	2600 Meridian Boulevard	K to 5	630	600
Mammoth Middle	365 Sierra Park Road	6 to 8	300	300
Mammoth High	365 Sierra Park Road	9 to 12	350	350
Sierra High School	101 Old Mammoth Road (leased facility)			25

As detailed in Table 5.10-1, the school facilities which would serve the project site are presently at or near capacity.

In April 1998, the MUSD passed a \$14 million bond to be used for construction of a new District office and continuation high school (Gateway Site).<sup>1</sup> Construction of the office and continuation high school was scheduled to begin Spring 2000. Additionally, construction of a new middle school is scheduled to begin Spring 2001. The proposed new middle schools will be located behind the existing facility. The vacated middle school will provide additional classrooms for the high school. The remaining funds will be used to modernize the high school and expand the elementary school.

**Snow Removal/Roadway Maintenance**

Roadway maintenance within the community is provided by the Town of Mammoth Lakes for all non-State and non-Federal roadways. This responsibility includes road repair, maintenance, and snow removal. Caltrans provides repair, maintenance and snow removal for SR-203 (Minaret Road and Main Street) from the junction of U.S. Highway 395 to the Mammoth Mountain Inn. Roadway maintenance and snow removal on private roads and property is the responsibility of private land owners.

Past development in the Town has resulted in many of the community's roads having improper grading, shoulder improvements, setbacks and road section design and parking and driveways that conflict with snow removal/storage. These conditions increase the cost of road maintenance, repair and snow removal. Snow removal occupies a substantial portion of the maintenance activity each year, up to two-thirds

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<sup>1</sup> Correspondence from Mammoth Unified School District, October 25, 1999.

of the total maintenance and improvement budget. During intense snow storm periods, Town equipment and facilities have been overburdened. Maintenance of striping is also a problem during winter months and may contribute to traffic circulation problems.

### **Library**

The Mammoth Lakes Branch Library is the facility which serves the community. The facility is located at 960 Forest Trail, adjacent to the Community Center and adjacent to the northern portion of the project site. This facility also serves the surrounding communities of Hot Creek, Crowley Lake, Toms Place, Sunny Slopes, and Swall Meadows.

The Mammoth Lakes Branch occupies approximately 5,000 square feet of building space and contains between 25,000 and 35,000 books. It contains four computers currently available to the public for Internet access and research. The Library has plans to expand this number in the near future to ten or 11 computers. In addition, the library has a reading room that is used for conferences/meetings of small groups. Donations to the Library total approximately 2,000 books per month, of which 500 books are added to the collection.

According to Branch staff, all available space is utilized and it is anticipated that the library will need to double in size in the next five years, with the projected population growth.

### **RECREATION**

The Town of Mammoth Lakes provides public recreation facilities available for the primary use by the general public. Existing public recreational facilities include the following six facilities:

- Mammoth Creek Park: The East Side of the park (15 acres) is made up of a passive recreational area with a museum (Hayden Cabin), picnic tables, restroom facilities, walking and biking trails. The 15 acre area is operated by the Town under a Special Use Permit from the National Forest Service. The West Side of the park includes a five-acre passive/active park with a children's playground, art sculpture, restrooms, picnic facilities, walking and biking trails and paved parking.
- Shady Rest Park: This park contains 12.5 acres and is the main active sports municipal park in the Town. This facility has been developed and is currently operated by the Town under a special use permit from the National Forest. This park is located approximately three miles from the project site.

- Community Center Park: This park includes 4.5 acres and contains a community center, library, children's daycare, children's play area, tennis courts, picnic tables, walking paths, restrooms and paved parking.
- Whitmore Park: This 32-acre park contains three baseball/softball diamonds, restrooms, picnic facilities, community swimming pool and paved parking. This park is located approximately eight miles from the project site and is jointly operated by the Town of Mammoth Lakes and Mono County and leased from the Los Angeles Department of Water and Power.
- Trails Park: This four-acre park is undeveloped.
- Bike Trails: The Town's current plans include the development of a seven mile, off road, Class A bike trail system. To date, the Town has developed approximately three miles of the planned seven mile system. A portion of the Town's bike trails are located on National Forest land under a Special Use Permit.

The Town of Mammoth Lakes General Plan, Recreation Element, requires a minimum dedication for park land of five acres per 1000 population, with a policy (2A-4) to strive to provide ten acres per 1000 population.<sup>2</sup> This requirement is based on the Quimby Act (GC 66477) and on Section 17.16.180 of the Subdivision Regulation of the Town. However, when the Town adopted the Development Impact Fee (DIF), three acres per 1,000 (the minimum required by the Quimby Act) was made a part of the fee schedule for residential development. Therefore, a two-acre per 1,000 population deficiency exists for all residential subdivisions.

## **UTILITIES AND SERVICE SYSTEMS**

### **Wastewater (Sewer)**

The Mammoth Community Water District (MCWD) owns, operates and maintains the sewage collection systems for the Town of Mammoth Lakes, including pump stations and over 35 miles of sewer mains and interceptors. MCWD also operates and maintains pump stations and 11 miles of sewers for the National Forest. Raw wastewater is delivered to the MCWD wastewater treatment facility, located near the intersection of Meridian Boulevard and SR-203, through two 18-inch interceptor sewer lines.

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<sup>2</sup> Town of Mammoth Lakes Park Land Dedication Requirement, November 3, 1999.

The total capacity of the affected trunk sewer lines within the project area has been calculated at 310 gallons per minute for the 10-inch sewer at Minaret Road/Canyon Boulevard and 1,750 gallons per minute for the 12-inch sewer at Minaret Road/Main Street. Actual flows are not available for these trunk sewer lines.

The existing wastewater treatment facility is currently designed to provide secondary treatment for peak daily flows of 4.1 million gallons per day with a 30-day average flow of 3.04 million gallons per day. The peak daily flow during 1999 amounted to 2.234 million gallons per day in January and the peak 30-day average equaled 1.681 million gallons per day in August. Table 5.10-2, *Sewage Flow Rates*, details sewage flow rates according to land use types.

**Table 5.10-2**  
**SEWAGE FLOW RATES**

Customer Section	Sewage Flow Factor (rate)
Condominium	179 gal/day
Single Family	166 gal/day
Apartment	164 gal/day
Motel	154 gal/day
Commercial	166 gal/day/3,500 sq ft
Restaurant	498 gal/day/2,000 sq ft

Source: Correspondence from Mr. Gary Sisson, Assistant General Manager, Mammoth Community Water District, October 18, 1999.

Note: These sewer flow rates are average daily flows and do not represent instantaneous peak flows that may occur during a 24-hour period.

**Water**

Water for the Town of Mammoth Lakes is provided by The Mammoth Community Water District (MCWD). The primary water supply source for the District is Lake Mary (elevation 8,917 feet above mean sea level), providing up to five cubic feet per second (cfs) of water. Water from Lake Mary is diverted to the District's surface water filtration plant through a submerged surface water intake structure. Following filtration, water is stored in a two-million gallon storage reservoir located near this filtration plant. The District has a surface water entitlement of 2,760 acre-feet per year (899.5 million gallons).

Groundwater wells operated by the MCWD represent Mammoth Lakes other major source of water. However groundwater in the area varies greatly in terms of level, quality, and quantity. Geophysical studies have identified at least two separate aquifers in the Mammoth Basin estimated by the MCWD to be at least 500 feet deep.<sup>3</sup> However, it is unknown how much water the aquifers actually contain or how much percolation occurs either into or out of them. The quality of the District groundwater supplies varies. Five of the District's eight wells contain iron and/or manganese at levels that require treatment. Hardness levels of the well supplies range from "moderately hard" to "hard". Information on specific constituents for particular wells is available at the District offices.

Current water capacity for the District is estimated at 6,300 acre-feet under normal precipitation conditions. Future capacity is projected to equal approximately 7,800 acre-feet under normal precipitation conditions. Annual current use is 2,686 acre-feet. Average daily flow equals 3.7 cubic feet per second (CFS). Peak demand equals 5.033 million gallons per day (MGD). Table 5.10-3, *Water Demand Rates*, details water demand rates according to land use types.

**Table 5.10-3**  
**WATER DEMAND RATES**

<b>Customer Section</b>	<b>Daily Demand</b>	<b>Peak Daily Demand</b>
Condominium	162 gal/day	292 gal/day
Single-Family	198 gal/day	365 gal/day
Apartment	104 gal/day	292 gal/day
Motel	93 gal/day	146 gal/day
Commercial	365 gal/day/3,500 sq ft	365 gal/day/3,500 sq ft
Restaurant	1,460 gal/day/2,000 sq ft	1,420 gal/day/2,000 sq ft
Landscape (sod)	91 gal/day/1,000 sq ft	91 gal/day/1,000 sq ft
Landscape (non-sod)	37 gal/day/1,000 sq ft	37 gal/day/1,000 sq ft

Source: Correspondence from Mr. Gary Sisson, Assistant General Manager, Mammoth Community Water District, October 18, 1999.

<sup>3</sup> *Town of Mammoth Lakes General Plan EIR*, January 15, 1986, page 167.

Over the past four years with above normal precipitation, the current rate of local groundwater extractions has averaged 1,000 acre-feet per year. The maximum volume of groundwater amounting in 2,384 acre-feet which was extracted by the District, occurred in 1992 at the end of an extended drought period.

The District's fire flow requirements are a minimum of 750 gpm for one-half acre lots or larger, 1,000 gpm for one-quarter acre lots or smaller, 1,250 to 1,500 gpm for multi-family residences, and 1,000 to 1,500 gpm for commercial areas.<sup>4</sup>

### **Solid Waste**

Solid waste collection service for the Town of Mammoth Lakes is provided under a franchise agreement with the Mammoth Disposal, Incorporated. Benton Crossing Landfill is the facility used for disposal of wastes generated by the project site. This Landfill is approximately 40 acres in size with a design capacity of 1.35 million cubic yards of compacted waste. The Landfill is located approximately five miles east of the U.S. Highway 395/Benton Crossing Road intersection, on a site leased from the Los Angeles Department of Water and Power.

Solid waste collection service is generally provided by community trash bins at a centralized collection station on Commerce Drive and or by individual customer pick-up by Mammoth Disposal. All solid waste collected in the Town is delivered to the Benton Crossing Landfill. The Town of Mammoth Lakes operates a waste collection and recycling program in accordance with State Assembly Bill 939.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation***

#### **PUBLIC SERVICES**

##### **Fire Protection**

The following was identified in the 1991 EIR as a potentially significant impact:

"The closing of Canyon Boulevard will result in an access problem both to the rear of the proposed buildings and to surrounding residential areas; thus, access for delivery service will not meet District requirements. Intensive new development within the Town will also result in a need for a new aerial ladder truck. There is also concern over pumping capacity within the project area."

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<sup>4</sup> Ibid.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public services beyond those identified in the 1991 EIR. However, through implementation of the proposed mitigation measures potential impacts would be reduced to a less than significant level.

**Police Protection**

The following was identified in the 1991 EIR as a potentially significant impact:

"The population increase resulting from North Village will require a 24-hour patrol of the project area. Service calls associated with North Village are expected to increase 15 to 30 percent. The closing of Canyon Boulevard between Minaret and Hillside, along with the overall pedestrian emphasis of the project, results in limited access to motor vehicles. As a result, patrols will be conducted on foot or bicycle and thus, response time will be longer. This may also be true for areas surrounding North Village as a result of the closing of Canyon Boulevard."

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public services beyond those identified in the 1991 EIR. However, through implementation of the proposed mitigation measures potential impacts would be reduced to a less than significant level.

**Schools**

The 1991 EIR anticipated the following as an unavoidable, significant impact:

"The project is anticipated to produce approximately 373 students, resulting in an overcrowded situation for School District facilities. The cumulative impact of the proposed projects within the Town, including North Village, will result in the need for a new elementary school."

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public services beyond those identified in the 1991 EIR.

**Snow Removal/Roadway Maintenance**

The 1991 EIR noted the following with respect to snow removal:

"Snow removal requirements will increase as a result of street improvements and the development of the pedestrian plaza. The closing of Canyon Boulevard will result in

accessibility problems for the removal of snow from the plaza. The project would have a less than significant impact on snow removal services pursuant to the incorporation of mitigation measures."

The 1991 EIR did not specifically address roadway maintenance.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public services beyond those identified in the 1991 EIR.

### **Library**

The 1991 EIR and 1994 EIR Addendum did not specifically address impacts on library services.

## **RECREATION**

According to the 1991 EIR, the proposed project would create a demand for approximately 14 acres of park land. This was a potentially significant impact.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to recreational facilities beyond those identified in the 1991 EIR. However, through implementation of the proposed mitigation measures potential impacts would be reduced to a less than significant level.

## **UTILITIES AND SERVICE SYSTEMS**

### **Wastewater (Sewer)**

According to the 1991 EIR, the proposed project is anticipated to generate a total of approximately 459,100 gallons of wastewater per day. Since MCWD has adequate treatment capacity for project-generated wastewater flows, the proposed project shall have a less than significant impact on wastewater facilities.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public utilities beyond those identified in the 1991 EIR.

**Water**

According to the 1991 EIR, the proposed project shall have an estimated total water demand of 200,000 gallons per day, which is equivalent to 218-acre feet per year. This is a potentially significant impact.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public utilities beyond those identified in the 1991 EIR. However, through implementation of the proposed mitigation measures potential impacts would be reduced to a less than significant level.

**Solid Waste**

According to the 1991 EIR, the project is anticipated to produce a total of 35,340 pounds of solid waste per day. The Mammoth Disposal Company has indicated that it has adequate collection facilities to serve the project. The Benton Crossing Landfill has another 19 years of capacity and, thus, has adequate capacity to serve the proposed development. Thus, the project shall have a less than significant impact on solid waste collection and disposal facilities.

According to the 1994 EIR Addendum, the 1994 Specific Plan resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to public services beyond those identified in the 1991 EIR.

***Significance Criteria for this EIR***

Appendix G of CEQA contains a checklist form utilized during the Initial Study for this project. The issues presented have been utilized to identify impacts from which thresholds of significance have been developed. Appendix G states that a project would normally have a significant adverse impact on public services if it results in any of the following:

**Public Services**

*A significant impact would occur if the project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including fire protection, police protection, schools, or other public facilities. (See Impact Statement 5.10-1, 5.10-2, 5.10-3, 5.10-4 and 5.10-5.)*

**Recreation**

*A significant impact would occur if the project . . . . .*

- Increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (see Impact Statement 5.10-6).
- Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (see Impact Statement 5.10-6).

**Utilities and Service Systems**

*A significant impact would occur if the project. . . . .*

- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board (see Impact Statement 5.10-7).
- Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (see Impact Statement 5.10-7).
- Has insufficient water supplies available to serve the project from existing entitlement and resources, and new or expanded entitlement is needed (see Impact Statement 5.10-8).
- Results in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (see Impact Statement 5.10-7).
- Is served by a landfill that does not have sufficient permitted capacity to accommodate the project's solid waste disposal needs (see Impact Statement 5.10-9).
- Does not comply with Federal, State, and local statutes and regulations related to solid waste (see Impact Statement 5.10-9).

## PUBLIC SERVICES

### Fire Protection

- 5.10-1 *Physical alterations to existing fire protection facilities resulting from project implementation may be required on an existing site. Potential fire service impacts would be mitigated to a less than significant level if a contribution for a fire station expansion is provided and by mitigation listed in this Section.*

A significant impact would occur if the project would result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, the construction of which would cause significant environmental impacts. The 1999 Specific Plan Amendment does not propose the development of a new fire protection facility, therefore, significant impacts would not occur in this regard. However, project implementation may require modifications to existing facilities in order to maintain acceptable service ratios and response times.

According to the District, buildout of the proposed development may impact services provided by the District. Implementation of the proposed land uses would increase development beyond existing conditions, alter existing accesses, and increase the existing demand for fire protection in the form of additional calls for service. These additional calls for service are anticipated to occur within the Specific Plan area as well as in the ski areas due to the projected increase in tourism associated with the proposed development.

The anticipated increase in demand for fire protection service would result in the need for additional personnel, equipment and specialized apparatus, as well as funding to offset the resultant increased costs. It is assumed that the addition of any equipment and/or expansion of existing facilities would occur within the site limits of the existing stations. Impacts to existing fire protection facilities are mitigated to a less than significant level with implementation of recommended mitigation measures. The measures include contribution to the construction of an expanded fire station and Fire Station No. 1.

### Police Protection

- 5.10-2 *Project implementation may result in substantial adverse physical impacts with respect to police protection. Although the project does not propose new police facilities or alterations to existing facilities it may create a need for construction of new facilities or alteration of existing facilities. Mitigation to provide a contribution to an expanded fire station would reduce impacts to a less than significant level.*

Impacts to the Police Department resulting from project implementation may occur during both the construction and operational phases of the proposed project. Construction-related issues including noise, traffic and circulation, etc., may generate calls for police services. Impacts related to construction would cease upon completion of the proposed project, therefore, impacts are considered to be short-term. During the operational phase of the project, an increase in the calls for police service throughout the Town may occur as a result of the anticipated increases in both the permanent and seasonal populations.

The project does not propose the construction of new police facilities, nor does it propose the physical alteration of the existing facility. Project implementation would result in an increase in calls for police service, and would warrant the construction of a new police station and would result in the need for alteration of the existing facility. With contribution toward a new or expanded facility, the proposed project would not result in substantial adverse physical impacts with respect to police protection.

### Schools

5.10-3 *Project implementation may create the need for additional facilities/ structures classrooms at the existing school facilities. Locating temporary portable classrooms on the existing school campuses is an option under consideration while previously planned educational facilities are being constructed. With State required funding mitigation, impacts are concluded as less than significant.*

As discussed in Section 5.2, *Population and Housing*, implementation of the proposed 1999 Specific Plan Amendment would create a housing demand of approximately 1,330 units. Based on student yield factor rates provided by the District, implementation of the proposed project would yield approximately 657 students as detailed in Table 5.10-4, *Student Yield Estimates*.<sup>5</sup>

The student estimates detailed in Table 5.10-4 demonstrate that sufficient capacity is not presently available at the existing school facilities to absorb the projected student population increase of 657 students. However, construction of a new middle school, as well as expansion of the existing high school and elementary schools, are scheduled to begin Spring 2001. Upon completion of these improvements, sufficient capacity would exist within the District. In the interim, the District anticipates that portable classrooms, which would be located on the existing school campuses, would be utilized to absorb the additional students. Therefore, as these potential future improvements would not occur within an environmentally sensitive area, project

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<sup>5</sup> Per telephone conversation with Patty Henderson, Business Manager, MUSD, October 25, 1999.

implementation would not result in substantial adverse physical impacts with respect to school facilities.

**Table 5.10-4  
 STUDENT YIELD ESTIMATES**

School	Grade Levels	Maximum Capacity	Present Enrollment	Student Yield Factor (Per Dwelling)	Student Yield
Mammoth Elementary	K to 5	630	600	0.245	326
Mammoth Middle	6 to 8	300	300	0.115	153
Mammoth High	9 to 12	350	350	0.134	178
<b>Total</b>	-	-	-	-	657

Consistent with the provisions of Assembly Bill 2926, the District has set Developer Fees for commercial uses and residential uses (condominiums).<sup>6</sup> Payment of these fees by the developer would reduce impacts associated with the increased enrollment and required additional classrooms to a less than significant level.

**Snow Removal/Roadway Maintenance**

5.10-4 *The increased demand for roadway maintenance and snow removal services generated by project implementation may warrant the construction of new facilities which may result in adverse physical impacts. Compliance with the recommended mitigation measures would offset the increased demand for roadway maintenance and snow removal thereby reducing potential impacts.*

Development of the 1999 Specific Plan Amendment would increase the demand for specialized roadway maintenance and snow removal services. The increase in paved areas resulting from the proposed street improvements and development of pedestrian plazas would result in the need for specialized removal requirements.

Project implementation would result in an increase in the demand for snow removal and roadway maintenance services, as well as an increase in the costs associated with providing these services. The Town's DIF Program applies to general facilities, vehicle

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<sup>6</sup> Correspondence from Mammoth Unified School District, September 22, 1999.

and equipment needs. Compliance with the program requirement and compliance with recommended mitigation reduces the significance of impacts.

In addition, according to the 1999 Specific Plan Amendment document, the following measures have been proposed to minimize these impacts:

*"Snow removal on privately maintained areas, such as the plaza, project sidewalks, and private roads will be conducted by the property owners' association. Snow removal on State or Town roads would continue to be the responsibility of the respective agency or the maintenance district. Snow removal equipment would have access throughout major plaza areas. Snow from the primary pedestrian areas may be hauled off-site and deposited in a suitable location to reduce on-site snow storage areas. Facilities adjacent or peripheral to the plaza area may opt for similar immediate removal or provide adequate on-site snow storage space. Each development project shall be required to submit a snow removal and storage plan as part of final project review and approval by the Town of Mammoth Lakes."*

One or more project maintenance district(s) and/or property owner's association(s) may be established for the maintenance of public and common facilities within the Specific Plan Area. A maintenance district may be funded through special assessment fees levied on those North Village property owners benefitted by improvements in the Specific Plan area. The maintenance district and/or association responsibilities may include, but shall not be limited to, the following activities throughout the North Village Specific Plan Area, where applicable:

- Street and Pedestrian Lighting;
- Storm Drains;
- Landscaping;
- Pedestrian Plazas and Walkways;
- Snow/Ice Removal and Storage;
- Fire Hydrants;
- Pedestrian Amenities and Street Furniture;
- Parking Garage;
- Security;
- Trash Removal and Recycling;
- Entertainment, Cultural Events, Programs; and
- Bridges.

The recommended mitigation measures would minimize roadway maintenance and snow removal impacts. If non-standard snow removal is required, the project applicant shall be responsible for the cost of these specialized snow removal techniques.

Therefore, project development would not result adverse physical impacts in this regard.

### Library

5.10-5 *The proposed project may significantly increase the demand for library facilities and may contribute to an existing need for construction of new facilities or alteration of existing facilities. Compliance with the Town's DIF Program would reduce impacts with regard to library facilities to a less than significant level.*

The population increase resulting from project implementation would result in a significant increase in usage of the Mammoth Lakes Branch Library. This facility is currently operating at maximum capacity. As a result, project implementation would contribute to an existing need for construction of new facilities or alteration of existing facilities.

Impacts to library facilities are mitigated in accordance with the Town's DIF Program. Resolution 98-06 states that the fee shall be utilized to fund expansion of the library by the Mono County Library District. Implementation of the Fee Program would reduce impacts to a less than significant level.

### RECREATION

5.10-6 *Project implementation may increase the use of existing neighborhood and regional parks or other recreational facilities and create a demand for additional park land. Potential recreational facility impacts would be mitigated to a less than significant level in accordance with the Town's DIF Program and land dedication requirements in the Specific Plan.*

As noted in Section 5.2, *Population, Housing and Employment*, project implementation would increase the Town's population. This projected population increase would increase the use of existing recreational facilities, as well as create a demand for additional park land.

Developers of each phase shall be required to provide an equivalent of 5 acres of land per 1,000 population increase generated by their project to the Town for public parks. Payment of applicable Development Impact Fees shall satisfy requirements for three of the five acres. The 1999 Specific Plan Amendment requires developers to provide the additional two acres per 1,000 population increase to the Town or pay an in lieu fee for parkland acquisition and development. This requirement shall be shared among all landowners based on their share of population increase. This requirement may be

waived in part or in full upon determination by the Parks and Recreation Commission and Town Council that the developer has provided on-site an equivalent value of public recreational amenities such as the events arena, the pond adjacent to the west side plaza areas, the gondola and ski-back trail, bike trails, etc. Compliance with these measures would reduce project impacts with respect to recreational facilities to a less than significant level.

It should be noted that the 1999 Specific Plan Amendment has identified as possible elements recreational amenities on-site such as the events arena, the pond adjacent to the west side plaza areas, the gondola and ski-back trail, bike trails, etc. These recreational amenities may count toward park land credit provided they comply with the specified criteria specifically, the criteria for determining credit are that the project is dedicated to the public by fee title or easement and not funded through DIF revenue.<sup>7</sup> In addition, because the project must be public, it must be able to be designed and constructed to Town standards. The project applicant would be required to pay the applicable DIF and comply with the General Plan in the event the criteria for determining park land credit are not met.

## UTILITIES AND SERVICE SYSTEMS

### Wastewater (Sewer)

5.10-7      *Project implementation may generate additional wastewater beyond current conditions and may require an incremental expansion of the existing sewerage system and expansion of the water treatment facility. Implementation of the recommended mitigation measures would reduce impacts with regards to wastewater systems and facilities to a less than significant level.*

The 1999 Specific Plan Amendment would increase the existing conditions quantity of wastewater generated within which is attributable to the project site. Table 5.10-5, *Wastewater Generation Estimates*, provides a breakdown of the expected sewage flow that would be generated by the proposed project based on factors provided by the District. As shown in Table 5.10-5, the proposed development would result in the generation of approximately 509,233 gallons per day of sewage. According to the District, the proposed project would present an increase in service demand for operations and maintenance of the sewer pipeline system and treatment facility. The project applicant would have the responsibility of conveying any wastewater generated by the project to the nearest local sewer and/or trunk sewer. Assurance of sewer

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<sup>7</sup> Town of Mammoth Lakes Park Land Dedication Requirement, November 3, 1999.

service for the proposed development is contingent upon the issuance of the a sewer permit prior to construction of any improvements.

The District's treatment facility currently has the capacity to serve the proposed development, however, expansion of the secondary biological system and solids treatment system would be required prior to the facility having the capacity to handle the increased wastewater from the proposed development. It is assumed that this expansion would occur within the site limits of the existing facility, therefore, not resulting in significant environmental impacts.

**Table 5.10-5**  
**WASTEWATER GENERATION ESTIMATES**

Land Use	Quantity	Unit	Sewage Flow Factor <sup>1</sup>	Per	Sewage Flow Estimate (GPD) <sup>2</sup>
Commercial	135,000	Sq. Ft.	166	3,500	6,403
Accommodation Rooms	3,020	Rooms	167	1	502,830
<b>Total</b>					<b>509,233</b>

Source: Mammoth Community Water District Correspondence, October 13, 1999.

Notes:

1. Water Demand Factor for accommodation rooms is based on the average of condominium and motels.
2. GPD = Gallons Per Day

A sewer permit must be obtained from the District and all appropriate fees paid as set forth in the District's code prior to the construction of any facilities requiring sewer service. Costs of all sewer improvements required by the proposed project would be the responsibility of the project applicant in accordance with applicable District and Assessment District requirements. Additionally, all sewer improvements and modifications required by the project would require construction permits to be issued by the District.

**Water**

5.10-8 *Project implementation may increase the demand for water beyond current conditions and may require an incremental expansion of the existing water system. Implementation of the recommended mitigation*

*measures would reduce impacts with regards to water systems and facilities to a less than significant level.*

Project implementation would increase the demand for water which is attributable to the project site. Table 5.10-6, *Water Demand Estimates*, provides a breakdown of the expected water demand that would be created by the proposed project based on factors provided by the District. As shown in Table 5.10-6, the proposed development would create a demand for approximately 399,129 gallons per day on a typical day and 675,459 on a peak day. Some of the existing water main pipelines within the proposed project area would require upgrading to serve the projected demands. Specific improvements to be required would be determined at the time of actual water and sewer system design for the project.

Water demands created by the proposed 1999 Specific Plan Amendment project have been considered in the District's Urban Water Management Plan. The water demand associated with this proposed project was estimated using data provided in the 1999 Specific Plan Amendment adopted by the Town of Mammoth Lakes on June 22, 1994.<sup>8</sup> The District has projected that it would have sufficient supplies to serve the proposed project during normal and single-dry water years. During multiple-dry water years, it has been estimated that there would not be sufficient supplies without the addition of new sources to meet demands from the proposed project in addition to the demand for water from existing and other planned uses.

Currently, the District has sufficient water supplies available to serve the proposed project from existing resources during normal and single-dry water years as mentioned above. In order to prevent redundancy and insurance against multiple-dry water years the District has identified an additional groundwater source in the Dry Creek drainage area to be developed in the future. The District is also currently completing the environmental review process on a proposed project that would change minimum streamflow requirements in Mammoth Creek. With the approval of new streamflow requirements, the District would have a more dependable supply of surface water during drought years.

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<sup>8</sup> Correspondence from Mr. Gary Sisson, Assistant General Manager, Mammoth Community Water District, October 18, 1999.

**Table 5.10-6  
WATER DEMAND ESTIMATES**

Land Use	Quantity	Unit	Daily Demand			Peak Demand		
			Water Demand Factor <sup>1</sup>	Per	Water Demand Estimate (GPD) <sup>2</sup>	Water Demand Factor	Per	Water Demand Estimate (GPD)
Commercial	135,000	Sq. Ft.	365	3,500	14,079	365	3,500	14,079
Accommodation Rooms	3,020	Rooms	128	1	385,050	219	1	661,380
Total					399,129			675,459

Source: Mammoth Community Water District Correspondence, October 13, 1999.

**Notes:**

1. Water Demand Factor for accommodation rooms is based on the average of condominiums and motels.
2. GPD = Gallons Per Day

Project implementation would generate additional water demand beyond current conditions and require an incremental expansion of the existing water system. This required system expansion is not considered a significant impact since these facilities would be installed within the project's limits and are being addressed throughout Section 5.0, *Description of Environmental Setting, Impacts, and Mitigation Measures*, of this EIR. Further, while initially, there would not be sufficient water supplies during multiple-dry water years, the District anticipates there would be a sufficient supply upon completion of the Dry Creek drainage project.

**Solid Waste**

5.10-9      *Development of the project area may result in increased solid waste generation. Although sufficient permitted capacity exists at the landfill to accommodate the project's solid waste disposal needs. Project compliance with the Town's AB 939 waste reduction requirements would reduce the amount of solid waste which is disposed and maintain potential impacts at less than significant levels.*

Table 5.10-7, *Solid Waste Generation Estimates*, summarizes the estimated solid waste to be generated by the proposed project. As detailed in this Table, the proposed project would generate an estimated 10,321 pounds of solid waste per day. This projected increase in solid waste generation would increase the demand to provide disposal service and would incrementally shorten the lifespan of the Benton Crossing Landfill. According to Mammoth Disposal, Inc., the landfill has sufficient permitted capacity to accommodate the project's solid waste disposal needs.

**Table 5.10-7  
 SOLID WASTE GENERATION ESTIMATES**

Use	Units	Generation Rate*	Per	Solid Waste (Pounds/Day)
Hotel (Accom. Room)	3,020	2.3 lbs	Room	6,946
Commercial (Square Feet)	135,000	2.5 lbs	100 Sq.Ft.	3,375
Total				10,321

Source: County of Mono Department of Public Works

\*The generation rate for accommodation rooms is based on the averaged generation rates for Hotel (first class), Hotel (medium class) and Motel.

The volume of the project's solid waste which would be ultimately disposed of the Benton Crossing Landfill would be reduced due to the requirements of AB 939. Consistent with the City's adopted Source Reduction and Recycling Element (SRRE), the project applicant would be required to provide an Integrated Solid Waste Management Plan (ISWMP). Provision of the ISWMP, as well as the proposed project's incorporation of design features for the storage and collection of recyclables, would ensure the project's compliance with federal, state, and local statutes and regulations related to solid waste. Project implementation would not result a significant impact with respect to solid waste generation since sufficient permitted capacity exists at the landfill to accommodate the project's solid waste disposal needs.

### **Cumulative Impacts**

- 5.10-9            *Cumulative development may result in an increase in the demand for public services and in increase in the consumption rates for public utilities, potentially requiring expansions of the existing utility systems. Analysis has concluded that cumulative development is subject to standards and requirements of reviewing agencies and no additional mitigation is required.*

Although there would be a substantial increase in the demand for service and utilities attributable to the extent of the cumulative development, coordination and discussions with the appropriate services and utility agencies during the preliminary design stage has determined that the proposed project would not have cumulative impacts to public services and utilities. Each cumulative development project would also coordinate with affected agencies to minimize impacts in this regard.

### **MITIGATION MEASURES**

The following mitigation measures directly correspond to the numbered impacts statements in the Impact analysis. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

#### **PUBLIC SERVICES**

##### **Fire Protection**

- 5.10-1a            *(Measure modified from Mitigation Measure 4.13-4(b) in 1994 EIR Addendum): Each project shall contribute a fair share financial contribution for an emergency services facility (fire and police) to be located on the site of Fire Station No. 1 on Main Street.*

5.10-1b *(Measure modified from Mitigation Measure 4.13-4(a) in 1994 EIR Addendum):* Access roads to all structures, and areas of use, shall comply with Mammoth Lakes Fire Protection District Ordinance 98-01.

5.10-1c *(Measure modified from Mitigation Measure 4.13-4(d) in 1994 EIR Addendum):* An approved water supply system capable of supplying required fire flow for fire protection purposes, as determined by the Fire District, shall be provided.

**Police Protection**

5.10-2 Refer to Mitigation Measure 5.10-1a. No additional mitigation measures are required.

**Schools**

5.10-3 *(Measure modified from Mitigation Measure 4.13-2(a) in the 1994 EIR Addendum):* In accordance with A.B. 2926, the developer shall pay Developer Fees for commercial uses and foot for residential uses (condominiums).

**Snow Removal/Roadway Maintenance**

5-10-4a The project proponent shall contribute a fair share financial contribution in accordance with the Town's DIF Mitigation Program established under Resolution 98-06.

5.10-4b *(Measure modified from Mitigation Measure 4.13-1(l) in the 1994 EIR Addendum):* One or more project maintenance district(s) and/or property owner's association(s) shall be established prior to commencement of construction for the maintenance of specialized snow removal activities in the public areas within the Specific Plan area.

**Library**

5.10-5 Refer to Mitigation Measure 5.10-4a. No additional mitigation measures are required.

**RECREATION**

5.10-6 Refer to Mitigation Measure 5.10-4a. No additional mitigation measures are required.

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**Public Services and Utilities**

## UTILITIES AND SERVICE SYSTEMS

### Wastewater

- 5.10-7 (New Mitigation Measure): The project applicant shall pay the appropriate fees to the MCWD. All new wastewater conveyance facilities shall be located within public rights-of-way or utility easements.

### Water

- 5.10-8 (New Mitigation Measure): The project applicant shall pay the appropriate fees to the MCWD. All new water conveyance facilities shall be installed within public rights-of-way or utility easements.

### Solid Waste

- 5.10-9 (New Mitigation Measure): Prior to issuance of a building permit, the applicant shall provide an Integrated Solid Waste Management Plan (ISWMP) consistent with the Town's SRRE. The plan shall address, at a minimum, the following measures: construction demolition; recycling; composting; source reduction programs; storage areas for collected recyclable materials, and disposal of hazardous waste materials used on-site.

~~Woods and metals shall be separated during the construction and demolition phases, as required by the Town's SRRE.~~

- ~~• Recycling and waste reduction methods shall be incorporated into all developments as required by the Town's SRRE.~~
- ~~• Solid waste disposal shall be handled in accordance with policies and procedures adopted by the Mono County Board of Supervisors. Necessary solid waste permits shall be obtained from the Mono County Public Works Department.~~

### Cumulative Impacts

- 5.10-10 No mitigation measures are required.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 EIR for the North Village Specific Plan and the Town of Mammoth Lakes General Plan EIR would occur with implementation of the proposed project. The analysis for Public Services, Recreation and Utilities has concluded that impacts are mitigated to a less than significant level.



## 5.11 CULTURAL RESOURCES

The purpose of the Section is to identify cultural resources which may exist in the Specific Plan area and to assess the significance of such resources based upon the 1999 Specific Plan Amendment. Mitigation measures are also recommended to preserve and/or to protect the resources. Information in this Section is based on the 1991 EIR, Section 4.1, *Cultural Resources* (1991). The archaeological survey studied a total of 90 acres. Based upon the prior EIR findings, it was determined that further analysis of potential impacts to cultural resources was not required. Following is a summary of the data provided in the 1991 EIR.

### EXISTING CONDITIONS

#### BACKGROUND

The project area is located in territories that were once occupied by several ethnic groups; the Mono Lake Paiute to the north, the Owens Valley Paiute to the south, Benton and Round Valley Paiute to the east, Monache to the west, and Southern Sierra Miwok to the northwest. The Paiute and Monache are Numic speakers, of the Uto-Aztec language family, while the southern Sierra Miwok is a branch of the Utian language family. The tribes from the Northern section of the Sierras, primarily the Mono Lake Paiute, traveled the Sierras and would often unify with other smaller groups when searching for food. The Owens Valley Paiute group usually stayed in one location year-round in permanent villages. Both Long Valley and Owens Valley tribes traded many items.

#### HISTORICAL BACKGROUND

The first non-Indians to travel through the Owens Valley were Euroamericans in the 1830s and the Owens Valley later became an occasionally-used immigrant trail.<sup>1</sup> Prospecting and mining east of the Sierra Nevada began in the 1850's: the Lost Cement Mine, near Mammoth Lakes, was purportedly discovered in 1857. In 1861 the first permanent herds of cattle were brought into Owens Valley to supply the growing population of the mining camps of the Inyo-Mono region. Due to grazing by the cattle and the cutting of pinyon for lumber and firewood by the miners and ranchers, the Paiute's food supply was greatly reduced by the winter of 1862. The Paiutes and the new settlers engaged in many battles over land and food during the next year. However, by 1863, the fighting was over and most of the Paiute in the region were removed to a reservation at Fort Tejon, south of the Owens Valley.

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<sup>1</sup> *North Village Specific Plan Final EIR*, Section 4.1, *Cultural Resources* (1991), Page 4.10-1.

With the ending of hostilities, settlement of the region continued unabated. In the 1880s cattle ranching and lumber production replaced mining as the principal enterprise, although small-scale mining continued.

In the 1900s, Mammoth was promoted as a resort community. Recreation and tourism then became the dominant industry in the region.

## FIELD SURVEY

A site survey of archaeological resources was conducted by Jeffery F. Burton in February 1990. Two sites and four isolates were recorded during this survey. The archaeological work identifies four major phases of time in the Medithermal period; pre-Newberry Period (Pre-1200 B.C.), the Newberry period (1200 B.C. - A.D. 600), Haiwee Period (A.D. 600-1300), and the Maran Period (A.D. 1300-historic). Information compiled from the various excavations and surveys provides a glimpse of life during these periods. The pre-Newberry occupation of Long Valley may have been sporadic. During the Newberry period, obsidian quarrying and biface production, apparently for trade, appears to have become intensive. During the Haiwee and Maran periods, biface production diminished, and there is evidence of increasing direct subsistence activity. Long Valley has lacked evidence of the shifts in direct subsistence that appear to have occurred in Owens Valley, to the south. For example, occupation sites are usually associated with riparian settings and were used throughout the Medithermal period.<sup>2</sup> However, there is some evidence that pinyon exploitation did not begin on any intensive scale in Long Valley until the Haiwee period (after A.D. 600), and there may have been a partial abandonment or reduction in the use of upland and desert scrub areas after ca. A.D. 1000.<sup>3</sup>

A total of 90 acres was examined. The survey located and recorded four isolates and two sites. Of the four isolates, only six obsidian flakes and an obsidian core fragment were found. At the two North Village sites, 1,100 obsidian flakes and flake fragments were found. Soil development for the majority of the North Village site suggest the potential for subsurface deposits.

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<sup>2</sup> Ibid., page 4.10-2.

<sup>3</sup> Ibid.

## **IMPACTS**

### ***Summary of Previous Environmental Documentation for North Village***

The 1991 EIR noted the following with respect to archaeological/historical resources:

*"Development of the proposed project could disturb prehistoric cultural resources. This is a potentially significant impact".*

It was determined that mitigation measures would reduce impacts to a less than significant level.

Additionally, the 1991 EIR noted the following with respect to human remains:

*"Construction activities could disturb previously unknown human burial sites of Native American Groups. This is a potentially significant impact".*

Mitigation measures would reduce impacts to a less than significant level.

According to the 1994 EIR Addendum, the revised project description resulted in no changes to the impacts, mitigation measures or cumulative impacts with respect to archaeological and/or historical resources, and human remains.

### ***Significance Criteria for this EIR***

The purpose of this analysis is to identify any potential cultural resources within or adjacent to the project area, and to assist the Town of Mammoth in determining whether such resources meet the official definitions of "historical resources," as provided in the California Public Resource Code, in particular CEQA.

According to Public Resources Code §5020.1(j), "historical resource" includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." More specifically, the California Environmental Quality Act (CEQA) Guidelines (Section 15064.5(a) (1-3)) state that the term "historical resources" applies to such resources listed in or determined to be eligible for listing in California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency.

Regarding the proper criteria of historical significance, the CEQA Guidelines (Section 15064.5 (a) (1-3)) mandate that "a resource shall be considered by the lead agency to

be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources". A resource may be listed in the California Register if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history (Public Resources Code §5024.2 (c))

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Environmental Checklist Form used during preparation of the Initial Study for the project, as contained in Appendix 16.1, *Initial Study*, of this EIR. The Environmental Checklist Form includes questions relating to Cultural Resources. The issues presented in the Environmental Checklist have been utilized to identify impacts from which thresholds of significance have been developed.

It should be noted that through the Initial Study process, the Town has made the determination that certain project effects would result in a "Less Than Significant Impact" or in "No Impact". Section 10.0, *Effects Found Not to be Significant*, provides a brief description of potential effects for which a "Less Than Significant Impact" or "No Impact" determination was made for Cultural Resources.

Based on Appendix G, a project may create a significant environmental impact if one or more of the following occurs:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 (see to Impact Statement 5.11-1);
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 (see to Impact Statement 5.11-1);
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (see to Section 10.0, *Effects Found Not To Be Significant*); and/or
- Disturb any human remains, including those interred outside of formal cemeteries (refer to Impact Statement 5.11-2).

Cultural resources within the project area could be affected by direct and indirect adverse impacts. Direct adverse impacts would accompany ground-disturbing activities. The impact would arise primarily from grading and other construction activities. Indirect adverse impacts would accompany the increase in population associated with development. These indirect impacts, such as from "souvenir collecting", uncontrolled excavation, vandalism, or off-road driving, also can be substantial over time.<sup>4</sup> It has been shown that the accessibility of site to population centers and roads are a major factor for the vandalism suffered at a site.<sup>5</sup>

## ARCHAEOLOGICAL/HISTORICAL RESOURCES

5.11-1 *Implementation of the proposed project may cause a substantial adverse change in the significance of an archaeological and/or historical resource. Implementation of the specified mitigation measures would reduce impacts to less than significant levels.*

The construction activities and increase in population associated with implementation of the proposed project would disturb the archaeological resources referred to as North Village Site #1. This archaeological site has the potential to be considered a historical resource pursuant to CEQA criteria (i.e., due to the site's ability to address scientifically consequential research questions).<sup>6</sup>

A second archaeological site, North Village Site #2, was identified on the project site. Due to this site's location and high visibility, the population increase associated with project implementation would result in greater exposure of this site. As a result, the site would experience slow degradation and would be susceptible to casual collection and indirect impacts.<sup>7</sup>

Any alterations to North Village Sites #1 or #2 associated with project implementation would be considered a significant adverse impact. However, implementation of the specified mitigation measures, including subsurface testing, conducting a thorough survey, and avoidance/excavation would reduce impacts in this regard to a less than significant level.

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<sup>4</sup> Ibid., Page 4.10-3.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment would result in similar impacts to archaeological/historical resources due to similar development areas.

## **BURIAL SITES**

- 5.11-2 *Implementation of the proposed project may disturb human remains. Implementation of the specified mitigation would reduce impacts to less than significant levels.*

Human remains in a previously unknown burial site could potentially be encountered during construction activities associated with the proposed project. Any alterations to human remains associated with project implementation would be considered a significant adverse impact. However, implementation of the mitigation which details the appropriate actions necessary in the event human remains are encountered would reduce impacts in this regard to a less than significant level.

When compared to the 1994 Specific Plan, the 1999 Specific Plan Amendment would result in similar impacts to archaeological/historical resources due to similar development areas.

## **CUMULATIVE IMPACTS**

- 5.11-3 *Cumulative development may adversely affect cultural resources. Resources are evaluated and mitigated on a project-by-project basis.*

Potential impacts would be site specific and an evaluation of potential impacts would be conducted on a project-by-project basis. This would be especially true of those developments located in areas considered to have a high sensitivity for cultural (archaeological, paleontological, and historical) resources. Each incremental development would be required to comply with all applicable State and Federal regulations concerning preservation, salvage, or handling of cultural resources. In consideration of these regulations, potential cumulative impacts upon cultural resources would not be considered significant.

## **MITIGATION MEASURES**

The following mitigation measures directly correspond to the identified impact statements analyzed in the Impacts discussion. It is also noted when mitigation measures were restated, modified or replaced when compared to the 1994 EIR Addendum mitigation measures.

**ARCHAEOLOGICAL/HISTORICAL RESOURCES**

- 5.11-1a *(Restated from Mitigation Measure 4.10-1(a) in the 1994 EIR Addendum):* North Village Site #1 shall be subject to subsurface testing and a thorough archaeological survey prior to issuance of a permit for grading or construction. If found to be significant, the site shall be avoided or excavated prior to any earth-disturbing activities.
- 5.11-1b *(Restated from Mitigation Measure 4.10-1(b) in the 1994 EIR Addendum):* North Village Site #2 shall be avoided or excavated prior to any earth disturbing activity. All construction activity at this site and previously unexcavated sites shall be monitored by a qualified archaeologist. If subsurface prehistoric archaeological evidence is found, excavation or other construction activity in the area shall cease and an archaeological consultant shall be retained to evaluate findings in accordance with standard practice and applicable regulations. Data/artifact recovery, if deemed appropriate, shall be conducted during the period when construction activities are on hold.
- 5.11-1c *(Restated from Mitigation Measure 4.10-1(c) in the 1994 EIR Addendum):* North Village Site #1 may meet the CEQA criteria for important sites, for its ability to address scientifically consequential research questions. The site will be impacted by construction. Although avoidance might be considered the preferred treatment for a buried site, the adoption of any mitigation measures would be premature before the site's significance is determined. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. This will include excavation of up to five 25 by 25 cm shovel test units, surface collection of all surface artifacts, lithic and obsidian hydration analyses and, possibly, soil chemistry and obsidian source analysis. If no substantial subsurface deposit is encountered, this work will also suffice for data recovery. No permits for grading other earth-disturbing activities shall be issued until all appropriate mitigation is completed.
- 5.11-1d *(Restated from Mitigation Measure 4.10-1(d) in the 1994 EIR Addendum):* North Village Site #2 appears significant. The site is in danger of slow degradation even in the absence of any construction. Its location and high visibility make it susceptible to casual collection and indirect impacts. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. Minimally this would include a sample surface collection, excavation of a least six 1 by 1m excavation units, analyses, curation of collected materials, and a report.

No permits for grading or other earth disturbing activities will be issued until all appropriate mitigation is completed.

- 5.11-1e *(New Mitigation Measure):* In the event that a material of potential cultural significance is uncovered during grading activities on the project site, all grading in the area of the uncovered material shall cease and the project applicant shall retain a professional archaeologist to evaluate the quality and significance of the material. Grading shall not continue in the area where a material of potential cultural significance is uncovered until resources have been completely removed by the archaeologist and recorded as appropriate.

#### **BURIAL SITES**

- 5.11-2 *(Restated from Mitigation Measure 4.10-2 in the 1994 EIR Addendum):* See Mitigation Measure 5.11; in addition, if human remains are discovered, work shall cease and an appropriate representative of Native American Indian groups and the County Coroner shall both be informed and consulted, as required by State law.

#### **CUMULATIVE IMPACTS**

- 5.11-3 No mitigation measures are required.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant impacts beyond those previously identified in the 1991 Final EIR and 1994 EIR Addendum for the North Village Specific Plan and the Town of Mammoth Lakes General Plan EIR would occur with implementation of the proposed 1999 Specific Plan Amendment.