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## 4.0 CUMULATIVE EFFECTS

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### 4.1 EXISTING, PROPOSED, AND REASONABLY FORESEEABLE PROBABLE FUTURE PROJECTS

Both NEPA and CEQA require the consideration of cumulative impacts for a proposed action or project. CEQ regulations (40 CFR 1508.7) implementing NEPA define a cumulative impact as follows:

“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency (Federal or non-Federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

Section 15355 of the CEQA Guidelines provides a similar definition of cumulative impact as follows:

“Cumulative impact refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects/

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”

According to Section 15130(b)(1) of the CEQA Guidelines, either one of the following elements is necessary to an adequate discussion of significant cumulative impacts:

- A list of past, present, and probable future projects producing related or cumulative impacts; or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental planning document which has been adopted or

certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

Known planned and pending projects in the project area are listed in Table 69 on page 489 and shown in Figure 49 on page 491. These projects, as appropriate and pertinent, are considered in the cumulative analyses contained in this section.

## **4.2 EVALUATION OF POTENTIAL CUMULATIVE EFFECTS**

### **Land Use**

Based on the list of related projects, two projects (Nos. 16 and 17) are located within close proximity to the project site. Development of the related projects would occur in accordance with adopted plans and regulations. The related projects in the area surrounding the project site would implement and support important local and regional planning goals and policies. Any new projects would be subject to the project permit approval process and would incorporate any identified mitigation measures necessary to reduce potential land use impacts. Therefore, no significant impacts with regard to adopted land use plans would occur.

As discussed in Section 3.2, Land Use, of this Draft EA/EIR, the proposed project would be compatible with surrounding land uses, as the project is the development of a resort facility that would be located in an area that is adjacent to another resort and residential communities. The project is consistent with the applicable land use policies and regulations of the Forest Plan, the MMSA Development Plan, and the Town's Zoning Code. With amendments to the General Plan of 1987 and the Juniper Ridge Master Plan, the project would be consistent with these documents as well. Since land use impacts associated with the proposed project would be less than significant, and since no significant impacts to land use associated with the related projects is expected occur, the project in conjunction with related projects would result in a less than significant cumulative impact to land use.

### **Transportation**

A project buildout (Year 2009) and general plan buildout (Year 2024) cumulative analyses of traffic impacts were conducted as part of the traffic study and are described in detail in Section 3.3 of this document. All of the identified related projects shown in Table 69 have been considered for the purposes of assessing cumulative traffic impacts. Construction traffic impacts for each related project would be similar to those identified for the proposed project.

**Table 69**  
**Related Projects**

<b>ID No.</b>	<b>Location</b>	<b>Amount of Development</b>	<b>Project Description</b>
1	39-030-11 1102 Forest Trail	6 units	Condominium project in the North Village Specific Plan Area
2	33-043-05, 33-043-06, 33-043-15, and 33-043-16	149 units	"South Hotel" in the East Village (Phase 2) of the Village at Mammoth; the project is a condominium "flag" hotel with spa and pool facilities, meeting rooms, two retail units along Minaret Road, and a two-level understructure parking garage with 211 spaces
3	31-110-33 59 Hillside Drive	6 units	Townhomes within 3 buildings and understructure parking
4	33-020-36	340 spaces	Parking garage
5	33-020-31 Hillside Drive	230 units	Condominium unit lodge with 7 commercial condominium units
6	31-110-27, 33-010-02, 32-020-10, -11, -21, -31	193 units	Request for Phase I approval of a mixed-use, condominium hotel in the North Village Specific Plan area (west side of Canyon Boulevard above Lake Mary Road). The project includes 30 townhome condominiums (Phase II), conference facilities (6,300 sf), restaurant (5,070 sf), spa/fitness (9,038 sf), and understructure parking garage with 260 spaces on approximately a 7-acre site
7	33-044-04 6085 Minaret Road 8050 C	21 units 3,335 sf retail	Fractional-share condominium ownership units and 76 understructure parking spaces; the units are to be maintained as a private residence club
	8050 A & B	23 units	First phases of the 8050 project
8	33-080-07, -09, -10, -11	71 units	Swiss Chalet hotel/condominium and residence club
9	33-110-01, 02 3863 and 3905 Main Street	54 units	Condominium building with understructure parking facility (139 spaces) on a 1.54 acre site (Holiday Haus)
10	33-110-03 Westwood Lofts	23 units	One bedroom condo lofts and one full-time employee unit
11	Mammoth Gateway/Darin Davis	11 units	Residential condominium project
12	33-330-44, -50 4B Project	40 units	Tentative Tract Map and Use Permit Application to subdivide a 2.49-acre site within Planning Area 4 of the Lodestar Master Plan into Residential Condominium Units within 7 structures for Workforce Housing
13	33-330-47 5862 Minaret Road Lode*Star	45 units	Condominium hotel located in Planning Area 1 of the Lodestar Master Plan.
14	33-100-26, -41 Minaret Road	14 units	Single residential units
15	31-070-03	3 units	Condominium project

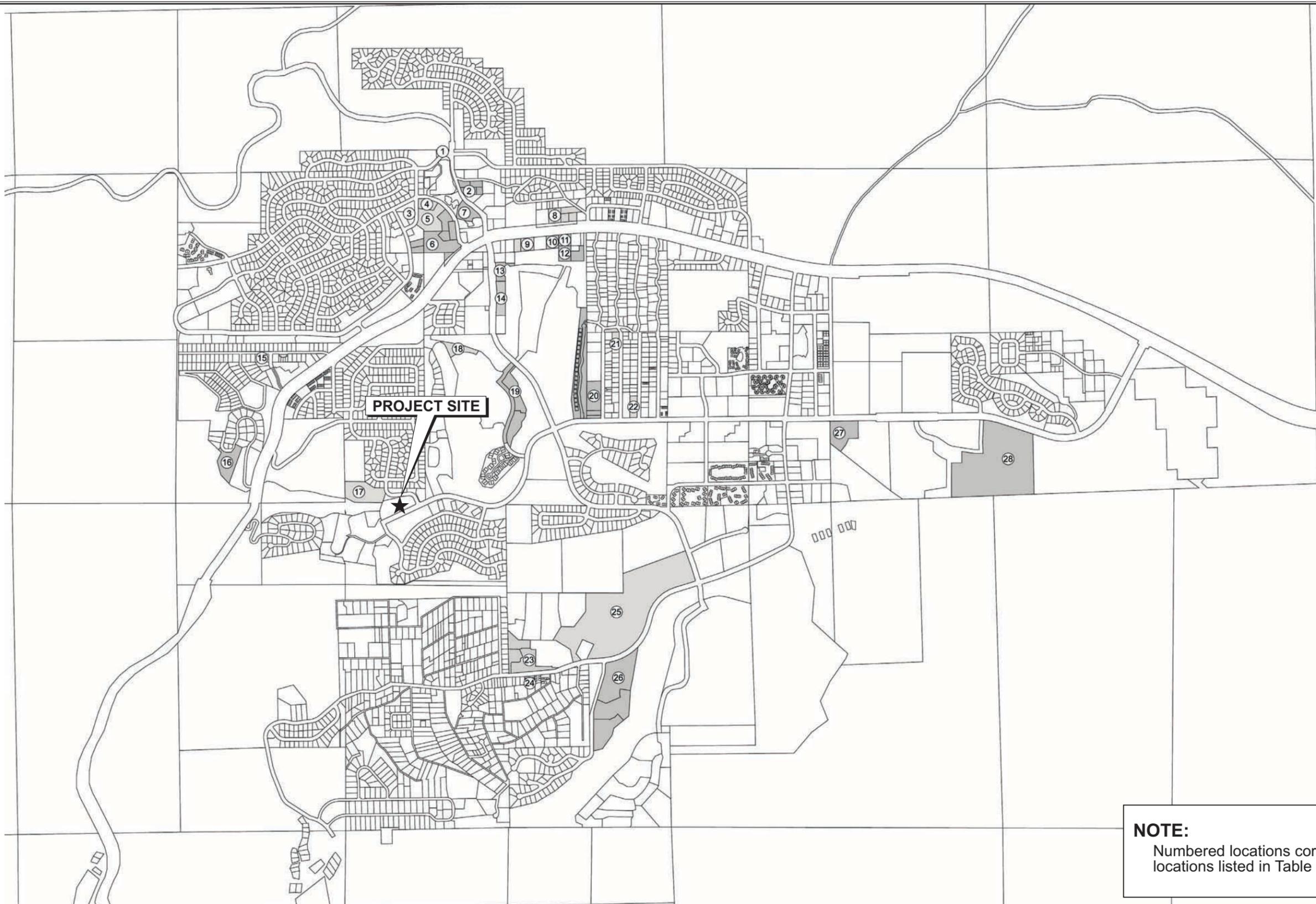
**Table 69 (Continued)****Related Projects**

<b>ID No.</b>	<b>Location</b>	<b>Amount of Development</b>	<b>Project Description</b>
16	31-010-14 888 Bridges Lane	22 units	Fractional ownership condominium units on a 3.2-acre site
17	32-040-11	-	"Magic Carpet" chairlift
18	Woodwinds	12 units	Residential condominium project
19	33-330-36, -37, -39, -46 Sierra Star Parkway	58 units	Residential condominium units within 9 structures
20	33-330-51	18 units	Single family residences, fractional use
21	The Jeffreys	14 new units	Affordable housing community
22	33-160-53, -54	24 units	Workforce housing
23	22-500-05, 40-040-33, 40-040-39 1616 Old Mammoth Road Aspen Village I	48 units	Affordable housing project with a community center; located adjacent to (behind) workforce housing units under development ("Aspen Village") to the immediate west of the Snowcreek Athletic Club
	Aspen Village II	24 units	Phase II of affordable housing project (#20)
24	22-330-50, -51 - Tosca	11 units	PUD (2 buildings)
25	40-040-20 85 & 1254 Old Mammoth Road	118 units	Request for development of Snowcreek VII; multi-family residential project with condominiums within 37 buildings on 38.26 acres
26	40-070-17	106 units	Snowcreek VI Condominiums
27	35-040-44	16,000 sf	Library
28	35-010-46	74 units	Student housing (at college)

*Source: Town of Mammoth Lakes, 2006*

Cumulative construction traffic impacts would only occur during periods when construction of one or more of the related projects is occurring at the same time that project construction is anticipated to occur and then only to the extent that construction traffic is traveling on the same streets at the same time. Pursuant to Mitigation Measure AES-2, since construction activities would be required to prepare a Haul Route Plan, subject to review and approval by the Town's Community Development Department, construction traffic from cumulative projects would result in less than significant impacts.

Cumulative effects on intersection and street segment operations attributable to traffic from projected growth from related projects under Year 2009 conditions and from buildout of the



**NOTE:**  
Numbered locations correspond to  
locations listed in Table 69



  
Scale not provided  
Source: Town of Mammoth Lakes, 2006

Figure 49  
Related Projects Locations

General Plan under Year 2024 conditions have been incorporated into the traffic analysis in Section 3.3 of this document. As described under the Year 2009 with project traffic scenario, cumulative development and project-generated traffic would not exceed the Town's established traffic impact threshold for the study area roadway segments or intersections. Thus, less-than-significant cumulative impacts regarding traffic would occur with project implementation under Year 2009 conditions. Under Year 2024 conditions, potentially significant impacts would occur at two intersections: Minaret Road/Meridian Boulevard and Majestic Pines Drive/Meridian Boulevard. However, with implementation of Mitigation Measures TR-2 and TR-3, the project's contribution to cumulative traffic impacts at these intersections would be reduced to a less than significant level.

Cumulative growth in the project area would result in increases in traffic, which could potentially impact on-street parking in the project vicinity. However, the project would provide adequate parking through implementation of Mitigation Measure TR-4, which would reduce potentially significant parking impacts to a less than significant level. Furthermore, it is anticipated that related projects contributing to cumulative growth would be required on an individual level to mitigate any significant parking impacts to less-than-significant levels.

Related projects contributing to cumulative growth would be required on an individual level to conduct traffic signal warrant analyses, as necessary, to mitigate any traffic related or pedestrian crossing safety impacts to less than significant levels. The project would improve public transit service to the site with the provision of the bus drop-off area, which would provide safe pedestrian access to public transit. In addition, as prescribed in Mitigation Measure TR-4, the project would be required to fund additional transit service to the site. Impacts to transit services would be less than significant with incorporation of Mitigation Measure TR-4. It is anticipated that related projects contributing public transit service impacts would be required on an individual level to mitigate any significant alternative transportation impacts to less-than-significant levels.

Overall, with the incorporation of mitigation, the project would result in less than significant cumulative impacts regarding transportation and circulation.

### **Air Quality**

The 28 identified related projects include primarily hotel, condominium, and residential housing projects, and a few infrastructure improvement projects. Construction of these projects would contribute additional emissions of criteria pollutants from sources such as fuel burning, painting, and asphalt application, TACs such as diesel particulate matter, and fugitive sources of dust from earth disturbing activities.

Implementation and operation of these related projects would result in an increase in the number of residents and visitors, causing additional VMT and an accompanying increase in tail pipe emissions and roadway dust. Fireplaces and wood burning stoves installed as part of these related projects would need to comply with local regulations aimed at minimizing emission of particulate matter. A cumulative increase in emissions of pollutants would still occur from these and other stationary sources. Additionally, emissions of VOCs from consumer goods would increase as residency and visitation rates increase.

Related projects would also be required to implement BMPs during construction to minimize PM<sub>10</sub> emissions. To achieve attainment of the NAAQS for PM<sub>10</sub>, the cumulative VMT from the implementation of the project and the related projects is restricted by GBUAPCD Rule and Town of Mammoth Lakes Municipal Code from exceeding a maximum of 106,600 VMT. Cumulative daily VMT associated with 2009 project build-out is estimated at a maximum of 84,708, below the 106,600 limit. Cumulative VMT associated with longer term build-out would be addressed in the Mammoth Lakes General Plan Update process.

As with the implementation of the proposed project, emissions of ozone precursors (VOCs and NO<sub>x</sub>) from the related projects would not affect local levels of ozone, due to the overwhelming amount of ozone transported from the San Joaquin Valley. Emissions of ozone precursors from sources in the San Joaquin Valley are subject to reduction strategies under their applicable SIP, which must demonstrate reasonable progress towards attainment levels by 2009. Emission of NO<sub>x</sub>, SO<sub>x</sub>, and CO from the related projects would result in less than significant cumulative impacts to ambient NO<sub>x</sub>, SO<sub>x</sub>, and CO standards. The cumulative impact to PM<sub>10</sub> would be less than significant with the inclusion of BMPs during construction and the limitation of 106,600 VMT. Therefore, the cumulative impacts to air quality would be less than significant.

## **Noise**

All of the identified related projects have been considered for the purposes of assessing cumulative noise impacts. The potential for noise impacts to occur are specific to the location of each related project as well as the cumulative traffic on the surrounding roadway network. Due to the rapid attenuation characteristics of ground-borne vibration, there is no potential for a cumulative construction- or operational-period impact with respect to ground-borne vibration.

### **a. Construction-Period Noise**

Of the 28 related projects that have been identified within the project study area, the proposed Project has no control over the timing or sequencing of the related projects, and as such, any quantitative analysis that assumes multiple, concurrent construction projects would be

entirely speculative. Construction-period noise for the proposed project and each related project (that has not yet been built) would be localized. In addition, it is likely that each of the related projects would have to comply with the local noise ordinance, as well as mitigation measures that may be prescribed pursuant to CEQA. As such cumulative construction noise impacts would be less than significant.

### **b. Operational-Period Noise**

Each of the related projects that have been identified within the general project vicinity would generate stationary-source and mobile-source noise due to ongoing day-to-day operations. All related projects are of a residential, retail, commercial, or institutional nature, and these uses are not typically associated with excessive exterior noise; however, each project would produce traffic volumes that are capable of generating a roadway noise impact. As discussed previously, traffic volumes from the proposed project and the 28 related projects, combined with ambient growth traffic, were evaluated and presented in Tables 11 and 12 in Section 3.5, Noise, of this document.

As shown in Table 11, the maximum near-term cumulative noise increase occurs along Kelly Road, South of Lake Mary Road, and would be from 47.6 dBA to 52.7 dBA or 5.1 dBA. The proposed project contributes approximately 0.1 dBA to this cumulative impact. As indicated in Table 12, roadway segments along Main Street, Lake Mary Road, Old Mammoth Road, Meridian Boulevard, and Majestic Pines Drive modeled for cumulative without project, and cumulative with project traffic volumes would result in projected vehicular generated noise levels above the 60 dBA  $L_{dn}$  recommended noise level established by the Town of Mammoth Lakes in the Noise Element. As shown in the table, the analyzed roadway segments would exceed the cumulative 5 dBA significance threshold, where existing noise levels are less than 60 dB  $L_{dn}$  and the cumulative 3 dBA significance threshold, where existing noise levels are greater than 60 dB  $L_{dn}$ . The maximum 2024 cumulative noise increase from 47.6 dBA to 57.4 dBA or 9.8 dBA occurs along Kelly Road, South of Lake Mary Road, of which the project contributes approximately 0.1 dBA. Therefore, the proposed project would contribute to roadway noise impacts due to cumulative traffic volumes and the impact would be significant and unavoidable.

Due to Mammoth Lakes Municipal Code provisions that limit stationary-source noise from items such as roof-top mechanical equipment and emergency generators, noise levels would be less than significant at the property line for each related project. For this reason on-site noise produced by any related project would not be additive to project-related noise levels. As the project's composite noise impacts would be less than significant, composite stationary-source noise impacts attributable to cumulative development would also be less than significant.

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## **Biological Resources**

The study area for cumulative impacts on biological resources includes the 28 developments listed in Table 69 and is defined as the region of biological relevance to resources within the Eagle Lodge study area, incorporating the Town of Mammoth Lakes and USFS land directly adjacent to the Town. This area contains a regional complex of relevant habitats, species populations, and biological systems bounded to the north, west, and south by higher elevation USFS land and to the east by lower elevation USFS land. Potentially affected resources were categorized in accordance with their sensitivity, significance (i.e., importance to habitat functions and values), and role in ecosystem sustainability (i.e., contribution to biological diversity). The analysis considers cumulative impacts to be additive in their effects.

### **Vegetation Communities**

The Town of Mammoth Lakes 1987 General Plan describes the Town of Mammoth Lakes as a transition life zone characterized by moderately dense stands of Jeffrey pine. The transition life zone lies between the upper Sonoran life zone of Long Valley (mainly brushland) and the Canadian life zone on the lower slopes of Mammoth Mountain (mainly lodgepole pine forest). Major plant habitats within the Town of Mammoth Lakes include coniferous forest, chaparral, sagebrush, riparian vegetation, and meadow. According to the *Revised Draft Program, Environmental Impact Report, Town of Mammoth Lakes 2005 General Plan Update*, October 2005, the five major vegetation communities within the planning area are mixed conifer fir, upper montane mixed scrub, basin sagebrush, wet meadow, and alder-willow riparian.

Vegetation types found on the Eagle Lodge study area were described according to Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and Sawyer and Keeler-Wolfe's *A Manual of California Vegetation* (1995) and include aspen series, big sagebrush scrub, Jeffrey pine forest, narrow-leaf willow series, ruderal, ruderal/big sagebrush scrub, and ruderal/montane meadow.

In a regional context, the cumulative loss of vegetation communities dominated by non-native species such as ruderal, ruderal/big sagebrush scrub, and ruderal/montane meadow contribute very little to regional biological diversity and ecosystem stability. In addition, the cumulative loss of vegetation communities that are widespread within the study area such as big sagebrush scrub and Jeffrey pine forest remain incremental and insignificant. These vegetation communities are not considered to warrant further analysis. Less common vegetation communities, such as aspen series and narrow-leaf willow series, require closer examination in order to assess the significance of cumulative losses.

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## **Sensitive Vegetation Communities**

The Eagle Lodge study area supports aspen series and narrow-leaf willow series which are considered sensitive by the CDFG's CNDDDB due to their scarcity. These communities are considered to be highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes. The aspen series and narrow-leaf willow series within the study area encompass 0.1 acre and 0.2 acre respectively. In addition, these communities are located in a narrow band of otherwise disturbed habitat which is completely surrounded by paved roads. These plant communities are not expected to support sensitive plant or wildlife species and are not connected to habitat areas up or downstream. With the removal of such a small area of isolated habitat within the Eagle Lodge study area, cumulative impacts to sensitive vegetation communities resulting from the proposed project are not expected to be significant.

## **Plants and Wildlife**

The primary effects of cumulative project impacts on common plants and wildlife would be the direct loss of common plant species and wildlife habitat. The majority of the plant and wildlife diversity and wildlife habitats within the cumulative study area are most likely within protected USFS lands and Valentine Camp, a 154-acre reserve within the vicinity of the Eagle Lodge study area. Vegetation communities within Valentine Camp (a part of the Valentine Eastern Sierra Reserve) include Sierran upper montane forest, Sierran upper montane chaparral, Great Basin sagebrush, wet montane meadow, and sagebrush meadow (Howald 2000). Approximately 88 percent of the area within the Eagle Lodge study area include non-native vegetation communities, disturbed areas, developed areas, and ponds. Approximately 12 percent of the area within the Eagle Lodge study area includes native vegetation communities. The dominant species within these native vegetation communities include quaking aspen, big basin sagebrush, Jeffrey pine, and narrow-leaf willow, and all of these species are listed as "common" in the *Flora of Valentine Eastern Sierra Reserve*. Therefore, cumulative impacts to common plants and wildlife would be less than significant.

## **Threatened and Endangered Species**

No threatened or endangered plant or wildlife species are expected to occur within the Eagle Lodge study area; therefore, the project would not contribute to cumulative impacts to threatened and endangered plants or wildlife species.

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## Other Special Status Species

One special status plant species, Inyo beardtongue (CNPS List 4) has the potential to occur within the Eagle Lodge study area. Inyo beardtongue is not protected by federal or State listings as threatened or endangered. CNPS List 4 species are not considered rare for purposes of analysis under CEQA/NEPA; however, the CNPS strongly recommends that impacts to List 4 species be addressed during the environmental review process. The List 4 status denotes that a species is of limited distribution or is infrequent throughout a broader area in California, and its vulnerability or susceptibility to threat appears to be low; moreover, the designation denotes that more survey data is needed before a conclusion should be drawn regarding the species' limits in California.

One special status wildlife species, western white-tailed jack rabbit (a California Species of Special Concern), has a potential to occur within the Eagle Lodge study area. The designation of Species of Special Concern does not provide legal protection, but signifies the species is recognized as vulnerable by the CDFG. The western white-tailed jackrabbit is not protected by federal or State listings as threatened or endangered.

Inyo beardtongue and western white-tailed jackrabbit were not observed on-site. In addition, these species are not protected by federal or State listings, and any potential loss of individuals from the limited populations potentially present would not threaten the regional population. It is assumed that most of these species are found, at least locally, within preserved open space areas in the Inyo National Forest due to the presence of suitable habitat throughout the forest. The CNDDDB reports occurrences of the white-tailed jackrabbit in Long Valley, at U.S. Highway 395, about 1.2 miles southeast of Casa Diablo Hot Springs and at Lake Mary in the Mammoth Lakes area. Inyo beardtongue occurs generally on the eastern slope of the Sierra Nevada in Inyo, Kern and Mono Counties. Lands not potentially affected by cumulative development impacts are sufficient in extent to preserve habitat for each of these species. Cumulative impacts to non-listed special status species would therefore, be less than significant.

## Wildlife Movement

Wildlife movement corridors can potentially be analyzed at a number of scales. Locally, the Eagle Lodge study area is almost completely surrounded by development. Therefore, the site does not provide an effective travel route for migratory species such as the mule deer. As such, development of the proposed project would not have a significant adverse effect on any known or suspected wildlife movement corridors and would not contribute cumulatively to any impacts to wildlife movement.

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## **Jurisdictional Features**

The Eagle Lodge study area may support jurisdictional “waters of the State” within two man-made detention basins within the southwestern and western portions of the study area; however, a jurisdictional delineation has not been conducted to verify the presence of jurisdictional “waters of the State.” No changes to the bed, bank, or channel of these detention basins are expected as a result of the proposed project. A preliminary investigation determined that no jurisdictional waters of the U.S. are present within the Eagle Lodge study area; therefore, no cumulative impacts to jurisdictional waters of the U.S./State are expected. No cumulative impacts to jurisdictional features are expected.

## **Regulated Trees**

Impacts to regulated trees within the Town of Mammoth Lakes is expected to be mitigated on a site-by-site basis. According to the Design Guidelines for the Town of Mammoth Lakes (Section 5.0, Landscape and Public Space Guidelines, 5.1, Objective), each development application shall evaluate all existing trees on-site greater than six inches in diameter at shoulder height, and substantiate proposed removal to the Town. The Town of Mammoth Lakes may warrant replacement of these resources if impacted. Compliance with Town policies and ordinances would assure that cumulative impacts from project implementation would be less than significant.

## **Cultural Resources**

Archaeological resources are traces of past human behavior at a particular place and point in time, and so each archaeological resource can be considered unique. Further, human activity has seldom occurred in isolation, but rather has taken place as part of a network of interactions between people and their social and natural environments. Therefore, loss of any archaeological resource can have a significant impact on future representation of local, regional, and potentially national, history and prehistory.

No cultural resources have been identified on the surface of the project site. The proposed project, therefore, would not contribute to a cumulative impact on known cultural resources. Literature review of previous cultural resource investigations in the project region indicated that there is a substantial number of archaeological sites within a one-mile radius of the project site. Stratigraphy uncovered at a nearby site appears similar to stratigraphy of the project site as indicated by project-specific geotechnical studies. Therefore, there is potential for subsurface cultural deposits at the project site. Recommended mitigation measures would reduce the effects of the project on any subsurface cultural resources to a less than significant effect.

Given the inter-relatedness of cultural resources with respect to understanding the past and change in social and environmental interactions over time, and the density of cultural resources in the project site vicinity identified in the literature review, it is likely that continued development of the area would impact the integrity of local and regional cultural resources. Continued analysis of such impacts through the environmental review process and implementation of related archaeological research and protection measures would reduce the cumulative effects of development on cultural resources to a less than significant level.

### **Employment, Population, and Housing**

Since the Town is principally a tourism-based economy, resident populations fluctuate seasonally. As such, the Town's General Plan of 1987 measures population by permanent residents and by population intensity or "persons at one time" (PAOT). Under the Town's 1987 General Plan, population at buildout is estimated at 61,375 PAOT, and under the 2005 Draft General Plan Update, the population at buildout is estimated at 60,700. The project is within the projected growth identified in the 1987 General Plan. The growth associated with the related projects would also be included in Town buildout. As such, the project would contribute to a less than significant cumulative impact with regard to population.

The project proposes the provision of transient housing, as do other related projects. As such, the project in conjunction with related projects would provide lodging for transient visitors to the Town. In addition, projects that would generate employment, including the proposed project, would generate an indirect demand on housing. As with the project, the related projects would be required to comply with the Town's Affordable Housing Mitigation Regulations (AHMR) contained in the Zoning Code. Under the AHMR, new developments must provide housing for the estimated number of employees that earn below median income levels, or 58.5% of its full time equivalent employees. As such, cumulative impacts to employment and housing would be less than significant.

### **Aesthetics**

While several related projects are proposed in the general vicinity of the project site, due to the intervening topography, vegetation and development, only one of these projects would be visible from the project site or the immediately surrounding area. The "Magic Carpet" chairlift (Related Project No. 17) is proposed to the east of Chairlift 15. The Magic Carpet chairlift would be designed in coordination with the proposed Eagle Lodge ski facilities by MMSA. Due to the nature of this project, it would not substantially contribute to cumulative aesthetic, view, light, or glare impacts. The proposed chairlift would be a distance from the project components and would not contribute to the perceived mass and bulk of the proposed project. In addition, each of the related projects would be subject to the Town's and/or USFS project and permit

approval process. As such, the project and related projects would not result in a significant cumulative impact with regard to aesthetics, views, or light and glare.

### **Hydrology and Water Quality**

Twenty-eight (28) related projects were identified for cumulative impact evaluation. Similar to the project site, 22 of the 28 related projects are located within Watershed 3 of the Mammoth Basin. More specifically, similar to the project, 15 of the related projects (Nos. 6, and 9 to 22) are located within Tributary Subarea 3.6. Related Project Nos. 23 to 26 are located within Watershed 2. Most of the related projects are sufficiently distant from the project site to preclude any significant cumulative impacts to the storm drain system. The 15 related projects within Tributary Subarea 3.6 in combination with the proposed project have the potential to cumulatively affect the storm drain system. However, all of the related projects, including those within Tributary Subarea 3.6, would be required to comply with current development regulations, including the same or similar general flood control, erosion prevention and water quality requirements as the proposed project and other site-specific requirements that the Town of Mammoth Lakes and/or Lahontan RWQCB would specifically identify for those projects. These requirements would serve to avoid the potential for creating flooding, erosion, siltation, drainage, and water quality impacts in the Mammoth Basin. Furthermore, the project would increase the amount of runoff by 1.2 cfs of the total 103.8 cfs of runoff from the direct offsite tributary area, or an increase of approximately 1.5 percent. Given the nominal increase that would occur from the project, the project would not substantially contribute to a cumulative increase in runoff. Therefore, the potential cumulative impacts with respect to hydrology and water quality would be less than significant.

### **Water Supply**

Cumulative impacts on water supply are directly related to the quantity of water consumed relative to supplies available. Development of the project in conjunction with the 28 related projects listed in Table 69 on page 489 would result in a cumulative increase in the demand for water. As discussed in Section 3.11, Water Supply, the project with the hotel only option would generate a water demand greater than that of the project with the condo/hotel and fractional ownership units option. As such, this analysis of cumulative impacts on water supply focuses specifically on the impacts of the related projects in conjunction with the project with the hotel only option. A near-term (2009) cumulative analysis is provided, which includes the project as well as the 28 projects listed in Table 69. In addition, a long-term analysis, which includes projected cumulative potable water demand at General Plan buildout in 2025, is provided.

## Near-Term Water Supply and Demand

As discussed in Section 3.11, Water Supply, the 2005 Urban Water Management Plan (UWMP) provides an analysis of existing and projected water supply in normal, single dry, and multiple dry years. Normal water years are based on a 10% deviation from an April 1 average snow pack water content of 43 inches, or 38.7 to 47.3 inches. Normal water years historically have occurred every nine years. The base years for normal water years on which MCWD analyzes its data are: 1946, 1949, 1954, 1971, 1984, 1996, and 1997. Single dry years are based on the lowest yearly runoff since the water year beginning in 1903. The year with the lowest April 1 snow pack is 1997, with 12.3 inches of snow water equivalent for the Mammoth watershed. Groundwater data for single dry water years is determined using the driest years for which the MCWD's production wells were in use: 1992 for wells 1, 6, 10 and 15; 2001 for wells 16, 17, 18, and 20. In addition, MCWD bases multiple dry years on the lowest average runoff for a consecutive, multiple year period (i.e., three years or more) since 1903. The driest multiple year period for the Mammoth watershed was the six years from 1987 to 1992, which averaged 28.7 inches of snow water content at Mammoth Pass.

MCWD has planned a number of programs to address anticipated water supply deficiencies and meet water demand. These include the implementation of Level 1 Conservation Controls, which would occur three days a week at four hours per day, and would provide for a 12% reduction of overall demand. MCWD's planned programs also incorporate water system loss reduction; the use of recycled water, which would be used specifically for golf course and park irrigation; and the development of new water supplies. MCWD has initiated a water pipeline loss reduction program that is expected to be completed by 2010.

Table 70 on page 502 provides the water demand of the project together with the 28 related projects. As indicated in Table 70, the project plus related projects would generate a total water demand of approximately 257,752 gallons per day (gpd), or 289 acre feet in 2009. The project plus related projects would cumulatively generate a peak water demand of 396,329 gpd.

As indicated in the 2005 UWMP, assuming a normal water year in 2009, there would be a water supply of 6,760 acre feet. Adding the water demand of the project plus related projects to existing (2006) demand of 3,476 acre feet would generate a projected 2009 demand of 3,765 acre feet. As such, during a normal year there would be a surplus of 2,995 acre feet, and as such, MCWD would have an adequate water supply to meet the potable water demand of the project in combination with other water demand. Given the above, cumulative impacts on water supply of the project plus related projects at buildout would be less than significant.

In a single dry year, there would be a supply of 3,410 acre feet. Adding the water demand of the project plus related projects to existing (2006) demand of 3,476 acre feet would

Table 70

## Forecast of Near-Term Cumulative Water Demand (2009)

ID	Location	Use Type	Amount of Development	Unit	Daily Average Consumption Rate (gpd) <sup>a</sup>	Total Average Water Consumption (gpd)	Peak Consumption Rate (gpd) <sup>b</sup>	Total Peak Water Demand (gpd)
1	1102 Forest Trail	Condo	6	units	170	1,020	295	1,770
2	33-043-05,33-043-06, 33-043-15, & 33-043-16	Condo/Hotel	241	units	100	24,100	105	25,305
		Conference Facilities <sup>c</sup>	5,104	sq ft	125	638	230	1,174
		Night Club	6,037	sq ft	1,160	3,501	1,370	4,135
		Restaurant <sup>d</sup>	4,292	sq ft	1,160	2,489	1,370	2,940
		Retail	783	sq ft	0.15	117	0.26	200
		Spa/Fitness	4,720	sq ft	170	802	345	1,628
3	59 Hillside Drive	Condo	6	units	170	1,020	295	1,770
4	33-020-36	Parking	340	stalls	n/a	n/a	n/a	n/a
5	Hillside Drive (Westin)	Condo	231	units	170	39,270	295	68,145
		Conference Facilities <sup>c</sup>	3,500	sq ft	125	438	230	805
		Parking	231	stalls	n/a	n/a	n/a	n/a
		Restaurant <sup>d</sup>	4,300	sq ft	1,160	2,494	1,370	2,946
6	31-110-27,33-010-02, 32-020-10,-11,-21,-31 Phase 2	Condo/Hotel	193	units	100	19,300	105	20,265
		Condo	30	units	170	5,100	295	8,850
		Conference Facilities	6,300	sq ft	125	788	230	1,449
		Parking	260	stalls	n/a	n/a	n/a	n/a
		Restaurant <sup>d</sup>	5,070	sq ft	1,160	2,941	1,370	3,473
	Spa/Fitness	9,038	sq ft	170	1,536	345	3,118	
7	6085 Minaret Road 8050 C 8050 A & B	Condo	21	units	170	3,570	295	6,195
		Retail	3,335	sq ft	0.15	500	0.26	850
		Condo	23	units	170	3,910	295	6,785
8	33-080-07,-09,-10,-11	Condo/Hotel	71	units	100	7,100	105	7,455
9	3863 & 3905 Main Street	Condo	54	units	170	9,180	295	15,930
10	Westwood Lofts	Condo	23	units	170	3,910	295	6,785
11	Mammoth Gateway/ Darin Davis	Condo	11	units	170	1,870	295	3,245

Table 70 (Continued)

## Forecast of Near-Term Cumulative Water Demand (2009)

ID	Location	Use Type	Amount of Development	Unit	Daily Average Consumption Rate (gpd) <sup>a</sup>	Total Average Water Consumption (gpd)	Peak Consumption Rate (gpd) <sup>b</sup>	Total Peak Water Demand (gpd)
12	4B Project	Condo	40	units	170	6,800	295	11,800
13	5862 Minaret Road Lode*Star	Condo/Hotel	45	units	100	4,500	105	4,725
14	Minaret Road	Condo	14	units	170	2,380	295	4,130
15	31-070-03	Condo	3	units	170	510	295	885
16	888 Bridges Lane	Condo	22	units	170	3,740	295	6,490
17	32-040-11 Magic Carpet Chairlift	Ski Chair Lift	n/a	n/a	n/a	n/a	n/a	n/a
18	Woodwinds	Condo	12	units	170	2,040	295	3,540
19	Sierra Start Parkway	Condo	58	units	170	9,860	295	17,110
20	33-330-51	SFR	18	units	250	4,500	455	8,190
21	The Jeffreys	Apartments	14	units	135	1,890	200	2,800
22	33-160-53,-54	Condo	24	units	170	4,080	295	7,080
23	1616 Old Mammoth Road Aspen Village I	Condo	48	units	170	8,160	295	14,160
	Aspen Village II	Community Center	1,820	sq ft	61	111	127	231
		Condo	24	units	170	4,080	295	7,080
24	22-330-50,-51- Tosca	Condo	11	units	170	1,870	295	3,245
25	85 & 124 Old Mammoth Road	MFR	118	units	135	15,930	200	23,600
26	40-070-17	Condo	106	units	170	18,020	295	31,270
27	35-040-44	Library	16,000	sq ft	61	976	127	2,032
28	35-010-46	Student Housing <sup>e</sup>	74	units	80	<u>5,920</u>	120	<u>8,880</u>

Table 70 (Continued)

## Forecast of Near-Term Cumulative Water Demand (2009)

<b>ID</b>	<b>Location</b>	<b>Use Type</b>	<b>Amount of Development</b>	<b>Unit</b>	<b>Daily Average Consumption Rate (gpd)<sup>a</sup></b>	<b>Total Average Water Consumption (gpd)</b>	<b>Peak Consumption Rate (gpd)<sup>b</sup></b>	<b>Total Peak Water Demand (gpd)</b>
<b>Total - Related Projects</b>						<b>230,962</b>		<b>352,569</b>
Proposed Project						<u>26,790</u>		<u>43,760</u>
<b>Total 2009 Cumulative Water Demand (gpd)</b>						<b>257,752</b>		<b>396,329</b>
<b>Total 2009 Cumulative Water Demand (acre feet)</b>						<b>289</b>		<b>444</b>

<sup>a</sup> Factors obtained from MCWD. Average day is the average day calculated from the average of 36 months of usage. Factors are inclusive of irrigation water use.

<sup>b</sup> Peak day is the daily average of the peak month water usage over 36 months. Peak factors for commercial were calculated by multiplying the average water use per unit by a peaking factor of 1.7.

<sup>c</sup> The consumption factor for conference facilities is per 1,000 square feet.

<sup>d</sup> The consumption factor for restaurant uses is per 2,000 square feet.

<sup>e</sup> Assumes the same water use as a hotel.

Source: MCWD and PCR Services Corporation, 2006

generate a projected 2009 demand of 3,765 acre feet, resulting in a deficit of 355 acre feet if conservation, recycled water use, and loss reduction measures were not implemented. As discussed earlier, the implementation of Level 1 Conservation Controls would result in an overall 12% reduction in demand. As such, in a single dry water year with Level 1 Conservation Controls, demand in 2009 would be reduced by 452 acre feet per year, which would result in a surplus of 97 acre feet. The use of recycled water and loss reduction measures would further reduce demand. As such, the project with related projects would have a less than significant impact on water supply in a single dry water year.

As shown in Table 71 on page 506, in a multiple dry year scenario, the water supply from groundwater wells in Year 2 through Year 4 would be approximately 3,408 acre-feet per year. The surface water supply would decline each year due to reduced availability. In Year 4, the total projected supply would be 4,492 acre-feet. The projected demand in 2009 without recycled water or loss reduction measures would be 3,765 acre feet, resulting in a surplus in multiple dry water years. Therefore, the cumulative impact on water supply of the project with the related projects during multiple dry years would be less than significant.

### **General Plan Buildout (2025) Water Supply and Demand**

According to MCWD, assuming a normal water year at Town build out in 2025, there would be a water supply of 6,760 acre feet. Since the project and related projects are included in Town buildout, in 2025 there would be a potable water demand of 4,898 acre feet, resulting in surplus of 1,862 acre feet. The implementation of recycled water and loss reduction measures would further reduce demand to 4,228 acre feet per year, providing a surplus of 2,532 acre feet. As such, 2025 cumulative impacts on water supply during a normal dry year would be less than significant.

As shown in Table 72 on page 507, based on MCWD 2025 projections of water supply and demand in a single dry year, there would be a shortage of 1,488 acre feet per year of water if the use of recycled water or loss reduction measures were not implemented. Also as shown in Table 72, while water demand would be reduced with the implementation of Level 1 Conservation Controls, recycled water, and loss reduction measures, a deficit of potable water would still occur. As such, the project would contribute to a cumulatively significant impact relative to water supply in a single dry water year.

As shown in Table 71, in a multiple dry year scenario, the water supply from groundwater wells in Year 2 through Year 4 would be approximately 3,408 acre-feet per year. The surface water supply would decline each year due to reduced availability. In Year 4, the total projected supply would be 4,492 acre-feet. According to MCWD, the projected demand in 2025 without recycled water or loss reduction measures would be 4,898 acre feet per year,

Table 71

**Existing Water Supply Reliability (Acre-Feet)<sup>a</sup>**

Supply	Normal Water Year	Single Dry Water Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
Projected Surface Water	2,760	0	1,780	1,500	1,100	1,084
Projected Groundwater Wells	4,000	3,410	3,410	3,408	3,408	3,408
<b>Projected Total Supply</b>	<b>6,760</b>	<b>3,410</b>	<b>5,190</b>	<b>4,908</b>	<b>4,508</b>	<b>4,492</b>

<sup>a</sup> An acre foot equals approximately 325,829 gallons.

Source: 2005 Urban Water Management Plan, MCWD

resulting in a deficit of 390 acre feet per year in Year 3 and 406 acre feet per year in Year 4. However, the implementation of Level 1 Conservation Controls in conjunction with the use of recycled water and loss reduction measures would reduce demand to 3,721 acre feet per year, resulting in a surplus of 771 acre feet of potable water in Year 4 during multiple dry years. Therefore, 2025 cumulative impacts on water supply during multiple dry years would be less than significant, as projected in 2005.

With regard to the significant cumulative impact in the single dry year, MCWD is seeking additional water sources that could supplement the existing supply in addition to conservation, recycled water use, and loss reduction measures. MCWD has begun the review of an alternative water source located in the Dry Creek drainage basin that would be used for groundwater extraction. This potential water source would augment the existing the groundwater system in the Mammoth Basin and would also serve as an additional source during drought years. Other potential sources of potable water considered by MCWD include drilling new wells within Mammoth Basin, as well as modifying existing wells to increase capacity. However, due to the uncertainty of the viability of these potential water sources, these sources have not been included as part of the long-term cumulative analysis of water supply at Town buildout in 2025. As such, the project would contribute to a cumulative impact at Town buildout in a single dry year.

### **Wastewater**

All of the 28 related projects except of Nos. 4 and 17, would increase the amount of wastewater that is currently generated. As shown in Table 73 on page 508, the related projects would generate approximately 227,817 gallons per day (gpd) of wastewater. The total cumulative peak amount of wastewater that would be generated by the Eagle Lodge project in conjunction with all other related projects would be approximately 269,447 gallons per day (gpd). The MCWD treatment facility has a design capacity of 4.9 million gallons per day of

Table 72

**2005 Projected Demand Plus Project with Hotel Only Option in a Single Dry Water Year  
(acre feet per year) <sup>a</sup>**

	<b>Projected Demand</b>	<b>Projected Supply in Single Dry Water Year</b>	<b>Available Supply in 2025</b>
2025 Demand Plus Project in a Single Dry Water Year Without Recycled or Loss Reduction	4898	3410	-1488
2025 Demand Plus Project in a Single Dry Water Year With Level 1 Conservation Controls	4310	3410	-900
2025 Demand Plus Project in a Single Dry Water Year With Level 1 Conservation Controls and Recycled or Loss Reduction	3721	3410	-311

<sup>a</sup> Projections calculated above utilize data from the MCWD's 2005 UWMP, which is based on the 2005 Draft General Plan Update Town buildout projections. Based on 1987 General Plan buildout projections and with the implementation of recycled water and loss reduction measures in a normal water year there would be a water surplus of 2,532 acre feet. As such, 1987 General Plan buildout impacts on water supply during a normal dry year would be less than significant. In a single dry year, there would be a shortage of 1,630 acre feet per year of water if the use of recycled water or loss reduction measures were not implemented. While water demand would be reduced with the implementation of Level 1 Conservation Controls, recycled water, and loss reduction measures, a deficit of 436 acre feet would still occur. Therefore, using the 1987 General Plan buildout projections, the project would contribute to a cumulatively significant impact relative to water supply in a single dry water year. In a multiple dry year scenario, the implementation of Level 1 Conservation Controls in conjunction with the use of recycled water and loss reduction measures would reduce water demand to 3,846 acre feet per year, resulting in a surplus of 646 acre feet of potable water in Year 4 during multiple dry years. Therefore, using 1987 buildout projections, 2025 cumulative impacts on water supply during multiple dry years would be less than significant.

Source: MCWD and PCR Services Corporation, 2006

wastewater which would be sufficient to accommodate the increase of wastewater flows from the Eagle Lodge Base project and other related projects.

As stated in Section 3.12, Wastewater, of this document, blockages currently exist in the wastewater infrastructure in the Town. MCWD is currently investigating the Town's wastewater conveyance pipeline capacities, in particular the pipeline along Mammoth Road and State Route 203. If this pipeline needs to be resized, MCWD would replace the pipeline as necessary to accommodate the additional wastewater generated by the Eagle Lodge project and other related projects. Therefore cumulative impacts on the local conveyance system would be less than significant.

Sufficient capacity exists to accommodate the cumulative projected wastewater that would occur with the project and related projects. Therefore, the projected increase in

Table 73

## Forecast of Cumulative Wastewater Flows

ID	Location	Uses	Amount of Development	Unit	Average Wastewater Generation Rate (gal/day) <sup>a</sup>	Projected Average Wastewater Flows (gal/day)	Peak Wastewater Generation Rate (gal/day) <sup>b</sup>	Projected Peak Wastewater Flows (gal/day)
1	1102 Forest Trail	Condo	6	units	110	660	150	900
2	33-043-05,33-043-06,33-043-15, & 33-043-16	Condo/Hotel	241	units	60	14460	100	24100
		Conference Facilities	5,104	sq ft	150	766	255	1302
		Night Club	6,037	sq ft	510	3079	560	3381
		Restaurant	4,292	sq ft	510	2189	560	2404
		Retail	783	sq ft	150	117	280	219
		Spa/Fitness	4,720	sq ft	185.29	875	315	1487
3	59 Hillside Drive	Condo	6	units	110	660	150	900
4	33-020-36	Parking Spaces	340	units	n/a	n/a	n/a	n/a
5	Hillside Drive (Westin)	Condo	231	units	110	25410	150	34650
		Conference Facilities	3,500	sq ft	150	525	255	893
		Parking Spaces	231	units	n/a	n/a	n/a	n/a
		Restaurant	4,300	sq ft	510	2193	560	2408
6	31-110-27,33-010-02,32-020-10,-11,-21,-31 Phase 2	Condo/Hotel	193	units	60	11580	100	19300
		Condo	30	units	110	3300	150	4500
		Conference Facilities	6,300	sq ft	150	945	255	1607
		Parking Spaces	260	units	n/a	n/a	n/a	n/a
		Restaurant	5,070	sq ft	510	2586	560	2839
		Spa/Fitness	9,038	sq ft	185.29	1675	315	2847
7	6085 Minaret Road	Condo	21	units	110	2310	150	3150
	8050 C	Retail	3,335	sq ft	150	500	280	934
	8050 A & B	Condo	23	units	110	2530	150	3450
8	33-080-07,-09,-10,-11	Condo/Hotel	71	units	60	4260	100	7100
9	3863 & 3905 Main Street	Condo	54	units	110	5940	150	8100
10	Westwood Lofts	Condo	23	units	110	2530	150	3450
11	Mammoth Gateway/ Darin Davis	Condo	11	units	110	1210	150	1650

Table 73 (Continued)

## Forecast of Cumulative Wastewater Flows

ID	Location	Uses	Amount of Development	Unit	Average Wastewater Generation Rate (gal/day) <sup>a</sup>	Projected Average Wastewater Flows (gal/day)	Peak Wastewater Generation Rate (gal/day) <sup>b</sup>	Projected Peak Wastewater Flows (gal/day)
12	4B Project	Condo	40	units	110	4400	150	6000
13	5862 Minaret Road Lode*Star	Condo/Hotel	45	units	60	2700	100	4500
14	Minaret Road	Condo	14	units	110	1540	150	2100
15	31-070-03	Condo	3	units	110	330	150	450
16	888 Bridges Lane	Condo	22	units	110	2420	150	3300
17	32-040-11 Magic Carpet Chairlift	n/a	n/a	n/a	n/a	n/a	n/a	n/a
18	Woodwinds	Condo	12	units	110	1320	150	1800
19	Sierra Star Parkway	Condo	58	units	110	6380	150	8700
20	33-330-51	SFR	18	units	135	2430	180	3240
21	The Jeffreys	Apartments	14	units	170	2380	195	2730
22	33-160-53,-54	Condo	24	units	110	2640	150	3600
23	1616 Old Mammoth Road Aspen Village I Aspen Village II	Condo Community Center Condo	48 1,820 24	units sq ft units	110 92 110	5280 167 2640	150 156.4 150	7200 285 3600
24	22-330-50,-51- Tosca	Condo	11	units	110	1210	150	1650
25	85 & 124 Old Mammoth Road	MFR	118	units	170	20060	195	23010
26	40-070-17	Condo	106	units	110	11660	150	15900
27	35-040-44	Library	16,000	sq ft	92	1472	156.4	2502
28	35-010-46	Student Housing (Dorms) <sup>c</sup>	74	units	75	5550	110	8140
<b>Total Wastewater Flows (of all Related Projects) (mgd)</b>							<b>164878</b>	<b>230276</b>
<b>Proposed Eagle Lodge Base Project</b>							<b>25725</b>	<b>41630</b>
<b>Total Cumulative Wastewater Flows</b>							<b>190603</b>	<b>271906</b>
<b>Total Cumulative Wastewater Flows (acre feet per year)</b>							<b>214</b>	<b>305</b>

**Table 73 (Continued)**

**Forecast of Cumulative Wastewater Flows**

<b>ID</b>	<b>Location</b>	<b>Uses</b>	<b>Amount of Development</b>	<b>Unit</b>	<b>Average Wastewater Generation Rate (gal/day)<sup>a</sup></b>	<b>Projected Average Wastewater Flows (gal/day)</b>	<b>Peak Wastewater Generation Rate (gal/day)<sup>b</sup></b>	<b>Projected Peak Wastewater Flows (gal/day)</b>
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<sup>a</sup> Factors obtained from MCWD. Wastewater average day is based on the average of winter months water usage (November, December, January, February, and March).

<sup>b</sup> Peak day is the daily average of the peak winter month water usage over 36 months. Peak factors for commercial were calculated by multiplying the average wastewater generated per unit by a peaking factor of 1.7.

<sup>c</sup> Assumes the same wastewater generated as a hotel.

*Proposed Parking Spaces & the Proposed Magic Carpet Chairlift are not expected to generate wastewater.*

*1 acre foot= 325, 850 gallons of water*

*Source: MCWD & PCR Services Corporation, 2006*

wastewater generation from the project in combination with other related projects would result in less than significant impacts to the existing wastewater treatment facility.

### **Stormwater**

As shown in Figure 49 two of the 28 related projects are located near the project site in a way that could potentially contribute to cumulative stormwater impacts. The remaining 26 related projects are located at a distance away from the project site so that the stormwater runoff generated by those projects would not utilize the same storm drain facilities. The two that are located near the project site include Project Nos. 16 and 17. While Project No. 16 is located near the project site, it would not convey any runoff through the project area. Project No 17 would not significantly alter the drainage pattern in the project area. The project would install two detention basins onsite that would collect, store, and release stormwater runoff at rates that are similar to existing conditions. All projects are required to comply with applicable regulations with regard to runoff. Therefore, the project in conjunction with other projects in the area would result in less than significant impacts with regard to stormwater.