APPENDICES

Subsequent Program Environmental Impact Report for the North Village 1999 Specific Plan Amendment

Counter Copy

PREPARED FOR:
The Town of Mammoth Lakes

PREPARED BY:
RBF Consulting

IN 10-100377

16.0 APPENDICES

16.1

NOTICE OF PREPARATION

To: Interested Agencies and Organizations
(Agency)

(Address)

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

Lead Agency:

Agency Name: Town of Mammoth Lakes

Street Address: 437 Old Mammoth Road
City/State/Zip: Mammoth Lakes, California 93546

Contact: Karen Johnston

Consulting Firm:

Firm Name: Robert Bein, William Frost & Associates

Street Address: 14725 Alton Parkway
City/State/Zip: Irvine, California 92618

Contact: Glenn Lajoie, AICP

TOWN OF MAMMOTH LAKES will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☒ is ☐ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but ***not later than 30 days*** after receipt of this notice.

Please send your response to Karen Johnston at the address shown above. We will need the name for a contact person in your agency.

Project Title: North Village Specific Plan Amendment

Project Location: Town of Mammoth Lakes (City (nearest)) Mono (County)

Project Description: **(brief)**

The approved North Village Specific Plan (1991) involves development of a destination resort facility including lodging, commercial and residential uses on 64.1 acres. The proposed amendment includes circulation and parking modifications, changes to height limitations and setbacks, changes in development standards, establishment of design guidelines, modifications to public facilities and housing requirement changes. This coupled with the elapsed time since the 1991 certification of the original North Village Specific Plan EIR warrants further review through an updated Program EIR. In addition, the evaluation will include the development application for Phase 1 of the Specific Plan. Refer to attached Initial Study for additional information.

Date: 9-15-99

Signature: Karen Johnston

Title: **Senior Planner**

Telephone: **(760) 934-8989**

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Revised October 1989

NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT TRANSMITTAL FORM

Mail to: State Clearinghouse, 1400 Tenth Street, Room 121, Sacramento, CA 95814 – 916/445-0613

See NOTE below
SCH #_____

1. PROJECT TITLE: NORTH VILLAGE SPECIFIC PLAN AMENDMENT

2. Lead Agency: Town of Mammoth Lakes
3. Contact Person: Karen Johnston
3a. Street Address: 437 Old Mammoth Road
3b. City: Mammoth Lakes
3c: County: Mono
3d: Zip: 93546
3e. Phone: (760) 934-8989

PROJECT LOCATION:

4. County: Mono
4a. City/Community: Mammoth Lakes
4b. Assessor's Parcel No.: Multiple
4c. Section: 34 Twp.: 3, South Range: 27 East
5a. Cross Streets: Minaret/Main Street
5b. For Rural, Nearest Community: N/A
6. Within 2 miles: a. State Hwy #: 203
a. Airports: N/A
c. Railways: N/A
d. Waterways: N/A

7. DOCUMENT TYPE

CEQA:	01.	X	NOP	05.		Supplemental/Subsequent EIR (Prior SCH No.:_____)	**NEPA:**	09.		NOI	**OTHER:**	13.		Joint Document
	02.		Early Cons	06.		NOE		10		FONSI		14.		Final Document
	03.		Neg Dec	07.		NOC		11.		Draft EIS		15.		Other:
	04.		Draft EIR	08.		NOD		12.		EA				

8. LOCAL ACTION TYPE

01.		General Plan Update	05.		Annexation	09.		Rezone	12.		Waste Mgment Plan
02.		New Element	06.		Specific Plan	10.		Land Division (Subdivision, Parcel Map, Tract Map, Etc.)	13.		Cancel Ag Preserve
03.		General Plan Amendment	07.		Community Plan				14.	X	Other: Specific Plan Amendment
04.		Master Plan	08.		Redevelopment	11.		Use Permit			

9. DEVELOPMENT TYPE

01.	X	Residential:	*Units: 127*	*Acres:*		07.		Mining:	*Mineral:*
02.		Office:	*S.F.:*	*Acres:*	*Employees*	08.		Power:	*Type:* *Watts:*
03.	X	Shopping/Commercial:	*S.F.:*	*Acres:*	*Employees:*	09.		Waste Treatment:	*Type:*
04.		Industrial:	*S.F:*	*Acres:*	*Employees:*	10.		OCS Related:	
05.		Water Facilities:	*MGD:*			11.	X	Other:	Resort: Hotel, Recreation
06.		Transportation:	*Type:*						

10. TOTAL ACRES: 64.1 acres

11. TOTAL JOBS CREATED: To be determined

12. PROJECT ISSUES DISCUSSED IN DOCUMENT

01.	X	Aesthetics/Visual	09.	X	Geologic/Seismic	17.		Social	25.	X	Wetlands/Riparian
02.	X	Agricultural Land	10.	X	Jobs/Housing Balance	18.	X	Soil Erosion	26.	X	Wildlife
03.	X	Air Quality	11.	X	Minerals	19.	X	Solid Waste	27.	X	Growth Inducing
04.	X	Archaeological/Historical	12.	X	Noise	20.	X	Toxic/Hazardous	28.	X	Incompatible Land Use
05.		Coastal Zone	13.	X	Public Services	21.	X	Traffic/Circulation	29.	X	Cumulative Effects
06.		Economic	14.	X	Schools	22.	X	Vegetation	30.		Other
07.	X	Fire Hazard	15.		Septic Systems	23.	X	Water Quality			
08.	X	Flooding/Drainage	16.	X	Sewer Capacity	24.	X	Water Supply			

13. FUNDING (Approx.) **Federal $** N/A State $ N/A **Total $** N/A

14. PRESENT LAND USE AND ZONING: Specific Plan

15. PROJECT DESCRIPTION: The approved North Village Specific Plan (1991) involves development of a destination resort facility including lodging, commercial and residential uses on 64.1 acres. The proposed amendment includes circulation and parking modifications, changes to height limitations and setbacks, changes in development standards, establishment of design guidelines, modifications to public facilities and housing requirement changes. This coupled with the elapsed time since the 1991 certification of the original North Village Specific Plan EIR warrants further review through an updated Program EIR. In addition, the evaluation will include the development application for Phase 1 of the Specific Plan. Refer to attached Initial Study for additional information.

16. **SIGNATURE OF LEAD AGENCY REPRESENTATIVE:** _____ **DATE:** 9-17-99
Glenn Lajoie, AICP, Lead Agency Representative

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation or previous draft document) please fill it in.

REVIEWING AGENCIES CHECKLIST

KEY
S = Document sent by lead agency
X = Document sent by SCH
D = Suggested distribution

_____ Resources Agency (Div. of Mines & Geology)
_____ Boating & Waterways
_____ Coastal Commission
_____ Coastal Conservancy
_____ Colorado River Board
_____ Conservation
_____ Fish & Game
_____ Forestry
_____ Office of Historic Preservation
_____ Parks & Recreation
_____ Reclamation
_____ S.F. Bay Conservation
& Development Commission
_____ Water Resources (DWR)

Business, Transportation & Housing
_____ Aeronautics
_____ California Highway Patrol
_____ CALTRANS District #7
_____ Department of Transportation Planning
_____ Housing & Community Development
_____ Food & Agriculture

Health & Welfare
_____ Health Services

State & Consumer Services
_____ General Services
_____ OLA (Schools)

Cal-EPA
_____ Air Resources Board
_____ APCD/AQMD
_____ California Waste Management Board
_____ SWRCB: Clean Water Grants
_____ SWRCB: Delta Unit
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Regional WQCB #

Youth & Adult Corrections
_____ Corrections

Independent Commissions & Offices
_____ Energy Commission
_____ Native American Heritage Commission
_____ Public Utilities Commission
_____ Santa Monica Mountains Conservancy
_____ State Lands Commission
_____ Tahoe Regional Planning Agency
_____ Other _____

Public Review Period

Starting Date: _____

Ending Date: _____

Lead Agency: Town of Mammoth Lakes
Consulting Firm: Robert Bein, William Frost & Associates
Address: 14725 Alton Parkway
City/State/Zip: Irvine, CA 92618
Contact: Glenn Lajoie, AICP, Project Manager
Phone: (949) 472-3505

Applicant: Town of Mammoth Lakes
Address: 437 Old Mammoth Road
City/State/Zip: Mammoth Lakes, CA 93546
Phone: (760) 934-8989

For SCH Use Only:
Date Received at SCH: _____
Date Review Starts: _____
Date to Agencies: _____
Date to SCH: _____
Clearance Date: _____

Notes:

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

North Village Specific Plan Amendment

LEAD AGENCY:

Town of Mammoth Lakes
437 Old Mammoth Road
Mammoth Lakes, CA 93546
Contact: Karen Johnston
760-934-8989

PREPARED BY:

Robert Bein, William Frost & Associates
14725 Alton Parkway
Irvine, California 92718
Contact: Glenn Lajoie, AICP
949-472-3505

September 17, 1999

JN 10-100377

TABLE OF CONTENTS

LIST OF EXHIBITS

1.0 INTRODUCTION

Following preliminary review of the proposed project, the Town of Mammoth Lakes has determined that the North Village Specific Plan project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA) and the Town of Mammoth Lakes Environmental Guidelines. This Initial Study addresses the direct, indirect, and cumulative environmental effects associated with the North Village Specific Plan as proposed.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Section 21000 - 21178.1), this Initial Study has been prepared to analyze the proposed project in order to identify any potential significant impacts upon the environment that would result from construction and implementation of the project. In accordance with Section 15063 of the State CEQA Guidelines, this Initial Study is a preliminary analysis prepared by the Lead Agency, the Town of Mammoth Lakes, in consultation with other jurisdictional agencies, to determine whether a Negative Declaration or Environmental Impact Report (EIR) would be required for the proposed North Village Specific Plan project. The purpose of this Initial Study is to inform the Town of Mammoth Lakes decision-makers, affected agencies, and the public of potential environmental impacts associated with construction and implementation of the proposed project.

Following completion of the Initial Study, the Town of Mammoth Lakes will make a formal determination as to whether the project may or may not have significant unmitigable environmental impacts. A determination that a project may have less than significant effects would result in the preparation of a Negative Declaration. A determination that a project may have significant impacts on the environment would require the preparation of an EIR to further evaluate issues identified in this Initial Study. Based upon the potential environmental effects, the Town will require preparation of a Program EIR to further evaluate issues identified in this Initial Study. Therefore, this Initial Study and Notice of Preparation (NOP) serves as part of the scoping process to determine the appropriate environmental documentation for the project.

The Initial Study and NOP will undergo a 30-day public review period. During this review, comments by the public and responsible agencies on the project relative to environmental issues are to be submitted to the Town of Mammoth Lakes. In addition, the Town has scheduled a public scoping session on October 13, 1999 to provide a forum for comments by agencies and members of the community. The Town will review and consider all comments as a part of the project's environmental analysis, using the comments to further determine the necessary environmental document, as required in Section 15082 of the CEQA Guidelines. The comments received with regard to this NOP and Initial Study will be included in the project environmental document, for consideration by the Town of Mammoth Lakes.

1.2 CONSULTATION

As soon as the Lead Agency has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies on the environmental documentation to be prepared for the project. Following the Town of Mammoth Lakes' receipt of any written comments from those agencies, the Town of Mammoth Lakes would consider any recommendations of those agencies in the formulation of the Town of Mammoth Lakes' preliminary findings. Following execution of this Initial Study, the Town of Mammoth Lakes

would initiate formal consultation with these and other governmental agencies as required under CEQA and its implementing guidelines.

1.3 INCORPORATION BY REFERENCE

Pertinent documents relating to this Initial Study have been cited and incorporated, in accordance with Sections 15148 and 15150 of the CEQA Guidelines, to eliminate the need for inclusion of voluminous engineering and technical reports within this environmental documentation. Of particular relevance are those previous EIRs or Negative Declarations that present information regarding descriptions of environmental settings, future development-related growth and cumulative impacts. This Initial Study incorporates the following studies, by reference which are available for review at the Town of Mammoth Lakes:

- North Village Specific Plan, Town of Mammoth Lakes, Adopted by the Town Council of Mammoth Lakes on June 22, 1994. The 64-acre North Village Specific Plan Area is located in the northwest portion of the Town. The objectives of the North Village Specific Plan are to provide a more refined description of land uses and development policies, which, while conforming to the overall development goals, establish North Village as a center of year-round resort activity. The North Village Specific Plan includes similar improvement elements as identified in the currently proposed Redevelopment Plan including improvements to infrastructure, particularly roads, that would not only be helpful in accommodating the new development, but would also improve existing conditions. The development is intended to create an active resort core which would add to the economic vitality and social richness of the community. It also aims to add a shopping, recreational, and accommodations experience not now present in Mammoth Lakes while reducing the pressures for sprawl onto adjoining National Forest lands. Although primarily oriented toward visitors, the North Village Specific Plan includes provisions for the development of permanent resident and employee housing as well as significant new employment opportunities.

- North Village Specific Plan Final Environmental Impact Report, Draft EIR, Comments and Responses, Appendices, EIP Associates, February 1991. This EIR addresses a 64-acre Specific Plan in the North Village area. Under ultimate build-out, the project would include 2,000 new hotel units, 400 resort condominium units, 60,000 square feet of commercial/ retail space, skating rink, and ski lift. Approximately 34-acres (53%) of the Specific Plan are have already been substantially developed. Planned land uses within the project area are varied and include hotels, restaurants, visitor-oriented and general commercial operations, professional medical offices, condominiums, single-family homes and community facilities. The Final EIR includes responses to 19 comments received on the Draft EIR. The Final EIR was certified on April 17, 1991 by the Town of Mammoth Lakes. The EIR concluded unavoidable adverse impacts for land use, traffic, aesthetics, schools and fiscal.

- North Village Specific Plan Final Environmental Impact Report Addendum, May, 1994. The Addendum EIR focused upon limited circulation modifications which required additional review to confirm the validity of the original study. The Addendum contains a detailed and comprehensive review of the changes and resulting impacts. It was concluded that the changes do not cause any new significant impacts that would require major revisions to the EIR.

- Town of Mammoth Lakes Municipal Code, revisions adopted October, 1994. et. seq. Title 17 provides the provisions for promoting and protecting the public health, safety and welfare of the people of the Town, to safeguard and enhance the appearance and quality of development of the Town and to provide for the social, physical and economic advantages resulting from comprehensive and orderly planned use of land resources, a zoning title establishing classifications of zones and regulations within these zones.

- Town of Mammoth Lakes General Plan, approved and adopted by the Town Council on October 14, 1987. The Town General Plan is formulated for a 20 year planning horizon. The Plan includes: 1) a discussion of current and future planning issues concerning the community's functional and natural systems and activities relating to the use of lands; 2) findings which identify the major issues the General Plan should address; 3) Community goals addressing those issues and; 4) specific policies to implement the goals. The General Plan includes the Housing Element, adopted in 1992.

- Town of Mammoth Lakes Draft Environmental Impact Report for the General Plan, January 15, 1986. The Draft EIR addresses the Draft Mammoth Lakes General Plan, which is the first General Plan prepared for the community by the new Town government. The environmental analysis incorporates information contained in a previous Draft EIR for the Town, prepared by Mono County. Unavoidable adverse impacts were identified for traffic, air quality, noise, biological resources, water, seismicity and drainage.

- Town of Mammoth Lakes Final Environmental Impact Report for the General Plan August 20, 1986. The Final EIR for the General Plan, which was certified on April 22, 1987, contains comments and responses pertaining to the Draft General Plan EIR. The EIR identified nine environmental components which would suffer significant adverse impacts which would not be mitigated to a level of insignificance. Specific findings and statements of overriding consideration were adopted.

- Town of Mammoth Lakes Redevelopment Plan Program EIR, May 1997. The project is a comprehensive Redevelopment program to remedy detrimental physical, social and economic conditions found within the Town. This project also includes improvements for street, water system, snow storage, drainage and flood control. The work program included an extensive public outreach program and consultations with Mono County and various service and utility agencies.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The Town of Mammoth Lakes (the "Town") is a destination resort community located in the southwest portion of Mono County, on the eastern side of the Sierra Nevada mountain range (refer to Exhibit 1, *Regional Vicinity*). The Town is approximately three miles west of United States (U.S.) Highway 395, along State Route (SR) 203 (refer to Exhibit 2, *Site Vicinity*). Incorporated in 1984, the Town boundary encompasses approximately 24 square miles including the Mammoth Mountain Ski-Area (MMSA), one of the largest ski areas in the U.S. The Town also contains a significant amount of public land, primarily National Forest properties, which surround the comparatively small, privately owned and developed, part of the municipality.

The Town is served primarily by SR-203 which connects to U.S. Highway 395, the major surface transportation corridor in the Eastern Sierra region. U.S. Highway 395 is a primary inter-regional route connecting systems across four states. SR-203 traverses through the developed part of the Town and ends at Minaret Vista, west of the MMSA.

The North Village Specific Plan area is located in the northwestern portion of the Town of Mammoth Lakes in the vicinity of the Main Street/Lake Mary Road and Minaret Road intersection (refer to Exhibit 2, *Site Vicinity*). The project area is situated within portions of Section 34, Township 3 South, Range 27 East. The 64.1 acre site currently supports a mix of land uses including visitor-oriented retail, motels, restaurants, a community center and a number of private homes and rental condominiums. These land uses occupy approximately 50 percent of the Specific Plan area. The remaining portions of the site are for the most part undeveloped and covered with forest. The project area varies in elevation from approximately 8040 feet in the southeast to 8070 feet in the northwestern portion of the site. Slopes are moderate throughout most of the site, with small areas having slopes in excess of 30 percent. The site contains no prominent ridgelines, land and water junctions or other unique visual features.

2.2 BACKGROUND

An Environmental Impact Report was prepared for the North Village Specific Plan in February 1991 by EIR Associates. The EIR was certified by the Mammoth Lakes Town Council on April 17, 1991. There were two impacts identified as "significant unavoidable" which were made a part of the Statement of Overriding Considerations. They were related to the impacts on school facilities and the visual impact of a gondola structure. A total of 90 mitigation measures were applied to the project. As cited in Section 3.5 of this Initial Study, a summary of the impacts and mitigation measures adopted by the Town Council in 1991 for the development of uses proposed under the North Village Specific Plan is available for review at the Town offices.

Zoning Code Amendment 94-1 and General Plan Amendment 94-1 further refine the design of the North Village pedestrian core area and the realignment of Canyon Boulevard to meet with Millers Sliding/Lake Mary Road as a Collector Street. The design refinement does not alter the concept of the North Village Specific Plan approved in 1991. An addendum to the certified 1991 EIR was completed in 1994.

The existing Specific Plan area is comprised of 41 separate parcels under 36 separate ownerships, totaling 64.1 acres. The existing Specific Plan creates a set of land use designations and development standards to facilitate the development of North Village as a concentrated, pedestrian-oriented activity center with limited demand for automobile use. The North Village development is oriented toward year-round uses and visitor activity to strengthen the existing winter visitor market and the improve Mammoth's attractiveness to spring, summer and fall resort visitors.

The ultimate buildout of North Village may result in approximately 3,020 accommodation rooms, in addition to affordable housing, and 135,000 square feet of commercial uses. Three land use districts are provided with the highest intensity district 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 50 rooms per acre. The design emphasizes the creation of diverse shopping, accommodation, recreational, residential and cultural opportunities which appeal to all ages and family interests.

The Pedestrian Core area is intended as a mixed-use village with commercial uses on the ground level and accommodation units on the upper floors. Restaurants, shops, meeting facilities and recreation uses are oriented around two pedestrian plazas, one on the westside of Minaret Road and one on the east of Minaret Road, connected by a street level crosswalk and a pedestrian bridge over Minaret Road. Buildings range in height from one to seven levels. A gondola leading up to the Warming Hut II (Canyon lodge) base facility of Mammoth Mountain Ski Area originates from the west-side plaza. Parking is provided through a parking district in underground parking garages, available to guests and patrons of the plaza accommodation and commercial uses.

Surrounding the Pedestrian Core are supporting accommodation and residential uses. Commercial uses within the outlying areas are limited to only those necessary to support the on-site lodging or residential uses. In this way, the core remains the focus of North Village shopping and cultural activities. Each development is self-contained, providing its on-site parking and desired amenities.

The circulation system emphasizes pedestrian use, but provides for vehicular routes into and through the North Village area. The gondola feature provides alternate access to MMSA limiting the need for vehicular trips to that destination. The street pattern allows for visitation and drop-off areas at key destinations, such as the gondola building and parking garages. Conflicts between intersecting traffic are minimized. Minaret Road passes through the center of the project allowing for continued travel along Highway 203 and access into parking garages, transit stops and drop-off areas. The secondary access into the project is from Millers Siding which connects to Canyon Boulevard to form a through route from Lake Mary Road to the Slopes subdivision. Canyon Boulevard, east of Hillside Drive, is abandoned to allow for development of the pedestrian plaza. Access to parking garages, the gondola building, passenger and transit drop-offs are available from Millers Siding/Canyon Boulevard. Perimeter streets, such as Forest Trail and Hillside Drive, afford very limited access to the project. Berner Street is rerouted to intersect with Forest Trail rather than Minaret Road and provides access to parking garages on the east side of the development.

INITIAL STUDY/ENVIRONMENTAL CHECKLIST
NORTH VILLAGE SPECIFIC PLAN

Regional Vicinity Map

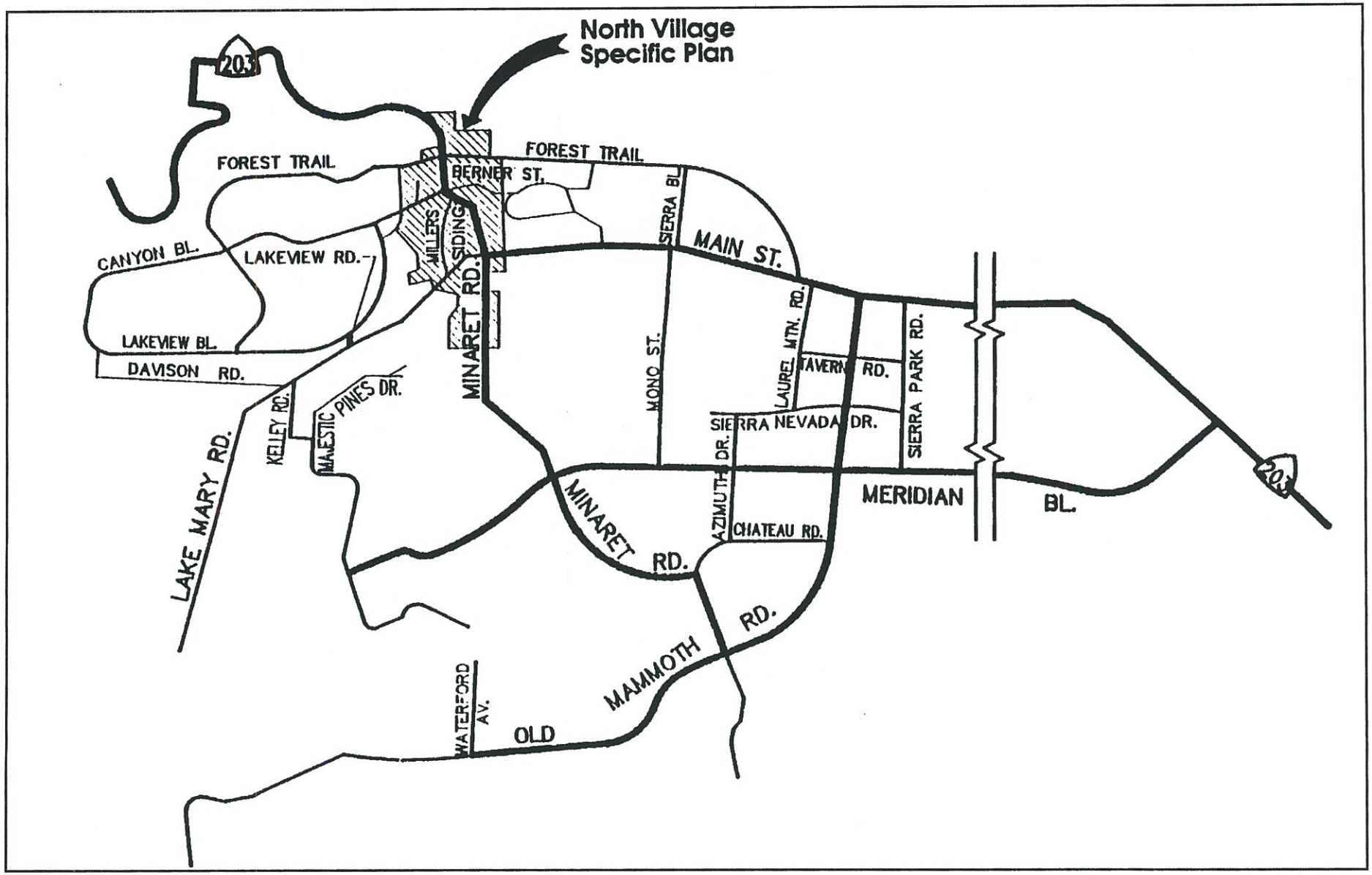
Project Site

Robert Bein, William Frost & Associates

9/99

JN 10-100377

Exhibit 1



INITIAL STUDY/ENVIRONMENTAL CHECKLIST
NORTH VILLAGE SPECIFIC PLAN

Vicinity Map

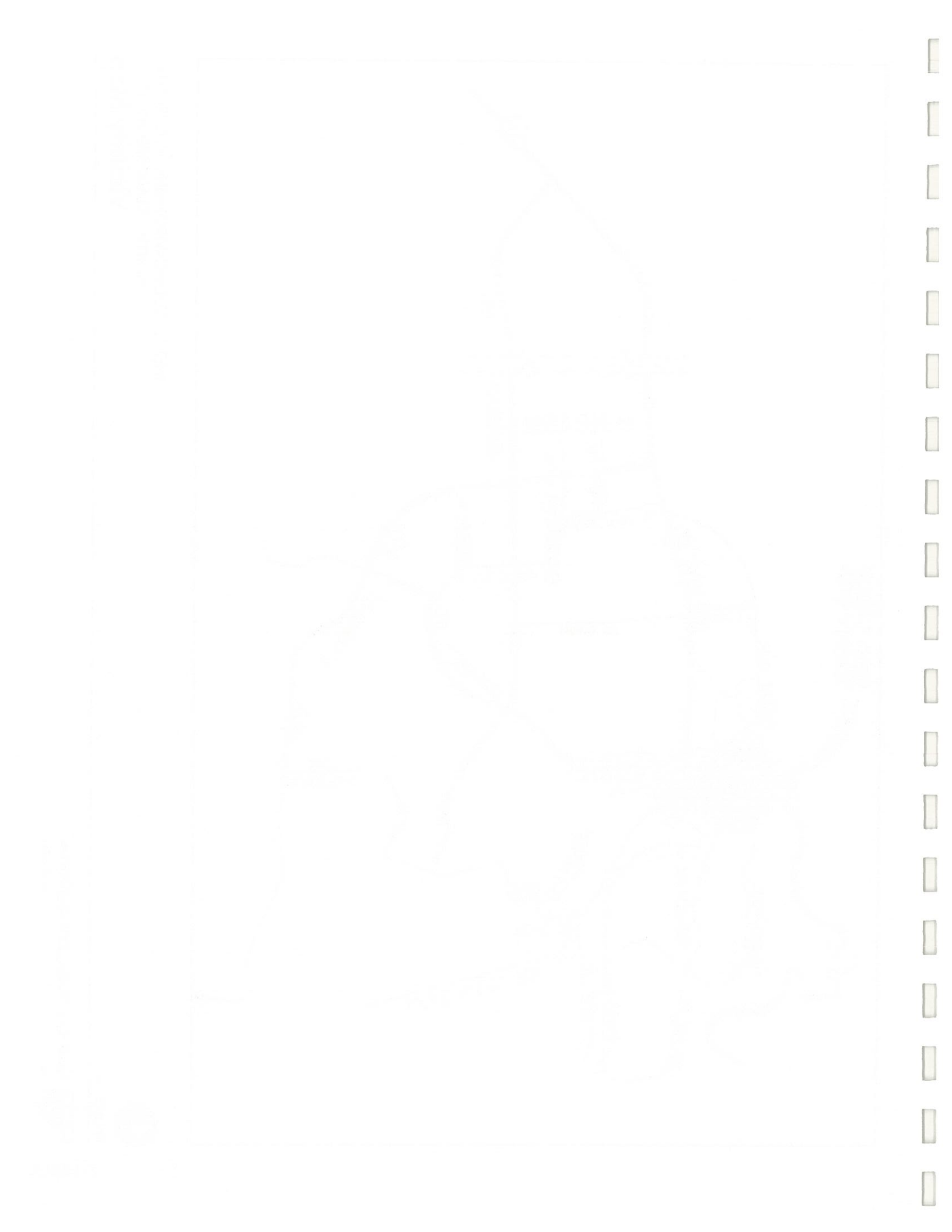
Not to Scale

Exhibit 2

Robert Bein, William Frost & Associates

9/99

JN 10-100377



2.3 PROJECT CHARACTERISTICS

The project concept described in Section 2.2 remains similar to the current proposed amendment. Exhibit 3, *Existing Specific Plan*, depicts the current Land Use Plan. Key differences include circulation modifications, parking allocation, height limitations, setback requirements, density of development and housing. The following describes each of these features/issues in greater detail:

- Circulation: The project proposes to create a pedestrian environment by eliminating vehicular intersections, limiting through and perimeter streets to two lanes, and providing alternate transportation. This will include rerouting Canyon Boulevard to connect with Millers Siding, providing a signalized intersection at Lake Mary Road and Millers Siding, rerouting Berner Street to connect with Forest Trail, abandonment of Spring Lane, reducing Minaret Road to a two-lane cross-section with a roundabout at Forest Trail in lieu of a traffic signal, construction of a gondola to Mammoth Mountain Ski Area, provision of transit stops and the creation of a pedestrian plaza and pedestrian linkages to surrounding properties.

- Parking: The proposal includes a reduction in the current parking standards permitted in North Village from 0.8 spaces per lodging room to 1-1.75 spaces per unit, from 2.4 spaces per 1,000 square feet of retail and 11.2 spaces per 1,000 square feet of restaurant to an aggregated standard of 3.5 spaces per 1,000 square feet for either retail or restaurant, and other reductions for ancillary land uses. The parking is proposed in understructure parking facilities as well as free-standing parking structures at the Community Center site and the southeast corner of Hillside Drive and Canyon Boulevard.

- Building Heights: The proposal includes a graduated scale for building heights within North Village. The proposal includes a maximum building height of 50 feet measured above natural grade (with 10 projections above the 50 foot standard) in the Resort General and Specialty Lodging land use designations. For buildings within the Plaza Resort land use designation a mix of building heights is proposed to protect views and solar exposure onto pedestrian areas. The proposed heights range from 25 feet to 75 feet above natural grade (with projections of up to 15 feet above the proposed standard).

- Setbacks: Setbacks are proposed to be a minimum of 10 feet from Minaret and Canyon and 10 feet to 35 feet along Lake Mary Road, Main Street, Millers Siding, Forest Trail, Hillside, Lakeview, Berner Street and the Specific Plan boundary, depending on building height.

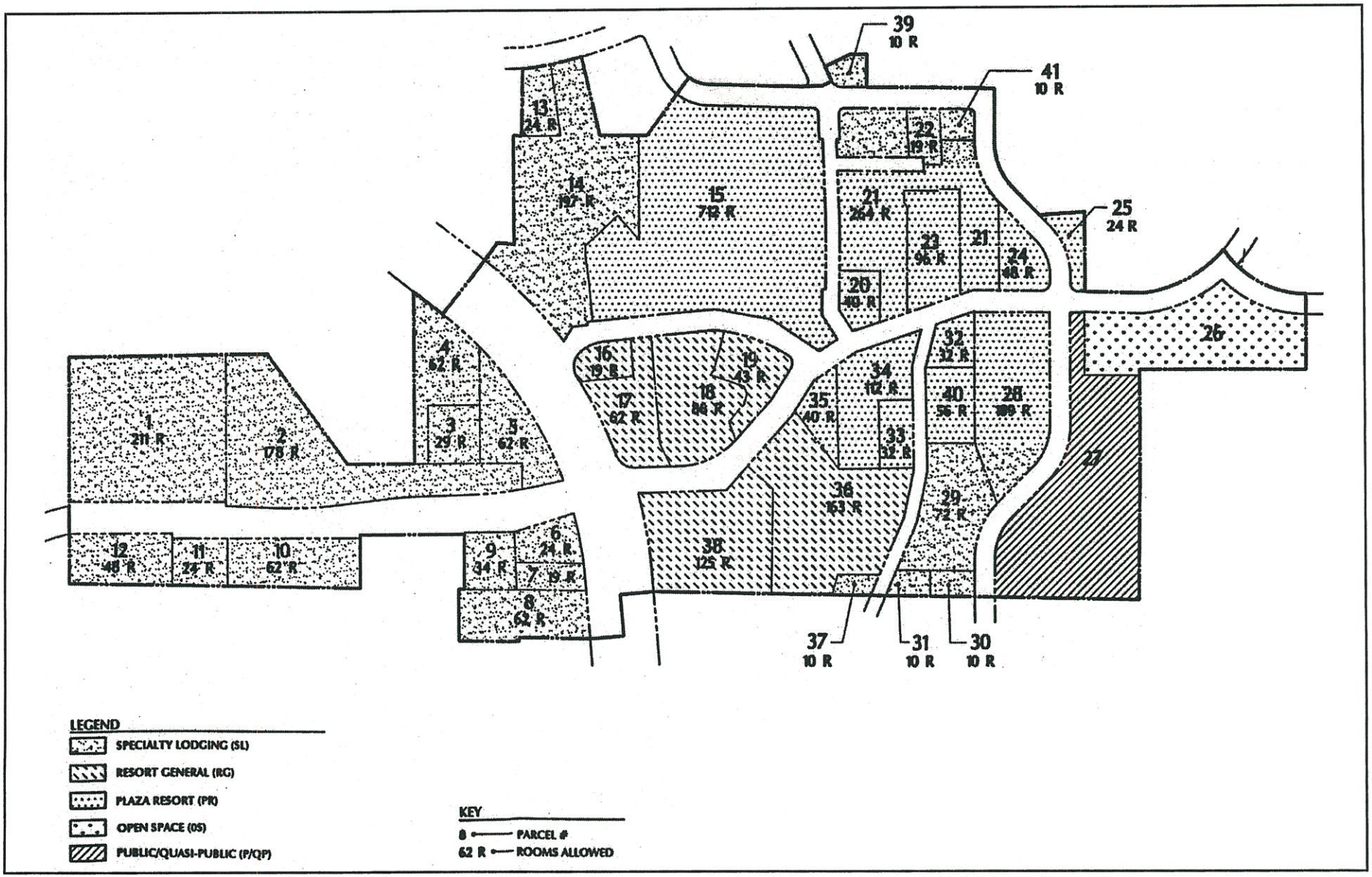
- Other Development Standards: Other modifications to development standards are proposed including density transfers, site coverage and architectural design standards.

- Densities: The proposed densities are allocated by land use designation. Plaza Resort is proposed to be 80 rooms per acre, Resort General is proposed to be 48 rooms per acre, and Specialty Lodging is proposed to be 48 rooms per acre.

- Housing: The proposal is to accommodate the increased number of employees generated by the development of North Village by requiring affordable housing to be constructed within the town limits. A new employee generation formula is proposed which suggests 0.5 full-time equivalent employees per commercial lodging room and 3.85 full-time equivalent employees per 1,000 square feet of restaurant and retail uses among others. Of the employees, 58.5% of the employees are proposed to have housing provided for them in the proposed housing policy.

- Public Facilities: Given the existing infrastructure conditions, modifications and upsizing to public infrastructure is proposed. Water, sewer, and storm drainage facilities are proposed to accommodate the development in North Village.

The project modifications coupled with the elapsed time since the 1991 Final EIR warrant further review of the project impact through an updated Program EIR pursuant to Section 15168 of CEQA. The elapsed time is further exacerbated by the changes throughout the community over the past 10 years warranting a comprehensive cumulative impact analysis in the Program EIR. This Initial Study evaluates each impact area, based upon current conditions and, where appropriate and applicable, references conclusions rendered in the 1991 Final EIR for the North Village Specific Plan. The EIR will address the project in consideration of existing physical conditions and will evaluate the proposed project in comparison to the underlying existing Specific Plan under a "No Project" alternative scenario. This approach achieves a comprehensive evaluation of both Plan to Land and Plan to Plan conditions in the EIR. As cited in Section 3.5 of this Initial Study, a comprehensive summary of impacts and mitigation contained in both the 1991 Final EIR and the 1994 EIR addendum is available for review at the Town offices.



Not to Scale

INITIAL STUDY/ENVIRONMENTAL CHECKLIST
NORTH VILLAGE SPECIFIC PLAN

Existing Specific Plan

Exhibit 3

Robert Bein, William Frost & Associates

9/99 JN 10-100377

3.0 INITIAL STUDY CHECKLIST

3.1 BACKGROUND

1.	**Project Title:** North Village Specific Plan
2.	**Lead Agency Name and Address:** Town of Mammoth Lakes 437 Old Mammoth Road Mammoth Lakes, CA 93546
3.	**Contact Person and Phone Number:** Ms. Karen Johnston 760-934-8989
4.	**Project Location:** Mammoth Lakes, CA Main Street/Lake Mary Road and Minaret Road Intersection
5.	**Project Sponsor's Name and Address:** Intrawest Mammoth Corporation P.O. Box 2789 Mammoth Lakes, CA 93546
6.	**General Plan Designation:** Specific Plan
7.	**Zoning:** Specific Plan with land use designations as follows: Plaza Resort, Resort General, Specialty Lodging, Public, Quasi Public, Open Space
8.	**Description of the Project:** (Describe the whole action involved, including but not limited to, later phases of the project, and any secondary, support or off-site features necessary for its implementation.) Project involves a Specific Plan Amendment to the North Village Project and includes design and circulation modifications. An updated EIR to the 1991 Final EIR is also required due to changes in existing and cumulative conditions.
9.	**Surrounding Land Uses and Setting:** Single-Family and Multi-Family Residential, Vacant Land, limited Commercial, U.S. Forest Service property
10.	**Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).** To be determined as a part of further review in the Program EIR.

3.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated," as indicated by the checklist on the following pages.

X	Aesthetics	X	Land Use and Planning
	Agriculture Resources		Mineral Resources
X	Air Quality	X	Noise
X	Biological Resources	X	Population and Housing
	Cultural Resources	X	Public Services
X	Geology and Soils	X	Recreation
X	Hazards & Hazardous Materials	X	Transportation/Traffic
X	Hydrology & Water Quality	X	Utilities & Service Systems
X	Mandatory Findings of Significance		

3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

I find that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ____

I find that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 3.5 have been added. A NEGATIVE DECLARATION will be prepared. ____

I find that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. X

I find that the proposal MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ____

Karen Johnston
Signature

Town of Mammoth Lakes
Agency

Karen Johnston
Printed Name

9-15-95
Date

3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities & Service Systems

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines and used by the Town of Mammoth Lakes in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- **Potentially Significant Impact Unless Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact.** The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
1. AESTHETICS. *Would the project:*				
a. Have a substantial adverse effect on a scenic vista?	✓			
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	✓			
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	✓			
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	✓			
2. AGRICULTURE RESOURCES. *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:*				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b. Conflict with existing zoning for agricultural use, or a Williamson act contract?				✓
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				✓
3. AIR QUALITY. *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:*				
a. Conflict with or obstruct implementation of the applicable air quality plan?	✓			
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	✓			
c. 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)?	✓			

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
d. Expose sensitive receptors to substantial pollutant concentrations?	✓			
e. Create objectionable odors affecting a substantial number of people?		✓		
4. BIOLOGICAL RESOURCES. *Would the project:*				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	✓			
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	✓			
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	✓			
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓
5. CULTURAL RESOURCES. *Would the project:*				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?		✓		
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?		✓		

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓
d. Disturb any human remains, including those interred outside of formal cemeteries?			✓	
6. GEOLOGY AND SOILS. *Would the project:*				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			✓	
2) Strong seismic ground shaking?	✓			
3) Seismic-related ground failure, including liquefaction?			✓	
4) Landslides?			✓	
b. Result in substantial soil erosion or the loss of topsoil?	✓			
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
7. HAZARDS AND HAZARDOUS MATERIALS: *Would the project:*				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e. 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 result in a safety hazard for people residing or working in the project area?				✓
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	✓			
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	✓			
8. HYDROLOGY AND WATER QUALITY. *Would the project:*				
a. Violate any water quality standards or waste discharge requirements?	✓			

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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)?	✓			
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	✓			
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	✓			
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	✓			
f. Otherwise substantially degrade water quality?	✓			
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				✓
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j. Inundation by seiche, tsunami, or mudflow?				✓
9. LAND USE AND PLANNING. *Would the project:*				
a. Physically divide an established community?	✓			

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	✓			
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓
10. MINERAL RESOURCES. *Would the project:*				
a. 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?				✓
b. 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?				✓
11. NOISE. *Would the project result in:*				
a. 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?	✓			
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	✓			
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	✓			
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	✓			
e. 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?				✓
f. 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?				✓

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
12. POPULATION AND HOUSING. *Would the project:*				
a. Induce 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)?	✓			
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	✓			
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	✓			
13. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: 1) Fire protection?	✓			
2) Police protection?	✓			
3) Schools?	✓			
4) Parks?	✓			
5) Other public facilities?	✓			
14. RECREATION.				
a. Would the project increase 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?	✓			
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	✓			

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
15. TRANSPORTATION/TRAFFIC. *Would the project:*				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	✓			
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	✓			
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	✓			
e. Result in inadequate emergency access?	✓			
f. Result in inadequate parking capacity?	✓			
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	✓			
16. UTILITIES AND SERVICE SYSTEMS. *Would the project:*				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	✓			
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	✓			
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			✓	

	Potentially Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	✓			
g. Comply with federal, state, and local statutes and regulations related to solid waste?	✓			
17. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	✓			
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	✓			
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

3.5 EARLIER ANALYSIS

Earlier analysis may be used where, pursuant to the tiering, Program EIR, or other CEQA process, one or more effects have been adequately addressed in an earlier EIR or Negative Declaration (CEQA Guidelines Section 15063(c)(3)(D)). The following documents for the project site have been utilized by the Town of Mammoth Lakes for this Initial Study assessment and are available for review at the Town offices in Mammoth Lakes.

- North Village Specific Plan Final EIR, EIP Associates, February 1991.
- North Village Specific Plan EIR Addendum, May 1994.

4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study. Explanations are provided for each item.

4.1 AESTHETICS. *Would the proposal:*

a) *Have a substantial adverse effect on a scenic vista?*

Potentially Significant Impact. Although the project area is not a designated scenic vista by the Town of Mammoth Lakes General Plan, buildout of the proposed project has the potential to affect the scenic qualities in the area. Residents in the surrounding area currently have distant views of vistas. Views across the site from adjacent nearby uses may be impacted by tall structures on-site. Additional analysis is necessary with regard to building heights, setbacks and lot coverage to assess visual impacts associated with the project from both private and public properties.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Potentially Significant Impact. No rock outcroppings or historic buildings are situated on-site. No state scenic highways traverse through the project area. Development on-site would result in the removal of trees which may be deemed as scenic resources. Additional analysis is necessary with regard to the number of trees which may be removed, the visual affect of tree removal and possible tree replacement programs or ratios which may be proposed.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Potentially Significant Impact. Surrounding uses which may be affected by changes to the subject property include single- and multi-family residents as well as U.S. Forest Service property. Although the site is currently developed, it continues to maintain a rural character. With implementation of the project, the site would create urban characteristics associated with higher densities, building heights and increases in paved surfaces. Additional analysis is required to determine if the project substantially degrades the character and quality of the site.

It is noted that the 1991 Final EIR for the North Village Specific Plan concluded that the gondola feature would result in a significant unavoidable adverse impact for Aesthetics. The Town concluded that a Statement of Overriding Considerations was required since the visual effects could not be mitigated.

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Potentially Significant Impact. Currently, a limited amount of light and glare is generated on-site. The proposed project would include lighting for activity areas involving nighttime uses, parking, lighting around the structures (security lighting, walkways) and lighting for interiors of buildings. On-site lighting may create spillover impacts to surrounding uses. Potential impacts related to light and glare require further analysis.

4.2 AGRICULTURE RESOURCES. ***In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:***

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. There is no evidence of previous agricultural operations on the proposed project site. Pursuant to the Farmland Mapping and Monitoring Program for the California Resources Agency, the subject site is not identified as an agricultural resource and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide importance.

b) *Conflict with existing zoning for agricultural use, or a Williamson act contract?*

No Impact. Implementation of the project would not result in any conflicts with existing zoning for agricultural use or a Williamson Act Contract. The site is designated for Specific Plan uses pursuant to the 1991 North Village approval.

c) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?*

No Impact. As previously stated, the subject site is not used for agricultural production and agricultural operations do not occur within the vicinity. Thus, implementation of the proposed project would not result in any changes to the environment that would result in the conversion of farmland to a non-agricultural use.

4.3 AIR QUALITY. ***Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:***

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Potentially Significant Impact. The project site is located within the area monitored by the Great Basin Unified Air Pollution Control Basin (GBUAPCD). In 1991, the area was identified as non-attainment in the Final EIR for the North Village Specific Plan. Since that time, the Town has made considerable progress in reducing particulate emissions and is nearing a level of attainment. In consideration of this effort and with modification to the project, further review is necessary to confirm the project's status in terms of compliance/conflict with current GBUAPCD programs.

b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Potentially Significant Impact. Development and operation of the North Village Specific Plan project would result in pollutant emissions from three different sources, including: (1) short-

term construction emissions, (2) long-term mobile emissions from trucks and vehicles traveling to and from the site once the project is operational, and (3) long-term stationary emissions from power and gas consumption and machinery and equipment on-site.

The greatest potential for air quality impacts from the project would be attributed to mobile emissions. The project's potential air quality impacts on a local and regional level requires an evaluation pursuant to the GBUAPCD and California Air Resources Board (CARB) requirements and methodology. Additional analysis is necessary to quantify potential project-related air quality impacts (both short-term and long-term) and identify appropriate mitigation that would be effective in reducing pollutant emissions.

c) *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)?*

Potentially Significant Impact. Refer to Responses 4.3(a) and 5.3(b).

d) *Expose sensitive receptors to substantial pollutant concentrations?*

Potentially Significant Impact. Sensitive populations (i.e., children, senior citizens and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Land uses considered sensitive receptors typically include residences, schools, playgrounds, child care centers, hospitals, convalescent homes and retirement homes. Sensitive receptors in proximity to the project site include existing residences. Construction and operation of the project would increase vehicle trips on area roadways and result in associated air pollutants. Grading and excavation operations may also have air quality impacts in the absence of mitigation. These impacts require additional analysis to assess their level of significance.

In addition, the 1991 Final EIR for the North Village Specific Plan included a carbon monoxide "Hot Spot" review for the intersection of Minaret Road and Main Street. The Caline4 model analysis identified potential exceedance of carbon monoxide standards. Further analysis at that intersection will be required utilizing updated traffic counts under the revised specific plan.

e) *Create objectionable odors affecting a substantial number of people?*

Potentially Significant Unless Mitigated. Resort/restaurant uses on-site may have the potential for creating odors. These emissions would be comparable to those anticipated with any type of commercial activity (e.g., food service activities). Some businesses, such as restaurants with exhaust vents, are considered "stationary point sources" and may be subject to further regulatory requirement above and beyond any requisite CEQA mitigation. While the emissions from these activities are common and not identified as being particularly hazardous, they may be subject to permitting requirements that call for the use of "best available control technology" in order to eliminate or reduce the levels of emissions. Any potential nuisance related to odor that may occur with these activities would be mitigated under the GBUAPCD's permitting requirements.

4.4 BIOLOGICAL RESOURCES. *Would the project:*

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Potentially Significant Impact. The 1991 Final EIR for the North Village Specific Plan did not identify threatened or endangered species within the project area. A search of the California Natural Diversity Data Base (CNDDB) for species which may occur in the study area identified two State listed species, the Great Owl (endangered) and the wolverine (threatened) and one listed Federal species, the Spotted Owl. Due to the proximity of human habitation and the absence of suitable habitats for these species within the project area, the 1991 Final EIR determined absences from the site. Although the conclusions and required mitigation in the 1991 Final EIR are applicable for the current proposal, updated biological data from the CNDDB and from other available reference sources will be required.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No Impact. The project area is void of riparian corridors and habitat. Thus, no impact to sensitive natural communities would occur.

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. No wetlands as defined by Section 404 of the Clean Water Act exist or have been identified on-site. Thus, the project would not result in impacts in this regard.

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Potentially Significant Impact. Although there are no designated migratory wildlife corridors in the project area, coyotes and bears have been known to traverse through the site. Further review of available reference data will be required to determine the project's affect upon wildlife movement. There are no native wildlife nurseries within the area.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Potentially Significant Impact. As stated in Section 4.1(b) the project would result in removal of existing on-site trees. Further review of the project's affect and compliance with the Town tree preservation ordinances and policies will be required.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The project area does not have an adopted Habitat Conservation Plan, Natural Community Plan or other habitat conservation plan and no other draft plan is in existence or proposed. Thus, the project would not result in impacts in this regard.

4.5 CULTURAL RESOURCES. *Would the project:*

a) *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?*

Potentially Significant Impact Unless Mitigated. The 1991 Final EIR for the North Village Specific Plan identified two separate archaeological sites within the Specific Plan area. Mitigation was cited including subsurface testing prior to issuance of a grading permit and site monitoring during construction. A data recovery program is also cited in the 1991 Final EIR. Based upon the prior EIR findings, no additional analysis is required.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?*

Potentially Significant Impact Unless Mitigated. Refer to Response 4.5(a).

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

No Impact. Previous environmental documentation for the Town of Mammoth Lakes General Plan and the North Village Specific Plan does not indicate a potential for paleontological resources to be located on the proposed project site or surrounding area. Therefore, no impacts to paleontological resources would occur with implementation of the proposed project.

d) *Disturb any human remains, including those interred outside of formal cemeteries?*

Less Than Significant Impact. No human remains have been found on-site. As cited in the 1991 Final EIR for the North Village Specific Plan, should human remains be discovered during construction, work shall cease and appropriate County representatives shall be informed and consulted with.

4.6 GEOLOGY AND SOILS. *Would the project:*

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

1) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

Less Than Significant Impact. As stated in the 1991 Final EIR for the North Village Specific Plan, there are no known fault traces crossing the project area and therefore the risk of surface rupture is low. A June 2, 1999 Preliminary Soils Report for the subject site by Sierra Geotechnical Services Inc. concludes that the site is not within a Alquist-Priolo Special Studies Fault Zone. The closest study zone is approximately one-half mile west of the site. The site is situated within 2.5 miles of the Hartley-Springs Fault, a level "B" fault. Impacts associated with fault ruptures on-site are not anticipated.

2) Strong seismic ground shaking?

Potentially Significant Impact. Although no known faults exist within the project boundary, the site would experience ground motion and effects from earthquakes generated along active faults off-site. The entire Mammoth Lakes region is located in Seismic Zone 4, the highest activity zone in the code. Adherence to standard engineering practices, mitigation cited in the 1991 Final EIR for the North Village Specific Plan and design criteria relative to seismic and geological hazards as contained in the most current Uniform Building Code (UBC) would further reduce the significance of impacts. In addition, it is noted that the Mammoth Lakes General Plan EIR concluded seismicity to be an unavoidable adverse impact that cannot be mitigated resulting in a Statement of Overriding Considerations by the Town. The EIR will reaffirm and update the previous conclusions.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The potential for ground failure, such as liquefaction during a strong earthquake is limited to soils that are relatively cohesionless, relatively loose, unconsolidated and are below the water table. The 1991 Final EIR for the North Village Specific Plan states that liquefaction does not affect bedrock or densely compacted sediments. The project site contains dense compacted soils thus the potential for liquefaction is low and impacts in this regard are not anticipated.

4) Landslides?

Less Than Significant Impact. As stated in the 1991 Final EIR for the North Village Specific Plan, slopes in the project area are generally less than 5 percent and therefore severe natural slope instabilities are absent. The site does contain localized areas with slopes greater than 30 percent which will require remediation. The June 2, 1999 Preliminary Soils Report for the site references ancient landslide debris, volcanic debris and pyroclastic debris on-site. The report does not conclude significant adverse condition and provides recommendations to remediate upper debris deposits. The findings of the report will be cited in the Program EIR. No significant landslide related impacts are anticipated.

b) Result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact. Grading and trenching during the construction phase of the project would increase the potential for erosion; however, implementation of erosion control measures as required by the Town and adherence to all requirements set forth in the National Pollutant Discharge Elimination System (NPDES) permit required for construction would reduce

these impacts to less than significant levels. The first phase of construction will require export of soil and rock. Further analysis is required to determine impacts.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less Than Significant Impact. The project area has not been delineated as a geologic unit that is unstable and, based upon available references, would not become unstable as a result of project implementation. Refer also to responses throughout Section 4.6.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Less Than Significant Impact. The soils in the Mammoth Lakes area are derived from glacial and volcanic deposits. They include alluvials and tills in varying stages of weathering and consolidation. The site is slightly erosion prone in its natural condition and moderate erosion prone where soils are disturbed by humans. The subsoils are dense, slopes are shallow and the natural ground cover is generally intact. Based upon existing references, the existence of expansive soils has not been identified and impacts in this regard are not anticipated.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. The project proposes to install on-site sewer lines. It will not be necessary to install septic tanks or other alternative types of wastewater disposal systems. No significant impacts are anticipated in this regard.

4.7 HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact. Future uses on-site may handle materials that are considered hazardous, though these materials will be limited to solvents and chemicals used for cleaning, building maintenance, and those used in landscaping. These materials would not be substantially different from household chemicals and solvents. No uses would be located on-site that would be engaged in the production or disposal of hazardous materials; thus, significant impacts in this regard would not occur.

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less Than Significant Impact. The proposed project is not anticipated to result in the creation of health hazards to future residents with compliance with pertinent health and safety regulations. There are no industrial or commercial uses in the area which may use, generate, or dispose of hazardous materials in large quantities.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact. The proposed project site is not located within a one-quarter mile of an existing or proposed school, therefore, no impacts are anticipated in this regard.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. The proposed project site is not included on a list of sites containing hazardous materials, and would not result in a significant hazard to the public or to the environment.

e) *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 result in a safety hazard for people residing or working in the project area?*

No Impact. The proposed project site is not located within an airport land use plan or within two miles of a public airport and would not result in aircraft safety hazards for people within the area. The nearest airport is the Mammoth Lakes airport, located approximately 10 miles from the project site.

f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. Refer to Response 4.7(e).

g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Potentially Significant Impact. The Town of Mammoth Lakes has an adopted Emergency Response Plan and the project shall be subject to the requirements set forth. The 1991 Final EIR for the North Village Specific Plan did identify potential access impacts at the intersection of Lakeview and Lake Mary Road. The EIR cites a mitigation measure for improvements to that intersection and thereby improve accessibility required during an evacuation and/or emergency event. The current proposal eliminates that improvement but does provide other circulation improvements in other areas such as at Millers Siding Road. Further analysis is necessary to adequately assess impacts in this regard.

h) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Potentially Significant Impact. Although the proposed project would remove existing potentially flammable brush and grass from portions of the project site and replace with structures and ornamental landscaping, the site is adjacent to U.S. Forest Service vacant lands resulting in exposure to wild fires. The EIR will evaluate impacts in consideration of the Mammoth Lakes Fire Protection District wildlife protection requirements.

4.8 HYDROLOGY AND WATER QUALITY. *Would the project:*

a) *Violate any water quality standards or waste discharge requirements?*

Potentially Significant Impact. Impacts related to water quality would range over three different periods: 1) during the earthwork and construction phase, when the potential for erosion, siltation and sedimentation would be the greatest; 2) following construction, prior to the establishment of ground cover, when the erosion potential may remain relatively high; and 3) following completion of the project, when impacts related to sedimentation would decrease markedly, but those associated with urban runoff would increase.

Construction of the proposed project would result in soil disturbance of more than five acres. During a storm event, particulate matter would run off the site. Urban runoff is expected to increase as a result of developing the proposed project site. The concentration of chemical constituents dissolved or suspended in runoff waters leaving the site would vary with the distribution pattern of rainfall events. Similarly, the characteristics of rain events affect the concentration of pollutants.

Further review will be required with regard to compliance requirements with the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity which would prevent storm water pollution from impacting waters of the U.S. in the vicinity of the project site.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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)?*

Potentially Significant Impact. The June 2, 1999 Preliminary Soils Report by Sierra Geotechnical Services Inc. did include test borings in which groundwater seepage was encountered. As a result, dewatering for subterranean structures on-site is anticipated. Further analysis is required to determine if the project would result in depletion of groundwater supplies or interfere with groundwater recharge resulting in lowering the groundwater table. It is noted that increased water consumption would occur as discussed in Response 4.16(b).

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Potentially Significant Impact. Although the site is void of existing drainage courses such as rivers or streams, the proposed project would result in increased paved surfaces, on-site drainage improvements and may ultimately affect downstream conditions. Further analysis is necessary to adequately assess impacts in this regard.

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

Potentially Significant Impact. Refer to Response 4.8(c).

e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Potentially Significant Impact. Refer to Responses 4.8(a) and 4.8(c).

f) *Otherwise substantially degrade water quality?*

Potentially Significant Impact. Implementation of the proposed project could result in short-term and long-term impacts to surface water quality. Short-term surface water quality impacts may occur from water erosion of soils during construction, with long-term impacts on surface water quality occurring primarily from the addition of project-related automobile trips which generate urban type pollutants (i.e. oil, tire particles, etc). However, surface water quality is not expected to be significantly affected because the proposed project would be required to implement best management practices (BMPs) to comply with the National Pollutant Discharge Elimination System (NPDES) stormwater quality requirements. The significance of this issue requires further analysis.

g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact. The project area is not situated within a 100-year flood area and has not been mapped as a potential flood hazard area. Impacts in this regard would not occur.

h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

No Impact. Refer to Response 4.8(g).

i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

No Impact. Refer to Response 4.8(g).

j) *Inundation by seiche, tsunami, or mudflow?*

No Impact. No significant water features have been identified in the project area. Thus, the project site is not anticipated to experience any impacts from inundation resulting from seiches, tsunamis or mudflows.

4.9 LAND USE AND PLANNING. *Would the project:*

a) *Physically divide an established community?*

Potentially Significant Impact. The project area is currently characterized by a mix of hotel, commercial, office and residential uses. Although there may be deemed a lack of unity or relationship among the uses, the area nevertheless is an established community. The 1991 Final EIR for the North Village Specific Plan concludes that existing and surrounding residential land uses are likely to feel the changes most significantly. The 1991 Final EIR concluded that the project would result in unavoidable adverse land use compatibility impacts for which the Town issued a Statement of Overriding Considerations for the determination. Further analysis is necessary to adequately assess impacts in this regard.

b) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Potentially Significant Impact. The proposed project will require amendments to the existing specific plan and zoning ordinance. Although no significant conflicts with existing policies have been identified, further analysis is necessary to determine possible impacts.

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact. As stated in Response 4.4(f) the project does not conflict with habitat conservation plans or natural community conservation plans. No such plans exist in the area.

4.10 MINERAL RESOURCES. *Would the project:*

a) *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?*

No Impact. The project would result in the use of additional natural resources for both construction (building and foundation materials, energy for construction equipment) and long-term operations on the project site (energy for lighting, heating, cooling, and transportation). These impacts are discussed within the North Village Specific Plan EIR and were found to be insignificant. Therefore, no significant impacts are anticipated in this regard.

b) *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?*

No Impact. According to the Mammoth Lakes General Plan and General Plan EIR, the site contains no known mineral resources. It is also noted that the project site has not been delineated as an important mineral resource recovery site within the Town's General Plan. No significant impacts are anticipated in this regard.

4.11 NOISE. *Would the project result in:*

a) *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?*

Potentially Significant Impact. Project construction and operation would result in both short-term and long-term impacts. Short-term impacts would occur during grading and construction operation and would expose adjacent uses to noise levels between 70 and 90 decibel at 50 feet from the noise source. Long-term noise impacts would be associated with vehicular traffic to/from the site (including employees and visitors), outdoor activities, deliveries and stationary mechanical equipment on-site. Both short- and long-term noise impacts require further evaluation.

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Potentially Significant Impact. The project may include blasting or extensive on-site drilling to prepare the site for grading, installation of infrastructure and for site development. Project construction may generate excessive ground borne vibrations or ground borne noise to excessive levels. Further review will be required to determine the significance of impacts.

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Potentially Significant Impact. Refer to Response 4.11(a).

d) *A substantial temporary or periodic increase in ambient nosie levels in the project vicinity above levels existing without the project?*

Potentially Significant Impact. Refer to Response 4.11(a).

e) *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?*

No Impact. Refer to Response 4.7(e). Given the project's distance from the Mammoth Lakes Airport, excessive noise levels generated by airport uses would not occur.

f) *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?*

No Impact. Refer to Response 4.7(e). The project site is not located within the vicinity of a private airstrip.

4.12 POPULATION AND HOUSING. *Would the project:*

a) *Induce 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)?*

Potentially Significant Impact. The proposed project includes construction of residential uses. The project is also projected to result in the need for over 1,500 employees which may affect the availability of housing and create additional need throughout the community. Additional analysis is required to determine the growth inducing potential of the project.

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

Potentially Significant Impact. Project implementation would result in the elimination/ relocation of approximately 50 residential units on-site. This may affect the need to construct replacement housing elsewhere within the community. Additional analysis is required.

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

Potentially Significant Impact. Refer to Response 4.12(b).

4.13 PUBLIC SERVICES.

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

1) *Fire protection?*

Potentially Significant Impact. Fire protection for the site is provided by Mammoth Lakes Fire Protection District. The proposed project may place increased demands upon fire services. Additional analysis and consultation with Mammoth Lakes Fire Protection District will be required.

2) *Police protection?*

Potentially Significant Impact. Police protection for the site is provided by the Town of Mammoth Lakes Police Department. The proposed project map place increased demands upon police services. Additional analysis and consultation with the Police Department will be required.

3) *Schools?*

Potentially Significant Impact. The 1991 Final EIR for North Village identified an unavoidable significant impact for the Mammoth Lakes Unified School District. Although the required mitigation in the 1991 EIR cited development fee requirements, current allowable fee requirements are pursuant to applicable State requirements. Further review will be required to re-evaluate impacts and appropriate mitigation.

4) *Parks?*

Potentially Significant Impact. Although recreational facilities/amenities such as the events arena, pond, plaza areas, ski back trail and bike trails will be provided on-site, further evaluation of the project's ability to meet public recreation facility requirements will be necessary.

5) *Other public facilities?*

Potentially Significant Impact. The increased paved areas associated with the project may result in greater snow removal requirements. Although the Town is responsible for removal along public streets, each development project is required to submit a snow removal and storage plan as a part of final project review. Additional affects of the project may include general Town services and staffing deficiencies. Further review will be required to assess possible impacts.

4.14 RECREATION.

a) *Would the project increase 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?*

Potentially Significant Impact. As stated in Response 4.12(a), the proposed project includes uses which may induce growth to the area and which may increase usage of existing park and recreational facilities. Further review will be required to assess possible impacts. Refer also to Response 4.13(a-4).

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Potentially Significant Impact. Refer to Responses 4.13(a-4) and 4.14(a).

4.15 TRANSPORTATION/TRAFFIC. *Would the project:*

a) *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

Potentially Significant Impact. The 1991 Final EIR for the North Village Specific Plan concluded unavoidable adverse traffic impacts for which the Town adopted a Statement of

Overriding Considerations as a part of the determination. The proposed project includes changes to the on-site circulation network which may affect on-site and off-site operations. Modifications included in the proposal included: changing Minaret Road from four to two lanes and installation of a roundabout at Forest Trail; abandonment of the lower sections of Canyon Boulevard and Millers Siding; connection of the upper sections of Canyon Boulevard and Millers Siding to create a through public road from Lake Mary Road to the Hillside intersection; Forest Trail modifications; abandonment of the upper section of Berner Street and addition of a connection from Berner Street to Forest Trail; abandonment of Spring Lane and construction of a gondola. Impacts resulting to changes in traffic volumes and circulation patterns on- and off-site require additional analysis.

b) *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

Potentially Significant Impact. Refer to Response 4.15(a).

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact. The proposed project will not affect air traffic patterns and would not result in safety risks should air traffic levels increase due to an increase in visitors associated with the project.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact. The project site plan should be reviewed to evaluate the effectiveness of internal circulation in the parking areas and the driveways. The focus of this assessment is to identify any hazards to pedestrians and vehicles associated with the project's circulation and access locations. An analysis of the project-generated traffic on the local circulation system, parking lot facilities, driveways, loading areas, bike paths, and pedestrian walkways surrounding the site in addition to pedestrian/bicycle crossings will be necessary.

e) *Result in inadequate emergency access?*

Potentially Significant Impact. Refer to Response 4.7(g).

f) *Result in inadequate parking capacity?*

Potentially Significant Impact. The project includes modifications to the parking formula and criteria associated with the original Specific Plan adopted in 1991. The availability and adequacy of proposed on-site parking and conformity with Town parking requirements requires further analysis.

g) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

Potentially Significant Impact. Impacts to alternative transportation modes such as bus facilities and bicycle access/parking requirements requires additional analysis.

4.16 UTILITIES AND SERVICE SYSTEMS. *Would the project:*

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

No Impact. The proposed project is not anticipated to exceed wastewater treatment requirements set forth by the Lahontan Regional Water Quality Control Board.

b) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Potentially Significant Impact. Water and wastewater treatment is provided by the Mammoth Community Water District (MCWD). Existing water service in the project area is provided via a 12-inch main along Lake Mary Road to distribution lines along Millers Siding and Minaret Roads. Although the District possesses sufficient water capacity for the project, some existing lines in the area may require modifications. The District also provides adequate sewage treatment capacity. As with the existing water lines, existing wastewater lines may require modifications. The extent of modifications, upsizing and required realignments shall require further review to determine the extent of physical impacts associated with improvements.

c) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Potentially Significant Impact. Refer to Response 4.8(a).

d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

Less Than Significant Impact. Refer to Response 4.16(b).

e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less Than Significant Impact. Refer to Response 4.16(b).

f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Potentially Significant Impact. Solid waste collection and disposal throughout Mammoth Lakes is provided by a private collector which transports the waste on Mono County's solid waste disposal facility at Benton Crossing, approximately 8 miles southeast of Town. The project's affect upon the landfill capacity and consideration of the Town's waste recycling programs require further evaluation.

g) *Comply with federal, state, and local statutes and regulations related to solid waste?*

Potentially Significant Impact. The project must comply with adopted programs and regulation pertaining to solid waste. Refer also to Response 4.16(f).

4.17 MANDATORY FINDINGS OF SIGNIFICANCE.

a) *Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Potentially Significant Impact. Although the project is not anticipated to result in significant impacts to flora and fauna populations, as stated in Response 4.4(a), further study is required to support this preliminary conclusion. As stated in Response 4.5(a) cultural sites were previously documented in the 1991 Final EIR and no additional analysis has been determined to be necessary.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Potentially Significant Impact. A review of cumulative impacts for each issue area that has been identified as potentially significant will be required pursuant to Section 15130 of CEQA.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant Impact. The proposed project does not have the potential to cause substantial adverse effects on human beings, either directly or indirectly.

5.0 REFERENCES

The following references were utilized during preparation of this Initial Study. These documents are available for review at the Town of Mammoth Lakes, 437 Old Mammoth Road, Mammoth Lakes, CA 93546.

1. 1990 Census Population and Housing Graphic Analysis. L.K. Johnston and Associates, October, 1991.

2. Air Quality Management Plan for the Town of Mammoth Lakes. Great Basin Unified Air Pollution Control District and Town of Mammoth Lakes, November 30, 1990.

3. Annual Summaries of Air Quality Data for Gaseous and Particulate Pollutants, 1990 through 1994, California Environmental Protection Agency, Air Resources Board.

4. Avalanche Handbook. United States Forest Service, November, 1978.

5. General Plan Vision Statement. Town of Mammoth Lakes, December 21, 1992.

6. Fact Sheet. United States Geological Survey, 1996.

7. Flood Hazard Boundary Maps. County of Mono, March, 28, 1978.

8. Mammoth Basin Water Resources Environmental Study. California Department of Water Resources, December, 1975.

9. Mammoth Basin Water Resources Environmental Study. Department of Water Resources, Southern District, December, 1973.

10. Mammoth Lakes Storm Drainage Master Plan. Brown and Caldwell and Triad Engineering, July, 1984.

11. Mono's Changing Geology. Mammoth Publishing Company, 1982.

12. Mono County Ozone Attainment Plan. Great Basin Unified Air Pollution Control District, April, 1991.

13. North Village Specific Plan. Town of Mammoth Lakes, June, 1994.

14. North Village Specific Plan Final EIR. EIP Associates, February, 1991.

15. North Village Specific Plan Final EIR Addendum. EIP Associates, May, 1994.

16. Parks and Recreation Element of the General Plan, August 2, 1994.

17. Particulate Emissions Regulations. Town of Mammoth Lakes, as revised April, 1992.

18. Preliminary Natural Resource Baseline and Environmental Sensitivity Analysis for Mammoth. James A. Roberts Associates, Inc., 1973.

19. Preliminary Soils Report. Sierra Geotechnical Services Inc., June 2, 1999.

20. Title 17 Zoning, October, 1994.

21. Town of Mammoth Lakes Environmental Handbook. Town of Mammoth, August, 1991.

22. Town of Mammoth Lakes Profile & Resource Guide. Mammoth Lakes Chamber of Commerce, 1993 edition.

23. The Town of Mammoth Lakes General Plan. Town of Mammoth Lakes, October, 1987.

24. The Town of Mammoth Lakes General Plan Draft EIR. Donald A. Wolfe and Associates, January, 1986.

25. Uniform Building Code, Chapter 70 Excavation and Grading.

26. United States Geological Survey. Review Herald, December 7, 1989.

27. Urban Geology Master Plan. Division of Mines and Geology, CDMG Bulletin No. 198., 1973.

28. Water Master Plan. Mammoth County Water District, 1982.

TOWN OF MAMMOTH LAKES PLANNING COMMISSION
Regular Meeting of October 13, 1999 9:00 a.m.
Suite Z
Minaret Village Shopping Center
437 Old Mammoth Road

MINUTES

I. CALL TO ORDER

The regular meeting was called to order at 9:05 a.m.

II. ROLL CALL – Commissioners Harvey, Somers, Telliano, Vice Chair Saari and Chairman Thompson.

Present were Commissioners Harvey, Somers, Telliano, Vice Chair Saari and Chairman Thompson. Also present were William Taylor, Senior Planner; Karen Johnston, Senior Planner; Dave Hickson, Assistant Planner; Craig Olson, Associate Planner; Jeff Mitchell, Town Engineer; Tina Bohannan, Administrative Secretary.

III. COMMENTS FROM THE PUBLIC

None.

IV. APPROVAL OF MINUTES

1. Minutes of September 22, 1999

Action: It was moved by Vice Chair Saari, seconded by Commissioner Telliano and unanimously carried to approve the minutes of September 22, 1999 as submitted.

V. PUBLIC HEARINGS

1. Supplemental Program EIR to address Revision to North Village Specific Plan – Scoping Session

Senior Planner Johnston presented a brief introduction. She said the Commission would receive public testimony only and not make any decisions on this project. She said RBF & Associates was chosen as the consultant for the EIR. She introduced Glenn Lajoie from that firm.

Glenn Lajoie, RBF & Associates, explained the process involved for the environmental review on the project.

Chairman Thompson opened the discussion for public comment.

Ed Brisson, Intrawest Mammoth Corp., presented a brief overview of the proposed changes to the "Village at North Village".

Richard Eckfield, resident, suggested an alternate design for the location of the gondola and traffic circulation through North Village. He recommended the rerouting of Minaret Road to go behind the Matterhorn Restaurant and motel and behind Bergers to connect to Forest Trail with the gondola station located near Bergers. He also suggested snow melt on streets and sidewalks. He said the gondola could pass over the proposed "Plaza". He said the Town could purchase the "Woods Site" to preserve the wood site for events. He said the rerouting could provide a much more dynamic design for Intrawest's proposed "Village". He said the busses could load and unload on Minaret behind Bergers.

Elizabeth Tenney, representing PESTER, said that she would provide written comments to staff by October 20, 1999.

John Cunningham, resident, expressed concerns about the proposed building heights, impacts created by increased density, inadequate parking, inadequate snow storage, the proposed roundabout, traffic congestion and the rerouting of Canyon Boulevard.

Phyllis Benham, resident, expressed concern with the proposed roundabout and said it was an inappropriate solution to traffic especially during winter months.

Betty Hoyt, resident in Mammoth Knolls, asked several questions about traffic and pedestrian circulation in North Village. She asked about the proposed parking facility to be located under the tennis courts.

Peter Berardo, resident in Mammoth Slopes, expressed concern about the proposed height changes and the effect on the aesthetics with the increased density that is proposed.

Vice Chair Saari suggested that the EIR address potential impacts on crosswalks.

There being no further public testimony, Chairman Thompson closed the discussion.

Senior Planner Johnston reminded the audience that comments may continue to be submitted to the Town Staff until October 20, 1999 and that the environmental documents are available in the Town Offices.

2. Tentative Tract Map 36-191, Use Permit 99-9 and Negative Declaration, initiated by Intrawest Mammoth Corporation and Acuff Properties, to construct 46 residential units within six structures on a 5.44 acre portion of property located within the Sierra Star (formerly Lodestar) Master Plan area. The Tentative Map subdivides the property into Lots 1(5.44 acres), 2 (1.20 acres), and 3 (0.76 acres), a 0.48 acre Parcel, and a Remainder Parcel (33.72 acres). Lots 2 and 3, the 0.48 acre Parcel, and the Remainder Parcel will be reserved for future development, although Lot 2 currently is developed with an 8 unit multi-family structure and an underground parking structure foundation. The Tentative Map proposes to record the residential units proposed on Lot 1 within a condominium form of ownership with common landscape, recreational, access roadway and parking facilities. Location: N. E. of the intersection of Lodestar Drive and Meridian Boulevard. Assessor's Parcel Number: 33-330-20, 06. Zoning: Resort.

Craig Olson, Associate Planner, presented the staff report. He reported several staff recommendations to the conditions as follows:

Use Permit, Condition #3, sentence three, change "Grading Permit" to "1st Certificate of Occupancy";
Use Permit, Condition #11, sentence two, after the word "roadways" add the words "where feasible";
Use Permit, Condition #15, sentence one, after the word "finish" add the words "or other architectural feature"; and, the word "faces" shall be changed to "face" and add the words "of Building 3D";
Use Permit, Condition #20, delete second sentence;
Use Permit, Condition #22, sentence four, after the word "easement" add the words "unless prior Town approval and encroachment permits are issued to the satisfaction of the Town Engineer".
Tract Map, Condition #3, delete entire condition;
Tract Map, Condition #26, delete entire condition.

Associate Planner Olson said staff recommends approval of this application with the findings as proposed and with the conditions as recommended above.

The public hearing was opened.

Andrew Pauly, property owner at 467 Monterey Pine, had concerns about the following: acoustical analysis on traffic noise levels is inaccurate, misleading and does not address all the potential impacts on adjacent properties; questions reason for increased height of Building A-1 and lack of underground parking; applicant's need to bring Lodestar Drive as close as 12 feet to adjacent property owners when requirement for roadway setback is 50 feet; location of bike trail on top of berm instead of to the east of Lodestar Drive; how is applicant going to preserve the character of the existing Mammoth Vista I neighborhood. He also had concerns about adequate snow storage for the project; noise impact of future shuttle bus route on Lodestar Drive. He said there would be headlights shining into homes on Monterey Pine and inquired about a solution to this problem. He said he is very concerned about the proposed density; felt Intrawest is pushing the limits with the number of units on this site. He said the findings that

can't be met are #4, #5 and #3. He submitted a digital tape of photos taken in and around the Mammoth Vista I neighborhood.

Elizabeth Tenney, PESTER, expressed concern regarding the proposed increased height. She asked why the Town is allowing massive buildings and higher buildings in our "Village" environment.

Jim Magid, property owner at 297 Monterey Pine, expressed concern about the adequacy of the noise study. He felt it should be revisited if it is not accurate. He said the 50 foot buffer around the property has been compromised and would ask that the Commission evaluate this issue before making an approval.

Dana Severy, Intrawest Mammoth Corp., responded to issues voiced by the previous speakers. He said the Lodestar Master Plan approved in 1991 does have provisions for adjustments to zoning requirements. He said Lodestar Drive is an existing street and was previously approved closer to the property line. He spoke about the acoustical study and said the report was conducted appropriately with the two reference points used. He said the occupants in Building A-1 will most likely park in the adjacent underground parking structure – Building B-2. He said there are no plans for a bus shelter on Lodestar Drive at this time. He spoke about the height of the buildings and the benefit of understructure parking as an improvement to site development. He said it eliminates a "sea of parking spaces".

Commissioner Harvey asked if Intrawest would add additional landscaping to reduce the glare of the headlights.

Mr. Severy said they would landscape between their project and the homes on Monterey Pine as much as needed.

Commissioner Harvey also inquired about the proposed "lawn" recreational amenity.

Mr. Severy explained that the "lawn" areas and the spa areas were the recreational amenities and he would provide benches or BBQ's if necessary.

Commissioner Harvey asked for clarification on the river rock veneer proposed for the exposed retaining wall foundation on Build A-1.

Mr. Severy explained that it would be a split-faced masonry wall.

Commissioner Somers asked if staff was satisfied with the acoustical study in terms of the calculation of the future ambient noise levels at build-out.

Associate Planner Olson responded that he was satisfied.

Commissioner Somers also asked about the location of the proposed bike path.

Senior Planner Johnston provided information to the Commission about how the location of the newly finished bike path on the east side of the golf course was determined. She said the Master Plan did not address location of bike trails and therefore, it was placed within the 50 foot setback. She said the new bike path is proposed to be within the setback area also. She further explained about mitigating noise levels for the adjacent homeowners regarding both bike paths and circulation roads. She presented information on the history of Lodestar Drive.

Commissioner Telliano inquired about the location and landscaping for the temporary propane tank.

A representative from Intrawest explained the location as proposed and said there would be landscaping to buffer the tank.

Commissioner Telliano inquired about the light source and said he would like to see it restricted to metal halide.

Commissioner Somers spoke about the abandoned parking foundation and parking structure. She said she is concerned with health, safety and liability issues.

Mr. Severy said Intrawest is pursuing the purchase of the 8 plex and parking structure

Senior Planner Johnston said staff will follow-up on the status of the abandoned foundation.

Mr. Severy made the following comments on Conditions of Approval:
Use Permit Condition #6, first sentence, and add to end of sentence "...where feasible".
Use Permit Condition #11, second sentence, after the word "roadways" add the words "where feasible".
Tract Map Finding #5, sentence one, after the words "Final Tract Map" delete the remainder of the sentence which said "and the 30 foot "people mover" easement is restricted to not permit any support structures within the public right-of-way".
Tract Map Condition #2 – place with the Use Permit Conditions
Tract Map Condition #32 – did not agree with the requirement.

Senior Planner Johnston said Condition #32 is a standard requirement. She said the applicant could appeal to the Town Council if desired.

The public hearing was closed.

Commissioner Harvey reiterated his desire for rock or split-faced rock to be placed on the project where it is required by conditions.

It was decided by the Commission to reword Condition 15 by changing the words "or other architectural treatment" to "split faced block".

Commissioner Somers asked if the monument sign for the project would come before the Commission for review.

Staff responded yes.

Commissioner Telliano requested a brief recess to review the noise information in the staff report.

The Commission recessed for five minutes to read the noise analysis.

The Commission reconvened the meeting.

Commissioner Telliano commented on the noise analysis and felt that it was acceptable. He did not feel that additional language was required.

Chairman Thompson brought up the screening of the bike path.

Mr. Severy commented that landscaping would be installed on both sides of the bike path where the visual impact is the highest. He said Intrawest would work with the neighbors on installation of landscape screening on Intrawest property and on neighboring properties if the property owners so request.

Commissioner Telliano had a concern about the results of the noise report and the wording for Finding #4.

Associate Planner Olson proposed a new Use Permit Condition #31 to read: "Prior to Grading Permit issuance or Final Map recordation that the noise evaluation specifically address projected noise levels at build-out to assure conformance with General Plan standards. He also proposed adding a new Use Permit Condition #32 to read: "Exterior light sources shall be adequately shielded, consistent with Town standards, to eliminate any off-site glare spill-off to the satisfaction of the Community Development Director. The exterior light standards and bollards shall conform to those approved by the Planning Commission and shall be equipped with metal halide light sources."

Action: It was moved by Commissioner Somers, seconded by Vice Chair Saari and unanimously carried To approve Tentative Tract Map 36-191, Use Permit 99-9 with CEQA findings as presented in the staff report and with the project findings and conditions as stated and with the conditions as amended above.

To Mike Vance
From Richard Eckfield July 15, 1999

Geo-Team Memo #1

It was great to have another, more formal, session with the CD staff that will be supporting the DH (District Heating) effort. This group plus Craig Tackabery were very helpful to me in getting me ready for my first "discussion" with Ed Brisson and Dana Severy two weeks ago. I am glad this pattern of support will continue.

At the July 13 meeting we did a fast review of the five areas in which I thought there would be a need for productive support from the Town Team. The team asked that I put them in writing. Here they are:

1. **The Caltrans and Town piece regarding heating the North/Gondola Village streets.**
   This has to do with understanding the role and the potential financial involvement of Caltrans with regard to heating Minaret from basically Pioneer Market north to a point 200 feet past the proposed traffic round about. The theory, as explained by Tackabery, was that Caltrans plans to budget what they have historically budgeted in the past years for "clearing" snow from Minaret, which basically has been to scrape it to the sides. However, now they will have to pick it up and haul it away. The incremental addition cost of ***snow hauling*** over the past years historic cost of ***snow shoving*** will be passed on to the Town.

   Q: The question the Town Geo-Team can help me explore is how much of the snow removal costs can Caltrans and/or the Town contribute to the capitalization of the heating system to be placed into that section of road. Assume ***snow melting*** saves them $XYZ dollars in ***snow pick up and hauling*** costs. How much of that saved cost can they contribute to the project?

   I know there are many other related Caltrans issues, such as the timing of when the ***snow melting pipes*** would go in, and how would they be designed, etc. However these are secondary to: (1) calculating the thermal load, and (2) figuring how we finance the installation. This question focuses on number (2).

In a similar vein, in the first Geo-Team meeting, Tackabery lead a discussion of the desirability of heating Forest Trail to a point 200 feet past the "ski back bridge" west of the round about, and presumable Forest Trail 200 feet to the east so the people could use the Library, or the Health Club, or the Parking Structure or what ever ends up on the Community Center Park site. Since I assume this is Town road, I ask the team to look into the same questions. If we ***melt the snow*** instead of ***haul the snow,*** how much of the snow removal savings can get put into the project, how, when, by what mechanism, etc.

I noticed that the Town had $500,000 in the redevelopment budget for District Heating. Is that a possible source for snow melt capital cost installation?

2. **Site for a "peaking plant"**

There will be a propane fired plant with a boiler installed the very first phase of the District Heating project. That plant will be used for both back up (in case there is a problem with the geothermal source(s)), and for peaking on very cold days.

Our best guess is that we are looking at something around a 1,500 square foot "plant" (39' square) to "house" the peaking boiler.

As we discussed in our July 13 meeting, the parking structure location adjacent to the new relocated Canyon Road, which I had discussed with Brisson/Severy is not usable as this structure will not be build in time to catch the Phase 1 Gondola Village load.

Note: it is expected that the "peaking plant" will carry the initial Gondola village load as the distribution system to the geothermal source is being built.

I need the Town Geo-Team's ideas on where else we can put the peaking plant. I had explored locating it with the propane tanks on the golf course. However that site is not possible due to the sociology involved.

3. **Engineering and TA support.**

Just to repeat the ground rules we discussed, I/we/the Water District does not anticipate that the Town CD or Engineering staff will do any major new work on the Geo-Heat project at this time.

However, if they have something in their files that is usable to the cause, we would expect they would contribute it.

A good example of this is Peter Bernesconi's offer to make available the cost calculations, designs and bids he received for the snow melting pipes that were to be located in the first phase of the Promenade. While all of the snow melt areas being looked at are not exactly the same, this data will be useful.

Question: have you looked into the potential of a change order to add the piping back into the Phase 1 Promenade construction. My experience suggests that construction has not proceeded past the point where this is possible.

TA Request: In the sprit of this item, I have my first TA request. The Town team suggested that we use the 100 scale Ortho Photo's for master planning and the presentations which will have to be made at various forums around town (something my Water District team did not think of...and they are impressed at the Town team's creativity).
I am delivering our negatives of the Ortho Photos to the Town office with this memo. Can you please make me one set of blue prints as I believe the blue prints you can make will be better than our oversized Xerox the Water District can make. Thanks.

4 Main Street Montage.

The Ortho Photos will be used to lay out a "montage" of how a DH distribution system that goes up Main Street, and turns right on Minaret, might look.

Once it is pieced together and a "potential routing" of the distribution system drawn in, I will need the help of the Town Building Inspectors to spend a brief amount of time sharing with me what they know about each major building along the route, i.e. does it have hydronic or forced air heat, or is it electric resistance heat, etc. And where is the mechanical room. This information is needed so we can draw in the laterals to potential customers.

The Town's inspectors will not be my only input on this. I have several old consultant studies that have studied the retrofit potential of buildings

along the Main St. corridor, and these will be used. As last resort I can and will go knock on doors.

5. Understanding what the City should be negotiating for with regard to the development agreement with Intrawest, vis-a-vis District Heating.

It is to early to suggest precisely what these items might be. However the idea of **not heating** the 140,000 square feet of Plaza space within the Gondola Village project, on it's face, is not a prudent thing to do, no matter who has the capital cost responsibility.

Since coming to town I have been flooded with stories, some of which are Intrawest related, of where resorts failed to install extensive ***snow melt systems*** and had to go back and re-do the project, or how they were now suffering under enormous snow removal costs. Clearly the "plaza" area of Gondola Village should have ***snow melting throughout***.

The cost of installation issue needs to be approached with an open mind. The developer wants to limit all of their up front costs. That's the American way. However this space is space that will be used by many people, and needs to be cleared by ***snow melting***. The issue of who should be responsible for the capital costs for the pipes placed in the cement is an example of something the Town may wish to address in their Development Agreement negotiations.

There are likely to be other issues that, in the public interest, the Town Council might wish to take up. These will develop over time and we need to track them together.

Again, my appreciation to the Town Geo-Heat team for their support and involvement.

For your information, in addition the the Water District's Geo-Heat team, there is now also a Geo-Heat team formed and working on this activity at the Sierra Pacific Geothermal Plant, which is our first choice for our first geothermal heat connection.

A cute question that team asked me was "if you can't get the Town to spend the approximately $25,000 needed to put the heat pipes into the two million dollar Promenade project, how do you expect to be successful in getting Intrawest to eat some added first costs". I did my best to explain the Town's

approach to cost cutting.....a team lead by Berenice and I think Rick Wood, and how they probably got confused between the different elements. Whoever staffed them in that cost cutting exercise probably did not think through how you could have dropped the building and the boiler, but kept the pipes, I told them. They thought that was a likely explanation of what happened.

You might want to look into that change order possibility, and add the pipes back in.

Again, I thank you Mike, and the entire team, including the Engineering staff for their support and enthusiasm.

Mammoth has toyed around with this issue long enough. Let's do it. But to do it will take a team(s) effort.

"Heat my district!"

cc:
Dennis Erdman and Geo Heat team.
Policy makers briefing file.

MAMMOTH UNIFIED SCHOOL DISTRICT

Date: September 22, 1999

To: Town of Mammoth Lakes
Planning Division

From: Patty Henderson, Business Manager
Mammoth Unified School District

I have received your Request for Comments - Projection Consultation on Use Permit Application Number ? from Intrawest, applicant, to construct North Village including 320 Condos.

We have reviewed the above referenced project in regards to our developer fee requirements and find:

_____ This project is exempt from any developer fees.

__✓__ This project is subject to commercial developer fees at the rate of $0.31 per square foot. commercial, including stores, restaurants

__✓__ This project is subject to residential developer fees at the rate of $1.93 per habitable square foot. Condos

__✓__ This project is subject to both residential and commercial fees as noted: See above

Please feel free to give me a call if you have any questions.

"QUALITY EDUCATION"
P. O. BOX 1320 • MAMMOTH LAKES, CALIFORNIA 93546
(760) 934-6802 • FAX (760) 934-6803

COMMUNITY DEVELOPMENT

Planning Division

P.O. Box 1609, Mammoth Lakes, CA 93546

(619) 934-8989 ext. 228, fax (619) 934-8608

REQUEST FOR COMMENTS - PROJECT CONSULTATION

To: Responsible Agencies

Date: September 17, 1999

Subject: Zoning Code Amendment 99-1, Tentative Tract Map 36-193 and Design Review (North Village Specific Plan and ~~Development of Phase 1 of the Village~~)

Assessor's Parcel Number: 33-020-04-21; 33-030-01-10; 33-040-04,05, 33-041-05-09; 33-043-01-14; 33-044-04-10; 33-100-02-26,29-40; 39-030-03,05,08,10; 31-080-59-62,72; 31-110-31,32

Location: Vicinity of Main Street and Minaret Road

Applicant: Intrawest Mammoth Corp.

Owner: Several

Engineer/Architect: Callison Architecture and Triad/Holmes Associates

Project Description: Revision to the North Village Specific Plan, subdivision of 10.99 acres into 4 parcels and a resubdivision of two of those lots into 320 condominium units, and design review of three structures and associated parking.

Enclosed, please find information regarding the subject application. Applicable site plans, maps and environmental information are included for your review.

ENVIRONMENTAL REVIEW: The Town has evaluated the project and expects to prepare a EIR unless evidence is provided which identifies potential adverse environmental impacts. Please submit any comments, concerns, suggested revisions and mitigation measures which your Agency finds relative to this project, to the the Town of Mammoth Lakes Planning Department, no later than October 18, 1999. If no comments have been received, we will assume that your Agency has no comments or contributions to the environmental analysis of this project.

STAFF LEVEL PROJECT REVIEW MEETING: This project has been scheduled for the n/a meeting of the Mammoth Lakes Land Development Technical Advisory Committee (staff meeting) at n/a. This meeting will be held in the Town Offices, Mammoth Lakes, CA. You may attend this meeting or submit your comments in writing prior to the meeting.

PLANNING COMMISSION: This project has been tentatively scheduled for the n/a meeting of the Mammoth Lakes Planning Commission at 9:00 a.m.

MAMMOTH LAKES TOWN COUNCIL: This project has been tentatively scheduled for the n/a meeting of the Mammoth Lakes Town Council at 6:00 p.m.

OTHER MEETINGS: _____

Department of Conservation
Division of Mines & Geology
801 K Street, MS 12-31
Sacramento, CA 95814-3531

Robert H. Sydnor
RG 3267, CHG 6, CEG 968
Senior Engineering Geologist

Office Phone: (916) 323-4399
State e-mail: RSydnor@consrv.ca.gov
Office fax: (916) 322-4765
CDMG home page: www.consrv.ca.gov/dmg

September 29, 1999

Ms. Karen Johnson, *Senior Planner*
Planning Division
Community Development Department
Town of Mammoth Lakes
437 Old Mammoth Road
Post Office Box 1609
Mammoth Lakes, CA 93546
telephone (619) 934-8989

Subject: Carbon Dioxide Hazard at Mammoth Mountain
Town of Mammoth Lakes, Mono County

Dear Ms. Johnson:

The California Division of Mines & Geology is the state's geological survey and the publisher of *California Geology* magazine. In the current September/October 1999 issue of California Geology is a report by an interdisciplinary team of five federal geologists, geochemists, atmospheric physicists, and ecologists regarding the hazard of carbon dioxide at Mammoth Mountain, on the southwest side of the Town of Mammoth Lakes.

The principal government agency that performed this research is the U.S. Geological Survey, with assistance from the University of California national laboratories (sponsored by the U.S. Department Energy) at Livermore and Berkeley. The chief scientist at the Long Valley Caldera is Dr. David P. Hill, a U.S. Geological Survey seismologist stationed at 345 Middlefield Road, Menlo Park, CA 94025. It is recommended that you be in periodic contact with Dr. Hill by mail, e-mail < hill@andreas.wr.usgs.gov >, and telephone (650-329-4795) regarding volcanic hazards, seismology hazards, and carbon dioxide hazards associated with the Long Valley Caldera. Dr. Hill has been studying the Mammoth Lakes – Long Valley area for about 25 years, so he is very experienced with the recent history of this active volcanic area and its geologic hazards.

The California Division of Mines & Geology and the U.S. Geological Survey jointly advise you that there is a significant health-and-safety issue outlined in this report. It is recommended that this report and related USGS reports be used and cited for planning documents prepared under the California Environmental Quality Act (CEQA). There is both an "air quality" aspect to carbon

dioxide and a "geologic hazard" aspect to this volcanic gas, so it should be repeated twice in any CEQA document for the Town of Mammoth Lakes. The bibliography in the back of the report will lead you to pertinent geology and seismology publications by the U.S. Geological Survey and academia regarding the Long Valley Caldera. You can also download pertinent seismology information about Long Valley Caldera and the Mammoth Lakes area from the USGS website at: < www.quake.wr.usgs.gov/volcanoes/Long Valley/index.html > Dr. Hill will be pleased to put your town planning office on his quarterly mailing list for the USGS Long Valley Caldera report.

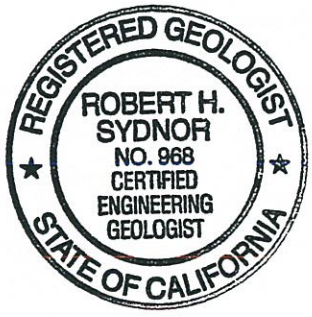
In addition to the *California Geology* publication we are sending the following USGS Fact Sheets that pertain to the Town of Mammoth Lakes:

USGS Fact Sheet 172-96
Invisible CO_2 Gas Killing Trees at Mammoth Mountain, California

USGS Fact Sheet 108-96 (revised 1997)
Living With a Restless Caldera – Long Valley, California
Please use and cite this in all your CEQA documents.

USGS Fact Sheet 073-97
Future Eruptions in California's Long Valley Area – What's Likely?
Please use and cite this in all your CEQA documents.

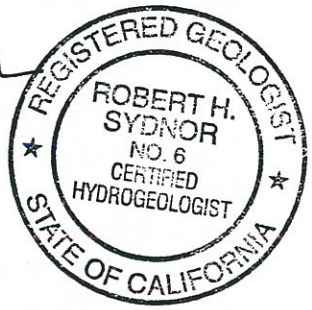
We trust that the USGS Fact Sheets and the USGS report published in *California Geology* on the hazard of carbon dioxide will be *used and cited* for Environmental Impact Reports pertaining to current and future projects within the Town of Mammoth Lakes. All of these reports contain ready-made figures, maps, and diagrams that can be spliced directly into your CEQA documents for quick, efficient, and reliable graphics at no cost. Proper scientific credit should be given to the USGS for all graphics used in environmental documents by the Town of Mammoth. Simply put the authors, USGS, year, and document number in the corner of each illustration. If you have further questions, please call me at 916-323-4399.



Sincerely yours,

Robert H. Sydnor

Robert H. Sydnor
Senior Engineering Geologist
RG 3267, CHG 6, CEG 968



Cc:
Dr. David P. Hill, *USGS Menlo Park*

Attachments:
3 copies of Sept/Oct 1999 issue of *California Geology*
USGS Fact Sheets (colored original versions are available by mail from the USGS at no charge)

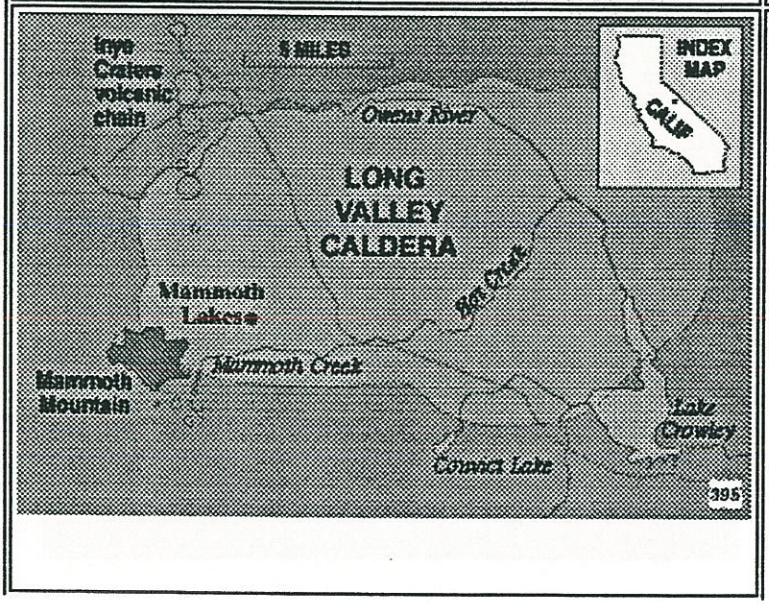
USGS
U.S. Geological Survey Fact Sheet 172-96
Online Version

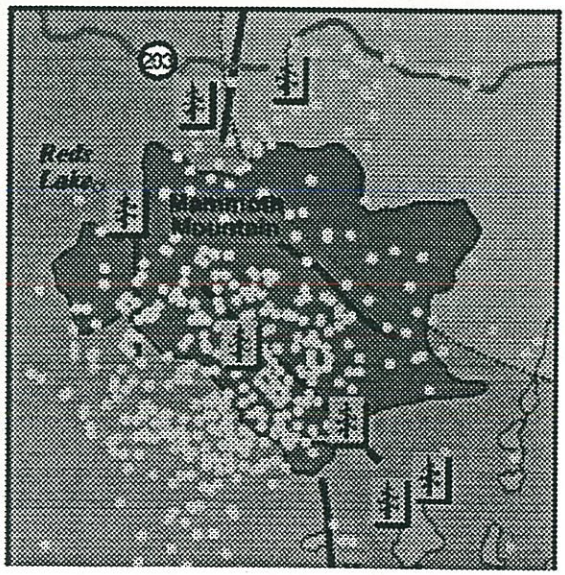
Invisible CO_2 Gas Killing Trees at Mammoth Mountain, California

Since 1980, scientists have monitored geologic unrest in Long Valley Caldera and at adjacent Mammoth Mountain, California. After a persistent swarm of earthquakes beneath Mammoth Mountain in 1989, earth scientists discovered that large volumes of carbon dioxide (CO_2) gas were seeping from beneath this volcano. This gas is killing trees on the mountain and also can be a danger to people. The USGS continues to study the CO_2 emissions to help protect the public from this invisible potential hazard.

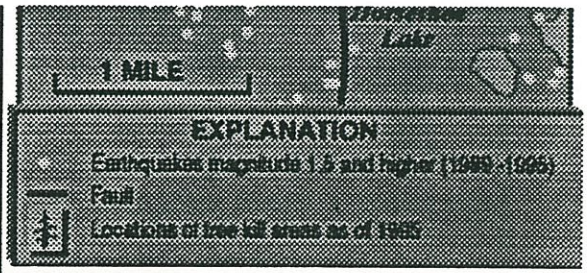
Mammoth Mountain is a young volcano on the southwestern rim of Long Valley Caldera, a large volcanic depression in eastern California. The Long Valley area, well known for its superb skiing, hiking, and camping, has been volcanically active for about 4 million years. The most recent volcanic eruptions in the region occurred about 200 years ago, and earthquakes frequently shake the area. Because of this, the U.S. Geological Survey (USGS) operates an extensive network of instruments to monitor the continuing unrest in the Long Valley area.

Mammoth Mountain, a young volcano in eastern California, rises above the floor of a large volcanic depression known as Long Valley Caldera. The scenic Long Valley area, popular with skiers, hikers, and campers, has been volcanically active for about 4 million years. High concentrations of CO_2 gas have been detected in the soil on Mammoth Mountain. This invisible gas, seeping from beneath the volcano, is killing trees on the sides of the mountain.





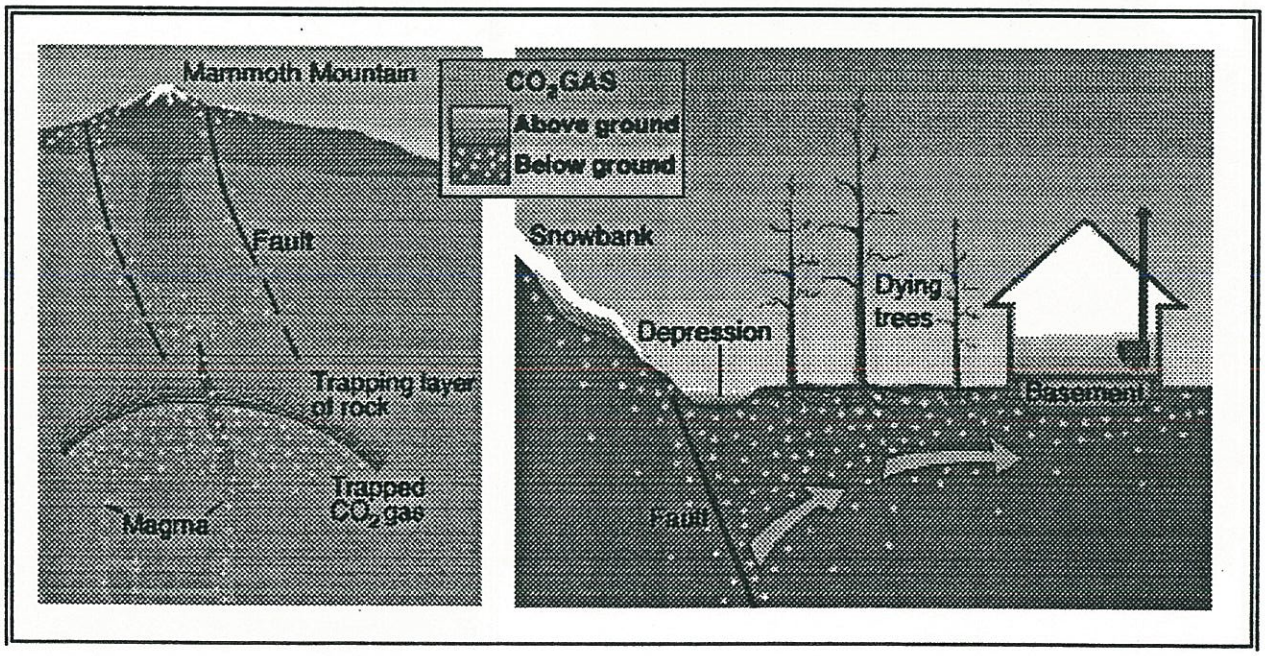
Areas of dead and dying trees at Mammoth Mountain volcano in eastern California total more than 100 acres. In 1990, the year after a persistent swarm of small earthquakes occurred beneath the volcano, U.S. Forest Service rangers first noticed areas of tree kill. When U.S. Geological Survey scientists investigated, they discovered that the roots of the trees are being killed by excessive concentrations of carbon dioxide gas in the soil. The seepage of this gas from below Mammoth Mountain and the continued occurrence of local earthquakes are signs of the ongoing geologic unrest in the area. The upper part of the 11,027-ft-high volcano (above 9,500 ft) is shown in green.



Numerous small earthquakes occurred beneath Mammoth Mountain from May to November 1989. Data collected from monitoring instruments during those months indicated that a small body of magma (molten rock) was rising through a fissure beneath the mountain. In the following year, U.S. Forest Service rangers noticed areas of dead and dying trees on the mountain. After drought and insect infestations were eliminated as causes, a geologic explanation was suspected. USGS scientists then made measurements and discovered that the roots of the trees are being killed by exceptionally high concentrations of CO_2 gas in the soil. Today areas of dead and dying trees at Mammoth Mountain total more than 100 acres. The town of Mammoth Lakes, just east of this volcano, has not been affected.

Although leaves of plants produce oxygen (O_2) from CO2 during photosynthesis, their roots need to absorb O_2 directly. The high CO_2 concentrations in the soil on Mammoth Mountain are killing trees by denying their roots O_2 and by interfering with nutrient uptake. In the areas of tree kill, CO_2 makes up about 20 to 95% of the gas content of the soil; soil gas normally contains 1% or less CO_2.

When CO_2 from soil leaves the ground, it normally mixes with the air and dissipates rapidly. CO_2 is heavier than air, however, and it can collect at high concentrations in the lower parts of depressions and enclosures, posing a potential danger to people. Breathing air with more than 30% CO_2 can very quickly cause unconsciousness and death. Therefore, poorly ventilated areas above and below ground can be dangerous in areas of CO_2 seepage. Where thick snowpacks accumulate in winter, the CO_2 can be trapped within and beneath the snow. Dangerous levels of CO_2 have been measured in pits dug in the snowpack in tree-kill areas on Mammoth Mountain, and snow-cave camping in such areas is not advised.

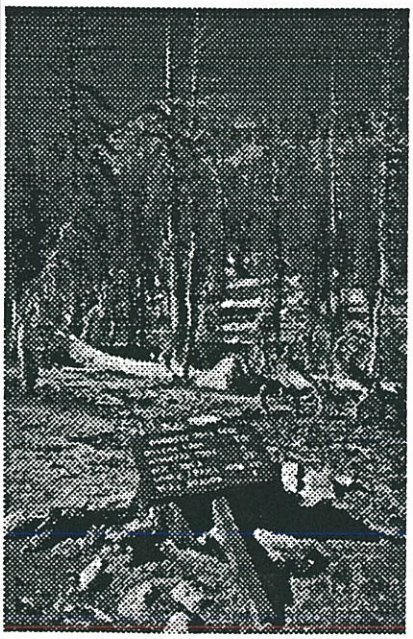


Carbon dioxide gas seeping from the ground at Mammoth Mountain likely was derived from magma (molten rock) beneath the volcano. In 1989, rising magma may have opened cracks, allowing large amounts of trapped carbon dioxide gas to leak upward along faults. High concentrations of carbon dioxide in soil can kill the roots of trees. Carbon dioxide gas is heavier than air, and when it leaks from the soil it can collect in snowbanks, depressions, and poorly ventilated enclosures, such as cabins and tents, posing a potential danger to people.

Geologists have detected CO_2 emissions, like those at Mammoth Mountain, on the flanks of other volcanoes, including Kilauea in Hawaii and Mount Etna in Sicily. Measuring the rate of such gas emissions on the flanks of volcanoes or within calderas is difficult and labor intensive. Readings must be made at many locations using small gas-collection instruments placed on the soil.

A preliminary estimate of the current rate of CO_2 gas emission at Mammoth Mountain is 1,300 tons per day. Similar rates of CO_2 emission have been measured from the craters of Mt. St. Helens (Washington) and Kilauea (Hawaii) volcanoes during periods of low-level eruptive activity. Past eruptions at Mammoth Mountain, such as the phreatic (steam-blast) eruptions that occurred about 600 years ago on the volcano's north flank, may have been accompanied by CO_2 emissions. Scientists think that the current episode of high CO_2 emission is the first large-scale release of the gas on the mountain for at least 250 years, because the oldest trees in the active tree-kill areas are about that age.

The characteristics of CO_2 and other gases seeping from Mammoth Mountain indicate that they were originally derived from magma. Large amounts of these gases probably were trapped beneath the volcano until 1989. In that year the magma rising through a fault may have opened cracks, allowing the gases to leak upward. Although infrequent small earthquakes continue to occur below the mountain, there is no evidence of current magma movement.



In 1989-90, trees on the south side of Mammoth Mountain volcano began dying from high concentrations of carbon dioxide gas in the soil. Although leaves of plants produce oxygen from carbon dioxide during photosynthesis, their roots need to absorb oxygen directly. High carbon dioxide concentrations in the soil kill plants by denying their roots oxygen and interfering with nutrient uptake. In the areas of tree kill at Mammoth Mountain, carbon dioxide makes up about 20 to 95 percent of the gas content of the soil. Shown above are USGS scientists taking samples of soil gas in the tree kill area.

Earthquakes and CO_2 seepage beneath Mammoth Mountain are only two signs of volcanic unrest in the Long Valley area. Mammoth Mountain is the southernmost volcano in the Mono-Inyo Craters volcanic chain, and over the past 4,000 years, small eruptions have occurred somewhere along this chain every few hundred years.

Scientists with the USGS Volcano Hazards Program are closely monitoring CO_2 emissions and other geologic hazards at Mammoth Mountain. Their continued studies in the Long Valley area of eastern California and in other volcanic regions of the United States, including Hawaii, the Pacific Northwest, Wyoming, and Alaska, are helping to protect the

citizens of our Nation from geologic hazards.

Michael L. Sorey, Christopher D. Farrar, William C. Evans, David P. Hill, Roy A. Bailey, James W. Hendley II, and Peter H. Stauffer

Paper version of this fact sheet published in 1996

For more information or for copies of the paper version of this fact sheet contact:

Earthquake Information Hotline (650) 329-4085
U.S. Geological Survey, Mail Stop 977
345 Middlefield Road, Menlo Park, CA 94025

Visit the Long Valley web site to learn more about this area

In addition, there's a place on the Web where you can learn more about volcanoes, the hazards they pose, and the work of the USGS Volcano Hazards Program

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COOPERATING ORGANIZATIONS

Mammoth Mountain Ski Area
Town of Mammoth Lakes
U.S. Department of Agriculture,
U.S. Forest Service

Other Volcano-Related Fact Sheets published by the U.S. Geological Survey

Volcanic Ash--Danger to Aircraft in the North Pacific

Living With a Restless Caldera--Long Valley, California

Future Eruptions in California's Long Valley Area--What's Likely?

Living on Active Volcanoes--The Island of Hawaii

Volcanic Air Pollution-- A Hazard in Hawaii

Mobile Response Team Saves Lives in Volcanic Crises

What Are Volcano Hazards?

Living With Volcanic Risk in the Cascades

Benefits of Volcano Monitoring Far Outweigh Costs--The Case of Mount Pinatubo

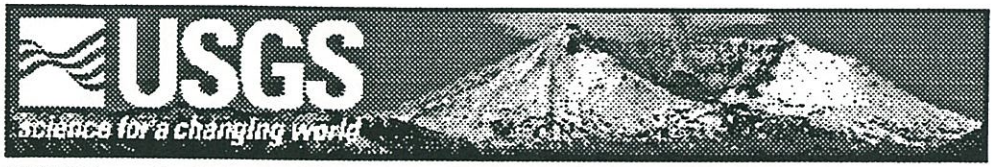
The Cataclysmic 1991 Eruption of Mount Pinatubo, Philippines

Lahars of Mount Pinatubo, Philippines

PDF Version of this fact sheet

REDUCING THE RISK FROM VOLCANO HAZARDS

URL of this page: http://geopubs.wr.usgs.gov/FactSheets/TreeKill/TreeKill.html
Maintained by Carolyn Donlin
Last modified 4-24-98 (cad)



USGS/Cascades Volcano Observatory, Vancouver, Washington

Long Valley-Mammoth Monitoring

- **Graphics and Images**
  - Map [18K,GIF]: Map of Western United States, showing locations of volcanoes monitored by CVO -- Mount Baker to Long Valley -- *Modified from: Iwatsubo, 1996*
  - Map [36K,GIF]: Long Valley Tilt Network - 1982 -- *Modified from: Dzurisin, Cashman, and Sylvester, 1982*
  - Map [165K,GIF]: Long Valley Rapid Static GPS Network -- *[Map,186K,JPG]*

- **Items of Interest**
  - PROJECT: Volcano Deformation Project
  - Table of CVO Volcano Networks
  - REPORT: Tilt Measurements at Long Valley Caldera, California, May-August 1982 -- *Dzurisin, et.al., 1982, USGS Open-File Report 82-893*

- **Other Menus of Interest**
  - Long Valley and Vicinity -- *CVO Menu*
  - Volcano and Hydrologic Monitoring -- *CVO Menu*

- **Useful Links**
  - Long Valley Observatory (LVO) -- *USGS WebServer, includes most current conditions*
  - Long Valley Seismicity Maps -- plots for last 3 days -- *Link courtesy of USGS/LongValley Monitoring Program*

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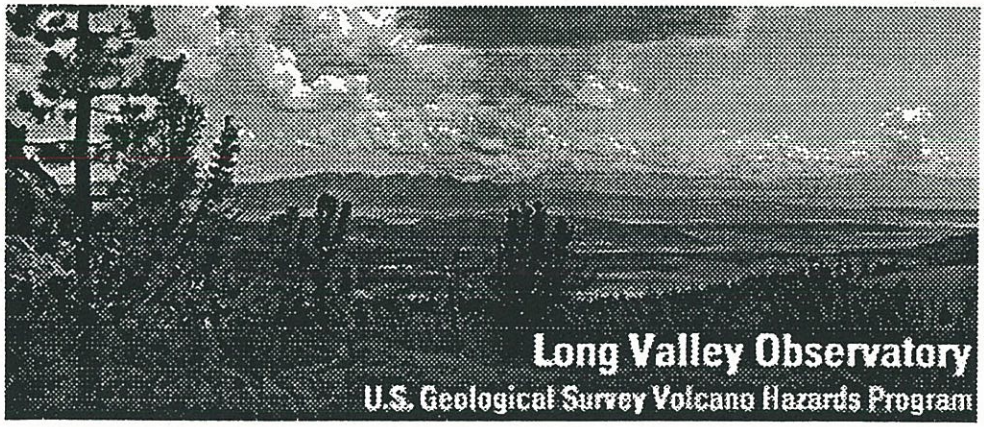
URL for CVO HomePage is: <http://vulcan.wr.usgs.gov/home.html>
URL for this page is: <http://vulcan.wr.usgs.gov/Volcanoes/LongValley/Monitoring/framework.html>
If you have questions or comments please contact: <webmaster@mailvan.wr.usgs.gov>
08/23/99, Lyn Topinka

USGS
science for a changing world



MONITORING VOLCANIC UNREST AT LONG VALLEY CALDERA

Long Valley Caldera a 15- by 30-km oval-shaped depression located 20 km south of Mono Lake along the east side of the Sierra Nevada in east-central California. This area of eastern California has produced numerous volcanic eruptions over the last 3 million years including the massive, caldera-forming eruption 760,000 years ago. The most recent eruption occurred just 250 years ago in Mono Lake at the north end of Mono Craters.

In May of 1980, a strong earthquake swarm that included four magnitude 6 earthquakes struck the southern margin of Long Valley Caldera associated with a 25-cm, dome-shaped uplift of the caldera floor. These events marked the onset of the latest period of caldera unrest that continues to this day. This ongoing unrest includes recurring earthquake swarms and continued dome-shaped uplift of the central section of the caldera (the resurgent dome) accompanied by changes in thermal springs and gas emissions.

In 1982, the U.S. Geological Survey under the Volcano Hazards Program began an intensive effort to monitor and study geologic unrest in Long Valley caldera. The goal of this effort is to provide residents and civil authorities in the area reliable information on the nature of the potential hazards posed by this unrest and timely warning of an impending volcanic eruption, should it develop.

Long-term outlook
What does the future hold for Long Valley caldera and the Mono-Inyo volcanic chain?

Current condition
Includes excerpts from latest quarterly monitoring report and annual summaries since 1992.

Monitoring data available online
Most, perhaps all, volcanic eruptions are preceded and accompanied by geophysical and geochemical changes in the volcanic system. Common precursory indicators of volcanic activity include increased seismicity, ground deformation, and variations in the nature and rate of gas emissions. The following links lead to information on each type of monitoring network currently operated in Long Valley Caldera and frequently updated data from each of the networks.

Earthquake activity (Seismicity): Map and list of earthquakes in the Long Valley Caldera region for the last three days automatically detected and located by computer. Preliminary earthquake locations are automatically updated every half hour.

Ground deformation: Up-to-date plots of data from continuously recording tiltmeters, strain meters (borehole dilatometers), and line-lengths from frequent two-color geodimeter and GPS measurements.

Gases and Tree Kill on Mammoth Mountain: Recent data on gas emissions from the caldera and tree kills caused by carbon dioxide in soil gas on Mammoth Mountain.

Hydrologic Studies: Information on hot springs, wells, and geothermal development in Long Valley Caldera.

Long Valley coring project: Information on the deep exploration well being drilled on the resurgent dome within Long Valley caldera.

All the monitoring data gathered at Long Valley combined with years of geologic research in the Long Valley area help scientists determine what is likely to happen at Long Valley Caldera. But knowledge about any expected volcanic activity is useless unless it is effectively communicated to the citizens who will be directed affected. USGS scientists worked with officials from the California Office of Emergency Services and civil authorities in eastern California to establish procedures for promptly alerting the public about possible eruptions. Find out about the Long Valley Caldera Response Plan

To learn more about Long Valley Caldera, we suggest reading three short fact sheets about the Long Valley Area (listed below) and exploring this website.

| Living With a Restless Caldera | Future Eruptions in California's Long Valley Area--What's Likely? | | Invisible CO_2 Gas Killing Trees in the Mammoth Mountain Area | Scientific Drilling in Long Valley, California - What Will We Learn? |

| Area Map | Background | FAQs | Reading List | Geologic History | Observatory Information |

The Long Valley Area is not the only volcanic area being monitored by the U.S. Geological Survey. If you're interested in volcanoes, you'll want to find out more about the other volcano observatories and operated and fully or partially funded by the USGS.

| Hawaiian Volcano Observatory | Alaskan Volcano Observatory | Cascades Volcano Observatory |

There is an effort related to the studies of Long Valley Caldera conducted by the USGS Geologic Hazards Program that involves monitoring the seismic activity at Yellowstone National Park in conjunction with the University of Utah.

U.S. Geological Survey, 345 Middlefield Rd., MS 977, Menlo Park, CA 94025
URL http://quake.wr.usgs.gov/VOLCANOES/LongValley/index.html
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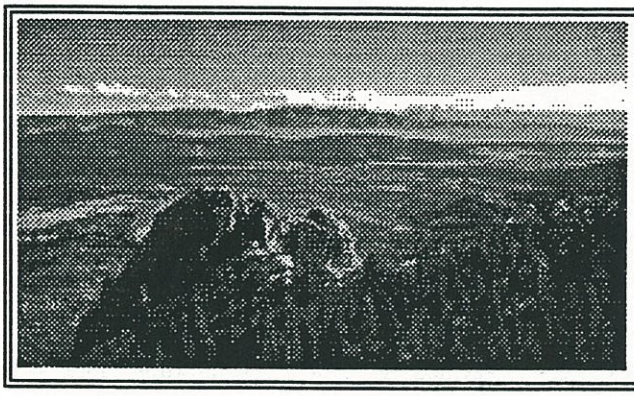
Last modified: 6/25/98 (cad)

USGS
U.S. Geological Survey Fact Sheet 108-96, revised 1997
Online Version

Living With a Restless Caldera— Long Valley, California

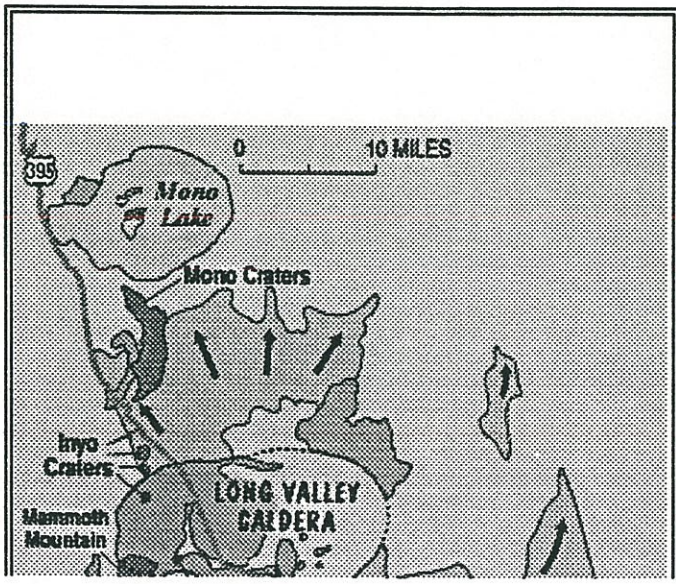
Earth scientists have monitored geologic unrest in the Long Valley, California, area since 1980. In that year, following a swarm of strong earthquakes, scientists discovered that the central part of the Long Valley Caldera had begun actively rising. Unrest in the area persists today. The USGS continues to provide the public and civil authorities with current information on the volcanic hazard at Long Valley and is prepared to give timely warnings of any impending eruption.

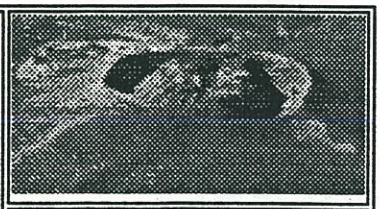
In the 1850's, gold fever brought the first waves of European settlers through the Long Valley area of eastern California. Today, waves of visitors are attracted to the area year round by the spectacular mountain scenery of the eastern Sierra Nevada. This landscape has been sculpted over the past 4 million years by glaciers, earthquakes, and volcanic eruptions.



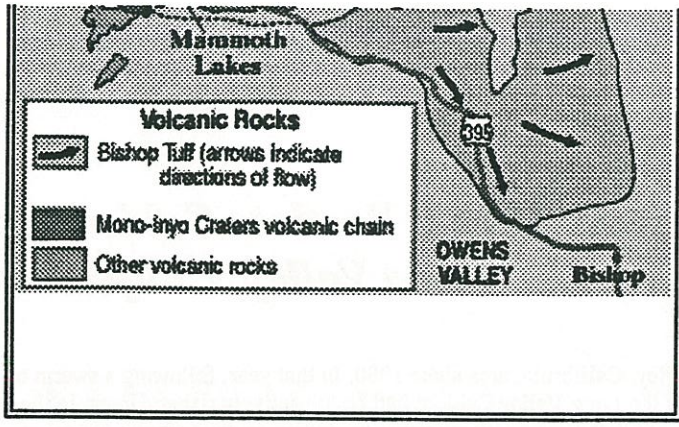
Long Valley Caldera in eastern California (here viewed from its southwest rim toward its northeast rim on the horizon 18 miles away) was formed about 760,000 years ago in a violent volcanic eruption that blew out 150 cubic miles of magma (molten rock) from beneath the Earth's surface. U.S. Geological Survey scientists are tracking continuing dome-like swelling centered in the low forested hills in the middle of the caldera. This swelling affects more than 100 square miles and is caused by magma rising beneath the Earth's surface.

About 760,000 years ago a cataclysmic volcanic eruption in the area blew out 150 cubic miles of magma (molten rock) from a depth of about 4 miles beneath the Earth's surface. Rapidly moving flows of glowing hot ash covered much of east-central California, and airborne ash fell as far east as Nebraska. The Earth's surface sank more than 1 mile into the space once occupied by the erupted magma, forming a large volcanic depression that geologists call a caldera.





Much of the Long Valley area of eastern California is covered by rocks formed during volcanic eruptions in the past 2 million years. A cataclysmic eruption 760,000 years ago formed Long Valley Caldera and ejected flows of hot glowing ash, which cooled to form the Bishop Tuff. Wind-blown ash from that ancient eruption&emdash;which was more than 2,000 times larger than the 1980 eruption of Mt. St. Helens,



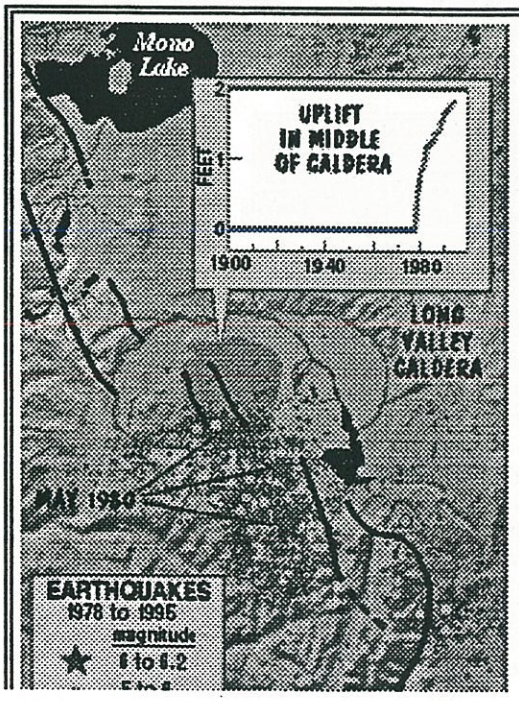
Washington, that killed 57 people and caused several billion dollars in damage&emdash;covered most of the Western United States. The photo shows a volcanic cone (Panum Dome) formed by eruptions about 600 years ago at the north end of the Mono Craters. The most recent volcanic eruptions in the area occurred in Mono Lake sometime between the mid-1700's and mid-1800's.

Today, Long Valley occupies the eastern half of this 10-mile-wide, 20-mile-long caldera. Magma still underlies the caldera and heats underground water. The heated water feeds local hot springs and natural steam vents and drives three geothermal power plants, producing a combined 40 megawatts of electricity.

The Long Valley Caldera is only one part of a large volcanic system in eastern California that also includes the Mono-Inyo Craters volcanic chain. This chain extends from Mammoth Mountain at the southwest rim of the caldera northward 25 miles to Mono Lake. Eruptions along this chain began 400,000 years ago, and Mammoth Mountain itself was formed by a series of eruptions ending 50,000 years ago. The volcanic system is still active. Scientists have determined that eruptions occurred in both the Inyo Craters and Mono Craters parts of the volcanic chain as recently as 600 years ago and that small eruptions occurred in Mono Lake sometime between the mid-1700's and mid-1800's.

Although no volcanic eruptions are known to have occurred in eastern California since those in Mono Lake, earthquakes occur frequently. These earthquakes are caused by movement along faults and by the pressure of magma rising beneath the Earth's surface, two closely related geologic processes. In 1872, the magnitude 7.6 Owens Valley earthquake was felt throughout most of California, and a number of moderate (magnitude 5 to 6) earthquakes have shaken the Long Valley area during this century.

A period of ongoing geologic unrest in the Long Valley area began in 1978, when a magnitude 5.4 earthquake struck 6 miles southeast of the caldera. This temblor ended two decades of low quake activity in eastern California. The area has since experienced numerous swarms of earthquakes, especially in the southern part of the caldera and the adjacent Sierra Nevada.



Earthquake activity in the Long Valley area of eastern California increased greatly after 1978. This volcanically active area is located along the major faults (black lines) that form the eastern edge of the Sierra Nevada. The quake activity is caused by two closely related geologic processes&emdash;movement along faults and the pressure of magma (molten rock) rising beneath the Earth's surface. Following four strong magnitude 6 shocks in May 1980, the U.S. Geological Survey (USGS) detected dome-like swelling in the middle of Long Valley Caldera (inset graph). In response to these signs of renewed volcanic unrest, USGS scientists intensified their monitoring of the Long Valley area.

The most intense of these swarms began in May 1980 and included four strong magnitude 6 shocks, three of which struck on the same day. Immediately following these shocks, scientists from the U.S. Geological Survey (USGS) began a reexamination of the Long Valley area and detected other evidence of unrest&emdash;a dome-like uplift in the caldera. Their measurements showed that the center of the caldera had risen almost a foot since the summer of 1979 after decades of stability. This continuing swelling, which now totals nearly 2 feet and affects more than 100 square miles, is caused by new magma rising beneath the caldera.

In response to this escalating geologic unrest, the USGS intensified its monitoring program in Long Valley Caldera and Mono-Inyo Craters volcanic system. An expanded network of seismometers installed in 1982 closely monitors earthquake activity in the area, and other instruments track the continuing swelling in the caldera. Data from these instruments help scientists to assess the volcanic hazard in the Long Valley area and to recognize the early signs of possible eruptions. In cooperation with the California Office of Emergency Services and civil authorities in eastern California, the USGS has established procedures to promptly alert the public to a possible eruption.

PLANNED USGS RESPONSE TO UNREST IN THE LONG VALLEY AREA

Geologic Behavior	Condition	USGS Response
TYPICAL BEHAVIOR: Since 1980, typical background geologic activity in the Long Valley area has included as many as 20 earthquakes of magnitude 2 or smaller a day, occasional swarms of magnitude 3 and larger earthquakes (felt locally), and uplift of the center of Long Valley Caldera at a rate of about 1 inch per year. Swarms including magnitude 4 earthquakes may occur about once a year.	 (NO IMMEDIATE RISK)	ROUTINE MONITORING: When appropriate, information calls placed to USGS personnel, Town, County, and State (OES, California Division of Mines and Geology) authorities, and locally operating Federal agencies (U.S. Forest Service, Bureau of Land Management) regarding felt earthquakes and notable changes in other types of geologic activity, such as ground deformation, volcanic gas emissions, and fumarolic activity.
INTENSE UNREST (may occur about once a decade): For example, a quake swarm with at least one magnitude 5 earthquake and (or) evidence of increased magma movement or pressure at depth, as indicated by a pronounced increase in the rate of ground deformation.	 (WATCH)	INTENSIFIED MONITORING. Set up emergency field headquarters in the Long Valley area. **WATCH** message sent by USGS to California OES, which promptly notifies local authorities.
ERUPTION LIKELY within hours or days (may occur every few hundred years): Strong evidence of magma movement at shallow depth.	 (WARNING)	**GEOLOGIC HAZARD WARNING** issued by USGS to Governors of California and Nevada and others, who inform the public. Continue intensive on-site monitoring.
ERUPTION UNDERWAY (may occur every few hundred years)	 (ALERT)	SUSTAINED MONITORING AND COMMUNICATION. Maintain intensive monitoring and continuously keep civil authorities informed on progress of eruption and likely future developments.

The U.S. Geological Survey (USGS), in cooperation with the California Office of Emergency Services (OES) and local authorities, has established these procedures to respond to different levels of geologic unrest in the Long Valley area of eastern California.

During the early 1990's, trees began dying off at several places on Mammoth Mountain on the southwest edge of Long Valley Caldera. Studies conducted by USGS and U.S. Forest Service scientists show that the trees are being killed by large amounts of carbon dioxide (CO_2) gas seeping up through the soil from magma deep beneath Mammoth Mountain.

Such emissions of volcanic gas, as well as earthquake swarms and ground swelling, commonly precede volcanic eruptions. When these events precede an eruption of a "central vent" volcano, such as Mount St. Helens, Washington,

they normally last only a few weeks or months. However, such symptoms of volcanic unrest may persist for decades or even centuries at large calderas, such as Long Valley Caldera. Recent studies indicate that only about one in six such episodes of unrest at large calderas worldwide actually culminates in an eruption.

Over the past 4,000 years, small to moderate eruptions have occurred somewhere along the Mono-Inyo volcanic chain every few hundred years, and the possibility remains that geologic unrest in the Long Valley area could take only weeks to escalate to an eruption. Nonetheless, geologists think that the chances of an eruption in the area in any given year are quite small.

To provide reliable and timely warning prior to an eruption, scientists of the USGS Volcano Hazards Program continue to closely monitor geologic unrest in the Long Valley area of eastern California and in other volcanic regions of the United States, including Hawaii, the Pacific Northwest, Wyoming, and Alaska. This ongoing work helps to better protect the lives and property of American citizens from volcanic hazards.

David P. Hill, Roy A. Bailey, Michael L. Sorey, James W. Hendley II, and Peter H. Stauffer

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COOPERATING ORGANIZATIONS
California Office of Emergency Services
California Division of Mines and Geology
Inyo County, California
Mono County, California
Town of Mammoth Lakes
Mammoth Mountain Ski Area
University of Nevada, Reno
U.S. Forest Service

Other Volcano-Related Fact Sheets published by the U.S. Geological Survey

Future Eruptions in California's Long Valley Area--What's Likely?

Invisible CO_2 Gas Killing Trees at Mammoth Mountain, California

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Lahars of Mount Pinatubo, Philippines

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REDUCING THE RISK FROM VOLCANO HAZARDS

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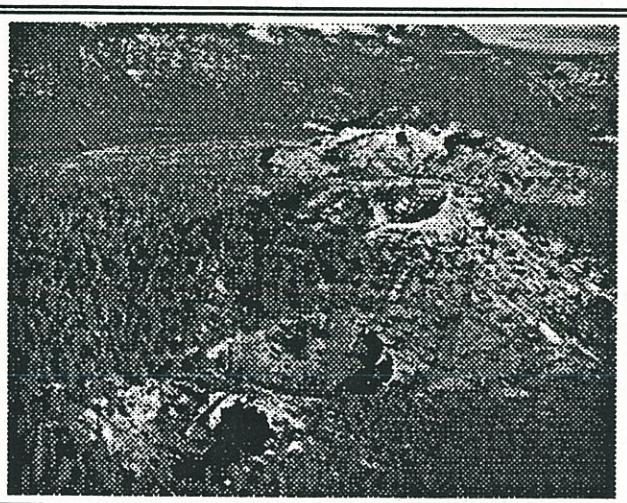
Future Eruptions in California's Long Valley Area—What's Likely?

Long Valley Caldera and the Mono-Inyo Craters chain form a large volcanic complex in eastern California that has had persistent earthquake activity and ground uplift in recent decades. Volcanoes have been active in the area for millions of years, and future eruptions are certain to occur. When the next eruption in the area does occur, it will most likely be small and from a site in the Mono-Inyo chain.



The three Inyo Craters, part of the Mono-Inyo Craters volcanic chain, stretch northward across the floor of Long Valley Caldera, a large volcanic depression in eastern California. During the past 1,000 years there have been at least 12 volcanic eruptions along the chain, including those that formed the Inyo Craters and South Deadman Creek Dome (seen here just beyond the farthest Crater).

After four strong (magnitude 6) earthquakes rocked the Long Valley area of eastern California in May 1980, U.S. Geological Survey (USGS) scientists also detected evidence of renewed volcanic unrest in the region. They discovered that the central part of Long Valley Caldera, a broad depression formed in a cataclysmic volcanic eruption 760,000 years ago, was slowly rising. Because such ground deformation and earthquakes are common precursors of volcanic eruptions, the USGS has continued to closely monitor the unrest in this region.

It is natural to wonder when and where the next volcanic eruption might occur in the Long Valley area. Geologic processes generally proceed at a slow pace, and when viewed on the scale of a human lifetime, volcanic eruptions and destructive earthquakes happen rarely. Nevertheless, the long history of volcanic activity in the Long Valley area indicates that future eruptions will occur.

Geologists studying the Long Valley Caldera have found that following its creation in the violent eruption 760,000 years ago, clusters of smaller volcanic eruptions have occurred in the caldera at roughly 200,000-year intervals. About 100,000 years ago, the most recent of these eruptions formed the Mammoth Knolls, low hills just north of the Town of Mammoth Lakes.

Mammoth Mountain, a young volcano on the rim of Long Valley Caldera, was built by numerous eruptions between 220,000 and 50,000 years ago. Volcanoes in the Mono-Inyo Craters volcanic chain, which extends from just south of Mammoth Mountain to the north shore of Mono Lake, have erupted often over the past 40,000 years. During the last 5,000 years, an eruption has broken out somewhere along this chain every 250 to 700 years. The Inyo Craters and nearby lava domes were formed by a series of small to moderate eruptions 550 to 600 years ago, and the most recent eruptions along the volcanic chain took place about 250 years ago at Paoha Island in Mono Lake.

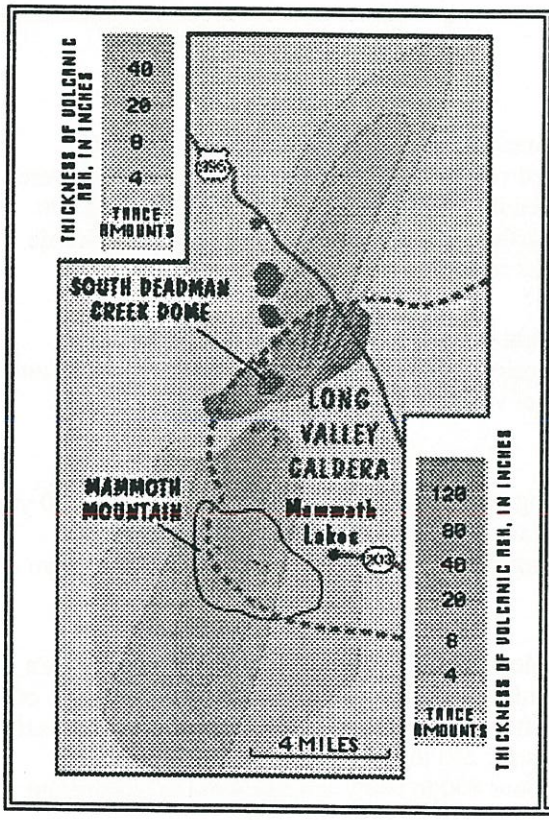
The pattern of volcanic activity over the past 5,000 years suggests that the next eruption in the Long Valley area will most likely happen somewhere along the Mono-Inyo volcanic chain. However, the probability of such an eruption occurring in any given year is less than 1%. This is comparable to the annual chance of a magnitude 8 earthquake (like the Great 1906 San Francisco Earthquake) along the San Andreas Fault in coastal California or of an eruption from one of the more active Cascade Range volcanoes in the Pacific Northwest, such as Mount Rainier.

As long as increased volcanic unrest (including earthquake swarms, ground deformation, and CO2 gas emissions) continues in the Long Valley area, the chances of an eruption occurring in the near future will remain somewhat increased. However, evidence from large volcanic areas and calderas worldwide shows that unrest, such as the current activity in eastern California, can persist for decades or even centuries without leading to an eruption. Nevertheless, recent eruptions at Rabaul Caldera in Papua New Guinea (1994) and the Izu volcanic complex in Japan (1989) following short periods of unrest emphasize the need to closely monitor restless calderas.

When an eruption does break out in the Long Valley area, its impact will depend on the location, size, and type of eruption, as well as the wind direction. Also, an eruption during the winter months could melt heavy snow packs, generating mudflows and locally destructive flooding.

Most likely, the next eruption will be small and similar to previous eruptions along the Mono-Inyo volcanic chain during the past 5,000 years. Such eruptions typically begin with a series of steam-blast explosions as rising molten rock (magma) encounters and vaporizes underground water near the Earth's surface. These blasts can throw large blocks of rock and smaller fragments hundreds of feet into the air, leaving deep, circular pits like the Inyo Craters.

If magma reaches the surface, gases trapped within it can escape explosively, hurling volcanic ash (tiny fragments of the solidifying magma) as high as 6 miles or more. Airborne volcanic ash can be carried hundreds of miles downwind, and the amount and size of falling ash decrease with distance from the eruption site. Thin accumulations of ash pose little threat to life or property, especially in areas where the roofs of most buildings are constructed to withstand heavy snow loads. However, even a light dusting of fine volcanic ash can close roads and seriously disrupt communications and utilities for weeks or months after an eruption.



The eruptions that led to the creation of the 600-year-old South Deadman Creek Dome covered the area of what is now the Town of Mammoth Lakes with a layer of volcanic ash about 1 inch thick. During these eruptions, the wind first blew toward the northeast (tan) and later toward the southwest (pink), spreading volcanic ash in the pattern shown on the map. These eruptions also produced fiery flows of hot ash (pyroclastic flows). Depending on the wind direction and the location of an eruption site, future eruptions in the Long Valley area could spread volcanic ash over the communities of Mammoth Lakes, June Lake, or Lee Vining (see also eruption chart). Pyroclastic flows incicated by yellow and orange area.

Explosive volcanic eruptions may also produce fiery flows of hot ash (pyroclastic flows) that can sweep over the ground at speeds greater than 100 miles an hour, devastating everything in their paths. In the past 5,000 years, eruptions from several sites along the Mono-Inyo chain have produced narrow, tongue-like pyroclastic flows that extended more than 5 miles. Fortunately, the main population centers in the Long Valley area are far enough from probable eruption sites that they are unlikely to be directly impacted by future pyroclastic flows.

Less violent eruptions have also taken place in the Long Valley area. These eruptions typically began with mild explosions that formed relatively small volcanic cones less than 1,000 feet in diameter and then produced hot, fluid lava flows that extended a few miles. Eruptions of this type about 5,000 years ago created the Red Cones, just south of Mammoth Mountain. Flows of fluid lava were also erupted from sites near the base of Mammoth Mountain between 400,000 and 60,000 years ago. Such flows are highly destructive to property, but seldom endanger people because lava flows rarely move faster than a brisk walk.

Although the chance of a volcanic eruption in any given year is small, future eruptions will occur in the Long Valley area. Because volcanic unrest can escalate to an eruption in a few weeks or less, USGS scientists are closely monitoring activity in this region. To be able to provide the public with reliable and timely warnings before an eruption, the USGS has joined local and State authorities in developing procedures for responding to changing levels of volcanic unrest in the Long Valley area. The ongoing work of the USGS Volcano Hazards Program in this and other volcanic regions of the United States helps to better protect people's lives and property from volcano hazards.

David P. Hill, Roy A. Bailey, C. Dan Miller, James W. Hendley II, and Peter H. Stauffer

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COOPERATING ORGANIZATIONS
California Division of Mines and Geology
California Office of Emergency Services
Inyo County, California
Mono County, California
Mammoth Mountain Ski Area
Town of Mammoth Lakes, California
University of Nevada, Reno
U.S. Department of Agriculture, U.S. Forest Service

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URL of this page: http://geopubs.wr.usgs.gov/FactSheets/LongValley/LongValley.html
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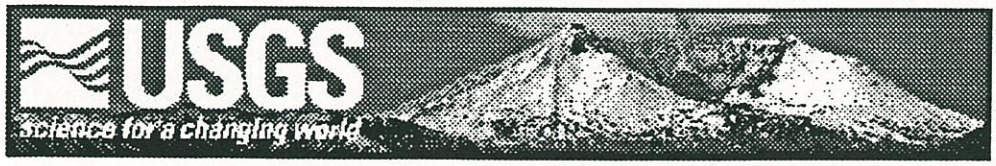
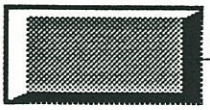


USGS/Cascades Volcano Observatory, Vancouver, Washington

Long Valley Caldera - Mammoth Vicinity - Inyo Craters - Mono Domes, California



Link to: Long Valley Observatory (LVO)

- **Background and Information**
  - DESCRIPTION: Long Valley Vicinity -- *Geographic Setting, and Geologic and Eruptive History*
- **Visit a Volcano**
  - VISIT A VOLCANO: Long Valley - Mammoth - Inyo - Mono Vicinity
- **Graphics and Images**
  - Maps and Graphics
  - CVO Photo Archives - Long Valley Vicinity
  - Volcano-Cams Around The World -- includes Mammoth Mountain
- **Items of Interest**
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  - Inyo Craters and Inyo Domes
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  - Mono Craters and Mono Domes
  - Visit a Volcano - Long Valley Vicinity
  - Volcanic Heights in the Western United States -- *Table Format -- Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming*
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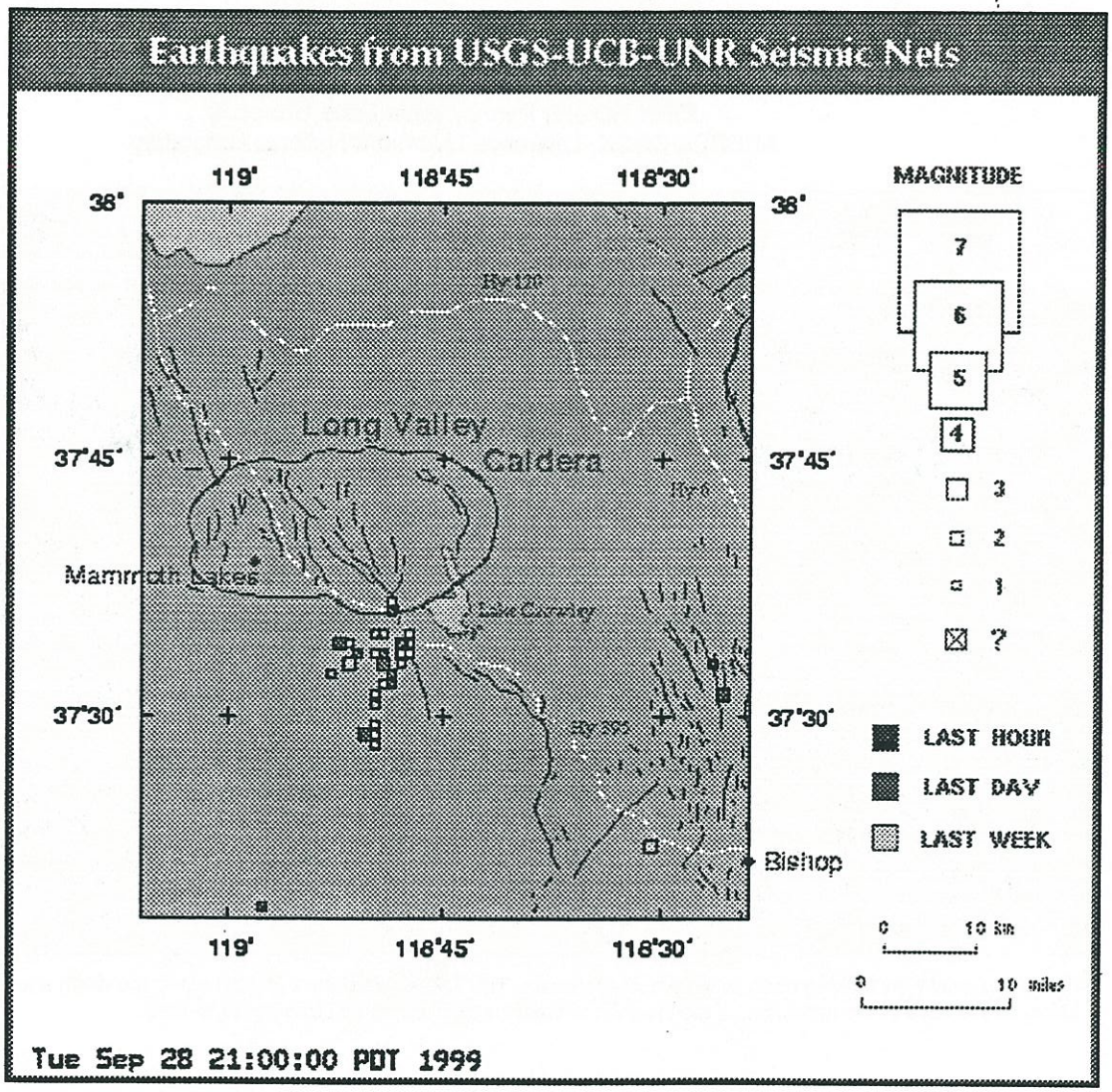
  - PROJECT: Volcano-Groundwater Interactions -- *References to Inyo Craters, Long Valley Caldera*
  - REPORTS: Long Valley - Mammoth Vicinity Publications
- **Other Menus of Interest**
  - California Volcanics -- *CVO Menu*
- **Useful Links**
  - Long Valley Observatory (LVO) -- *includes most current conditions*
  - Long Valley Seismicity Maps -- plots for last 3 days -- *courtesy of USGS/LongValley Monitoring Program*
  - Smithsonian's Global Volcanism Program - Long Valley

URL for CVO HomePage is: <http://vulcan.wr.usgs.gov/home.html>
URL for this page is: <http://vulcan.wr.usgs.gov/Volcanoes/LongValley/framework.html>
If you have questions or comments please contact: <webmaster@mailvan.wr.usgs.gov>
07/22/99, Lyn Topinka

Recent Earthquakes in California

Long Valley Special Map



There are 64 earthquakes on this map.

- **Click on an earthquake on the above map for more information...**
- **Click here to go to index map || big earthquake list || all earthquakes list**
- **Special maps: Long Valley || Los Angeles || San Francisco**
- **Map need updating? Try reloading the page to your browser.**
- **Maps are updated within about 5 minutes of an earthquake or once an hour.**
- **Brown lines represent known hazardous faults or fault zones. White lines are roads.**

Click here for more info on the Long Valley volcano monitoring effort.

Update time = Tue Sep 28 21:00:00 PDT 1999
Here are the 30 most recent earthquakes and all big earthquakes on this map...

MAG	DATE	LOCAL-TIME	LAT	LON	DEPTH	LOCATION

Magmatic Gas Emissions from Mammoth Mountain

Mono County, California

MIKE SOREY and BILL EVANS, U.S. Geological Survey
MACK KENNEDY, Lawrence Berkeley National Laboratory
JOHN ROGIE, Pennsylvania State University
ANDREA COOK, Lawrence Livermore National Laboratory

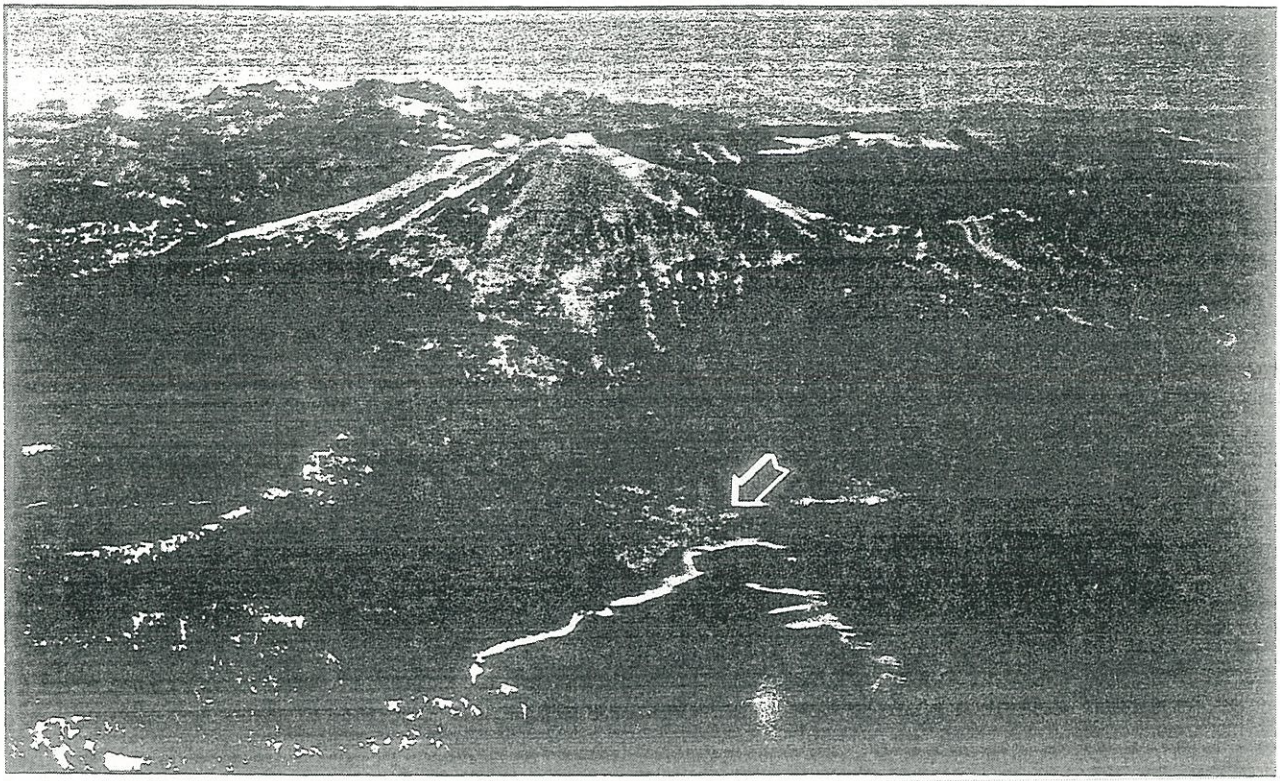


Photo 1. Aerial view looking north at Mammoth Mountain. The light colored area (arrow) along the north shore of Horseshoe Lake, at the base of the mountain, is the Horseshoe Lake treekill. *Photo by John Rogie © 1999.*

INTRODUCTION

Mammoth Mountain, a volcano in eastern California, has recently been showing signs of unrest (Photo 1). Earthquakes, although small in magnitude, have occurred beneath the mountain periodically since 1989 and carbon dioxide (CO_2) gas is discharging at high rates at numerous locations around the mountain. Chemical and isotopic analyses indicate that the CO_2 is derived in large part from magmatic degassing, hence detailed studies of the extent and characteristics of the gas discharge are important because its presence may portend volcanic activity in the area.

Following the onset of earthquake activity, in 1990 U.S. Forest Service rangers noticed small areas of dead trees (referred to here as treekill) in a few scattered locations around the base of Mammoth Mountain.They speculated the treekills were due to successive years of drought. However, the tree dieoffs involved multiple species of trees rather than those species most susceptible to drought and insect infestation, which hinted at another cause for the treekill. Around this same time, a ranger entering a snow-covered cabin from a door in the roof was overcome by an "unknown" gas and nearly died. A layer of denser-than-air CO_2 had apparently accumulated in the cabin during the 1990 winter.

Subsequent sampling of soil gas by Chris Farrar of the U.S. Geological Survey (USGS) showed that the anomalous treekills were the result of high concentrations of CO_2 in the soil. Farrar also made a measurement of the rate of CO_2 flow from the soil at one of the tree-kill areas. Typical rates of CO_2 flow from soils, derived from **root-zone respiration***

* Terms in **boldface** type are defined in glossary on page 15.

and decay of organic material, are near 10 grams per day per square meter ($g/d/m^2$). Farrar's measurement was an amazingly high 5,800 $g/d/m^2$ (Farrar and others, 1995). Such levels of diffuse CO_2 degassing have been detected at other volcanoes, but in almost all cases it is accompanied by significant emissions of hot gases from the summit regions and/or actual volcanic eruptions, neither of which is present on Mammoth Mountain.

Anomalous CO_2 release from soils on Mammoth Mountain is still occurring 10 years after its inception. Although the gas tends to dissipate when it leaves the ground, cold CO_2 is heavier than air and creates an asphyxia hazard in places where it can collect in buildings or other confined spaces and in natural depressions. Normal air contains only 0.04% (400 parts per million) CO_2. Exposure to concentrations as low as a few percent for more than 10 minutes or so can cause shortness of breath and dizziness. At concentrations above about 30%, a few inhalations can quickly cause unconsciousness and death.

In this article, we discuss the results of ongoing studies of the gas discharge at Mammoth Mountain using techniques such as chemical and isotopic analyses of gases collected from soils, **steam vents** (or fumaroles), and springs and measurements of CO_2 flow rates from soils. We also describe a working model of gas sources and gas transport from depth to the surface and discuss implications of the gas discharge for human health and the possibility of volcanic eruptions at Mammoth Mountain.

VOLCANIC AND TECTONIC HISTORY

Mammoth Mountain is a young volcano formed from numerous, overlapping eruptions of **dacite** magma, the most recent having occurred about 50,000 years ago. It lies on the southwestern margin of a large volcanic depression, referred to as the Long Valley **caldera** (Bailey, 1989), which was developed following a massive eruption of volcanic ash 760,000 years ago (Figures 1 and 2; Photo 1). Mammoth Mountain is also at the southern end of the Inyo Craters volcanic chain that has produced intermittent **rhyolitic** and **phreatic eruptions** over the past 40,000 years, with the most recent eruption about 600 years ago (Miller, 1985; Bailey, 1989). The Long Valley area is presently experiencing a period of crustal unrest that

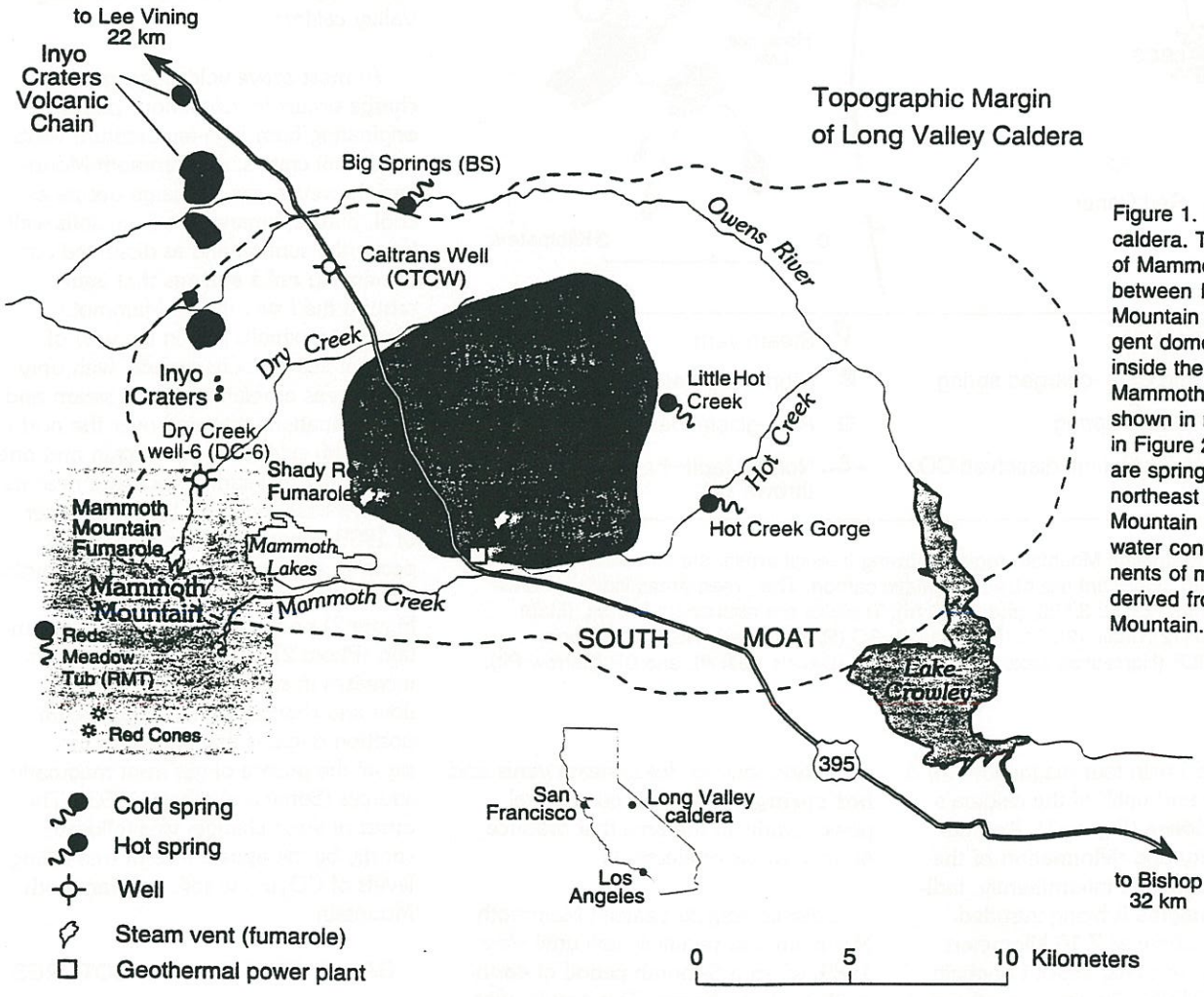


Figure 1. Long Valley caldera. The resort town of Mammoth Lakes lies between Mammoth Mountain and the resurgent dome. The area inside the box around Mammoth Mountain is shown in more detail in Figure 2. Also shown are springs and wells northeast of Mammoth Mountain that discharge water containing components of magmatic gas derived from Mammoth Mountain.

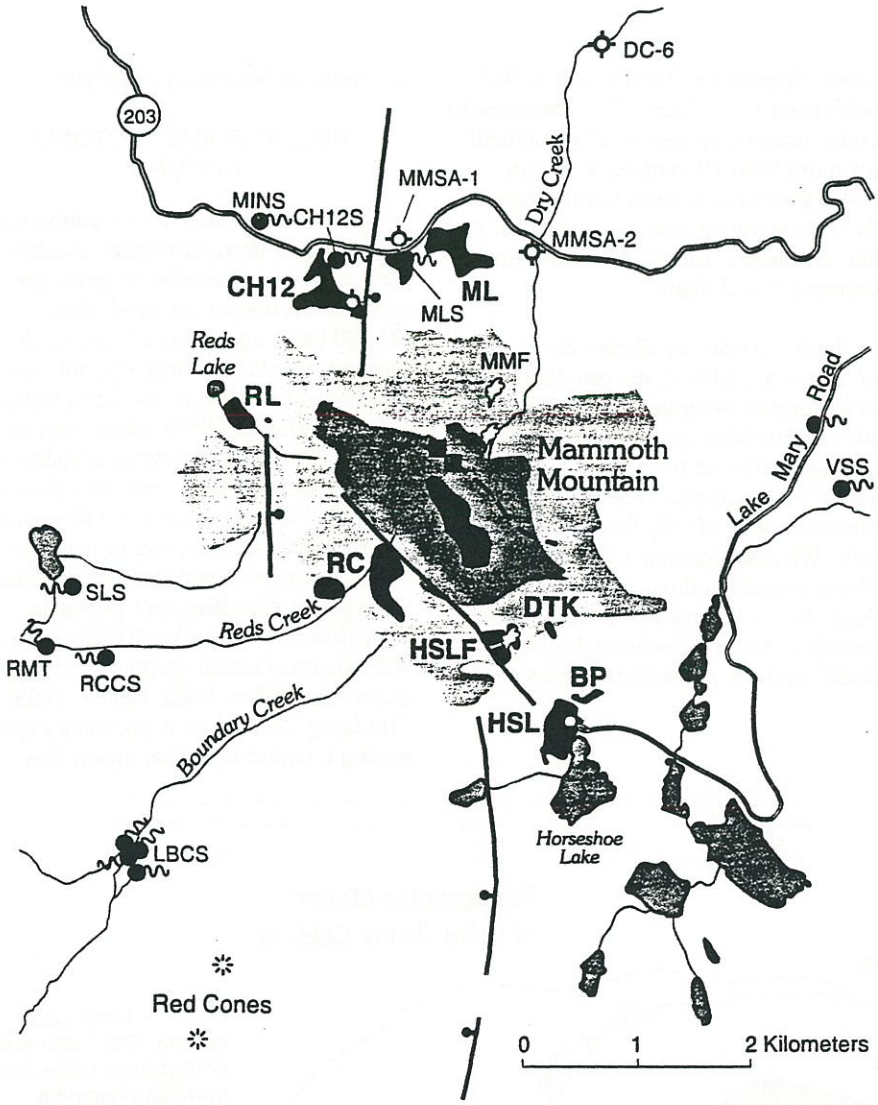


Figure 2. Mammoth Mountain region showing tree-kill areas, steam vents, and springs with significant dissolved magmatic carbon. The green areas indicate elevation contours (2,900; 3,100; and 3,300 m). Treekills are abbreviated as ML (Main Lodge), CH12 (Chair 12), RL (Reds Lake), RC (Reds Creek), HSL (Horseshoe Lake), HSLF (Horseshoe Lake fumarole), DTK (Dave's treekill), and BP (Borrow Pit).

began in 1980 with four magnitude (M) 6 earthquakes and uplift of the caldera's **resurgent dome** (Figure 1). Anomalous seismicity and deformation of the dome area continue intermittently, indicating that magma is being intruded beneath the dome at 7-10 kilometers (km) (Bailey and Hill, 1990; Langbein and others, 1995). An active geothermal system, driven in part by heat from such magmatic sources, feeds steam vents and **hot springs**, as well as geothermal power plants in the area that produce 40 megawatts of electricity.

Seismic activity beneath Mammoth Mountain was relatively low until May 1989, when a 6-month period of earthquake swarms began. This activity was noteworthy because of its long duration and the occurrence of spasmodic tremor (rapid bursts of small earthquakes that release energy in the low-frequency range). This and other evidence indicated these swarms were caused by emplacement of a magmatic dike (tabular intrusion of molten rock) as shallow as 2 km beneath Mammoth Mountain (Hill, 1996). The 1989 swarms also coincided with the onset of a continuing sequence of **long-period earthquakes** 10-30 km beneath and adjacent to the southwest flank of Mammoth Mountain. Pressure surges in **basaltic** magma, moving upward from the mantle through cracks and fissures, are thought to produce these long-period earthquakes. This type of magma is known to contain carbon dioxide and is a likely source for the gas now discharging from the mountain surface. Interestingly, neither long-period earthquakes nor anomalous CO_2 emissions have been observed in the seismically active central part of Long Valley caldera.

At most active volcanoes, gas discharge occurs in voluminous plumes originating from high-temperature vents in summit craters. At Mammoth Mountain, however, gas discharge occurs as cool, diffuse, emanations from soils well below the summit and as dissolved constituents in **cold springs** that issue around the lower flanks. Mammoth Mountain exhibits little in the way of thermal activity at its surface, with only three areas of relatively weak steam and gas emanations scattered over the north and south sides of the mountain and one area of thermal-spring discharge near its western base. Even so, by the summer of 1989 remarkable changes began to occur in a steam vent, named Mammoth Mountain fumarole, (labeled MMF in Figure 2) on the north side of the mountain (Photo 2). The changes included increases in surface temperature and flow and changes in the isotopic composition of gases that appeared to signal the release of gas from magmatic sources (Sorey and others, 1993). The onset of these changes was followed shortly by the appearance of tree-killing levels of CO_2 in the soils on Mammoth Mountain.

GAS CHEMISTRY AND ISOTOPES

Chemical and isotopic analyses of

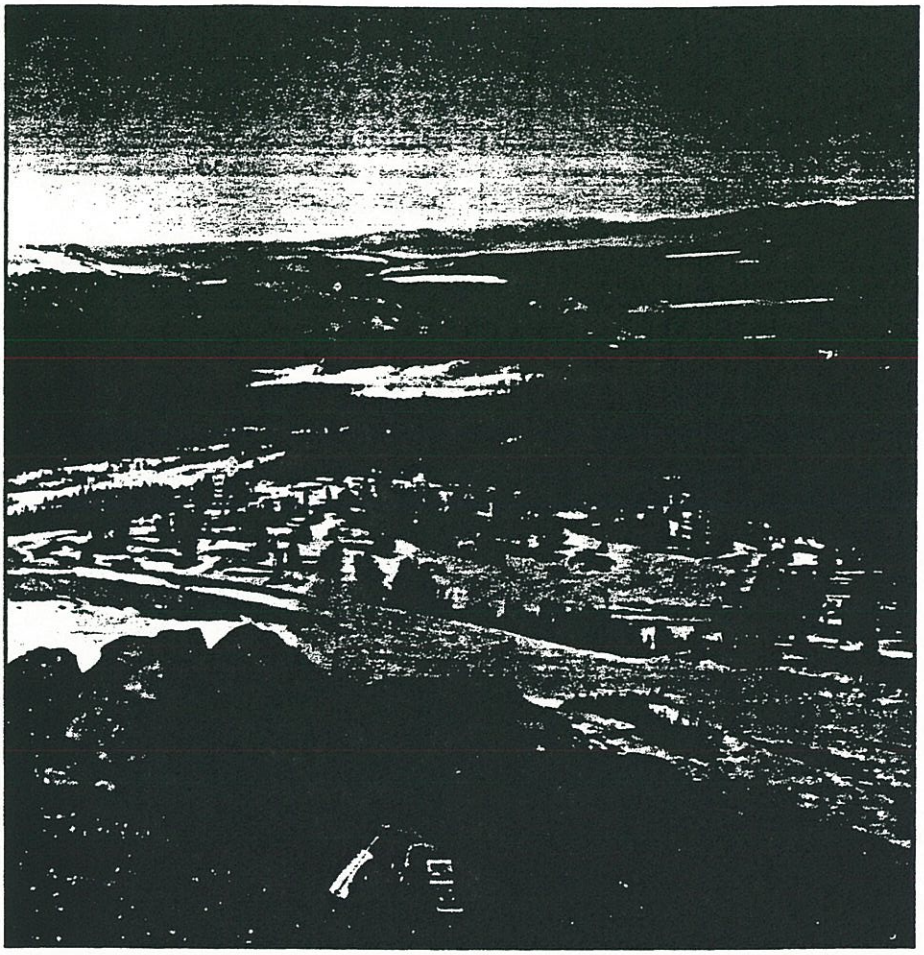


Photo 2. Looking north from steam vent MMF on the north side of Mammoth Mountain. Volcanic features along the Inyo Craters volcanic chain in background include the phreatic crater atop Deer Mountain in the middle distance and behind it the ~600 year-old rhyolite domes along the Long Valley caldera margin. *Photo by M. Sorey.*

gas samples have proven useful in determining the source of the CO_2 responsible for the tree dieoffs. Samples are collected in pre-evacuated glass tubes connected to: 1) perforated metal probes driven to depths of 20-100 centimeters (cm) in forest soils, 2) plastic pipes installed in steam vents, and 3) funnels placed over effervescing springs. Not all springs on the flanks of Mammoth Mountain effervesce, but most contain significant amounts of dissolved CO_2. We refer to these as CO_2-charged springs and note they discharge at temperatures as low as 2°C. Water samples are tested in the field for temperature, pH, **specific conductance**, and **alkalinity**, and samples are preserved for subsequent chemical and isotopic analyses of the liquid and gas phases.

Gas discharging in the tree-kill areas at Mammoth Mountain is mainly a mixture of CO_2 and air, although helium (He) derived from non-atmospheric sources is detected from its isotopic composition. Ratios of CO_2 to He are remarkably constant in gas-discharge areas distributed around the mountain. Hot gases from steam vent MMF represent a more concentrated version of soil gas, which in the tree-kill areas contains more air but none of the reactive sulfur gases present in MMF. Consideration of both the chemical and isotopic composition of gas from these different types of features indicates that they are derived from the same source at depth.

Carbon Isotopes

The **carbon isotopic abundance** of two isotopes in CO_2, ^{13}C and ^{14}C, can be used to distinguish between shallow and deep sources, referred to here as biogenic and non-biogenic gas sources, respectively. Biogenic sources produce CO_2 through a combination of root-zone respiration and decay of organic material in the presence of atmospheric oxygen. The abundance of the stable isotope ^{13}C derived from biogenic sources differs significantly from that derived from non-biogenic sources, such as magma and carbonate-rich rocks. The ^{13}C abundance in CO_2, is expressed in parts per thousand (‰) and referred to as $\delta^{13}C$, which represents a measure of how much the $^{13}C/^{12}C$ ratio in a sample deviates from that in a standard (Peedee belemnite). Values of $\delta^{13}C$ from biogenic sources are commonly near -20‰ (the minus sign signifies that the ^{13}C abundance is less than that in the standard). Values from magmatic sources in the Long Valley area are near -5‰ (Sorey and others, 1998), whereas values for CO_2 derived from metamorphic carbonate rocks that underlie the volcanic rocks in the Long Valley area fall within the range of -12 to 0‰.

Radioactive ^{14}C, with a half-life of 5,700 years, is abundant in biogenic sources but absent in non-biogenic sources such as magma and carbonate rocks because of radioactive decay. The **^{14}C content** of a soil gas sample compared to that in the atmosphere is expressed as percent modern carbon (pmC), modern referring to values in the atmosphere prior to nuclear weapons testing. We have used values of $\delta^{13}C$ and ^{14}C abundances to construct the plot in Figure 3, which shows the proportions in each gas sample contributed by the two types of sources. For this figure, we calculated the non-biogenic fractions in each sample from the ^{14}C content, or more specifically, as the percent depletion in ^{14}C from modern-day atmospheric values. We find that $\delta^{13}C$ values for soil gases in and adjacent to different tree-kill areas are distributed along a "mixing line" that connects a point representative of a purely biogenic source to a point representative of a purely magmatic source. At sites where the trees are dead, the carbon isotopes show that almost all the gas is derived from non-biogenic sources (100% depleted in ^{14}C, with $\delta^{13}C$ values close to -5‰). Interestingly, at some sites around the

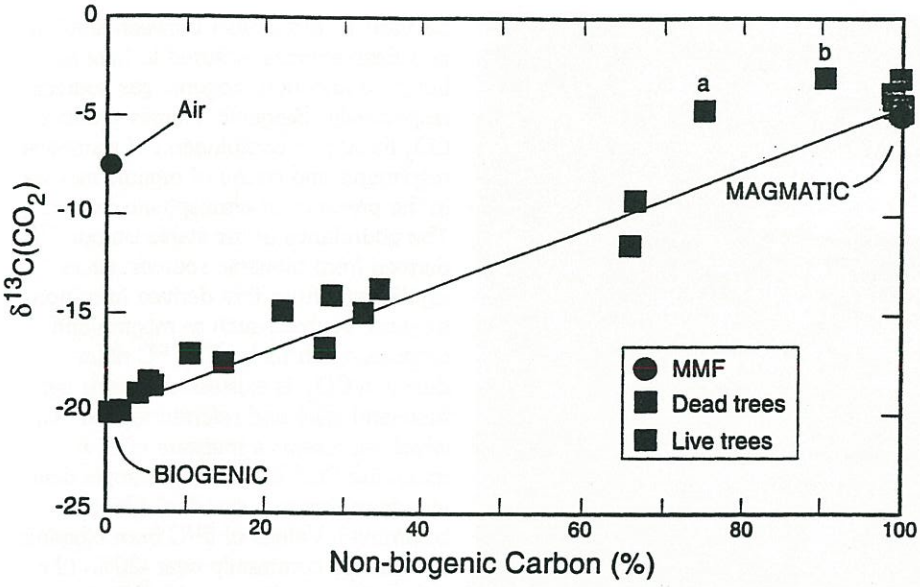


Figure 3. Plot of the abundance of ^{13}C in CO_2 [$\delta^{13}C(CO_2)$] sampled from soils and from steam vent MMF, versus the percentage of non-biogenic CO_2 in the gas sample. End members are labeled for biogenic-type sources and magmatic-type gas sources. Points labeled a and b represent sites adjacent to the Horseshoe Lake tree-kill area where CO_2 concentrations are between 1 and 10% in the root zone of live trees, but carbon isotopes indicate that most of the CO_2 is derived from non-biogenic sources.

margins of the treekills (e.g., points "a" and "b" in Figure 3), the non-biogenic percentage is relatively high and the $\delta^{13}C$ value is also close to the magmatic value, but because the total CO_2 concentrations are less than 10%, tree mortality has not occurred.

CO_2-charged groundwaters, whether sampled in springs or wells around the flanks of Mammoth Mountain (Figure 2), also exhibit carbon isotopes with non-biogenic, magmatic-type carbon isotope values (Table). In fact, we can delineate a mixing line for the CO_2 in these waters between biogenic and non-biogenic end members (similar to that shown in Figure 3). We therefore infer the same source for non-biogenic gas in these waters as for gas in the tree-kill areas. In other respects, these waters are relatively dilute (i.e., have low specific conductances and hence low total dissolved solids) and contain significant levels of radioactive **tritium** (with a half-life of

Table. Chemical and isotopic data for selected springs and wells on Mammoth Mountain and in the western part of Long Valley caldera. Most samples collected in summers of 1996 and 1997 at sites shown in Figures 1 and 2. See glossary for definitions of parameters.

Feature	Temperature °C	pH	Specific Conductance, µS/cm	Alkalinity, mmol/kg HCO_3	DIC, mmol/kg	$\delta^{13}C$, ‰	^{14}C, pmC	R/R_A	Tritium, TU
Cold Water Wells on Mammoth Mountain and in the West Moat									
MMSA-1	5.3	5.43	229	1.79	21.68	-5.9	4.4	4.49±0.32	10.1
MMSA-2	10.1	5.79	372	3.44	18.52	-7.0	5.1	4.19±0.62	14.3
DC-6	7.1	6.41	731	7.92	16.80	-5.4	nd	4.20±0.90	nd
CTCW	13.8	7.22	199	2.15	2.46	-7.9	nd	nd	nd
Cold Water Springs on Mammoth Mountain and on the Rim of Long Valley Caldera									
CH12S	2.4	5.20	171	1.98	45.37	-4.9	2.1	4.94±0.22	9.2
MINS	4.1	7.08	229	2.29	2.90	-11.6	44	nd	nd
MLS	2.8	5.59	284	1.64	16.24	-5.0	2.2	nd	nd
RCCS	7.5	5.48	227	2.56	26.97	-6.1	1.3	3.06±0.54	10.8
VSS	6.5	5.76	225	2.59	15.87	-5.9	3.1	3.80±0.16	17.8
LBCS	6.9	5.38	195	2.41	29.44	-5.7	nd	1.82±0.13	nd
BS	11.8	7.23	196	1.90	2.20	-8.4	42	2.20±0.52	25
Thermal Springs on Mammoth Mountain									
SLS	18	6.02	256	2.84	9.41	-8.4	11.0	3.34±0.21	9.9
RMT	46	6.60	650_{TDS}	8.46	12.67	-6.0	8.8	2.10±0.15	8.4

µS/cm — microsiemen per centimeter
mmol/kg — millimoles per kilogram of bicarbonate (HCO_3)
$\delta^{13}C(CO_2)$ — $[(({}^{13}C/{}^{12}C)_{sample} - ({}^{13}C/{}^{12}C)_{standard})/ ({}^{13}C/{}^{12}C)_{standard}]x1000$.
R/R_A — $({}^{3}He/{}^{4}He)$ sample/$({}^{3}He/{}^{4}He)$ air
TU — one tritium atom in 10^{18} hydrogen atoms
nd — signifies not determined

This means that CO_2 from deep sources must dissolve in the shallow groundwater system beneath Mammoth Mountain to produce low-pH waters with abundant dissolved inorganic carbon (**DIC**).

Mammoth-type water can also be detected as components in groundwater flowing northeastward from Mammoth Mountain beneath the drainage of Dry Creek (Figures 1 and 2). Examples include water sampled from the Mammoth Community Water District's unused Dry Creek well DC-6, a well at the Caltrans rest area along Highway 395 (CTCW), and waters discharging in Big Springs (BS).

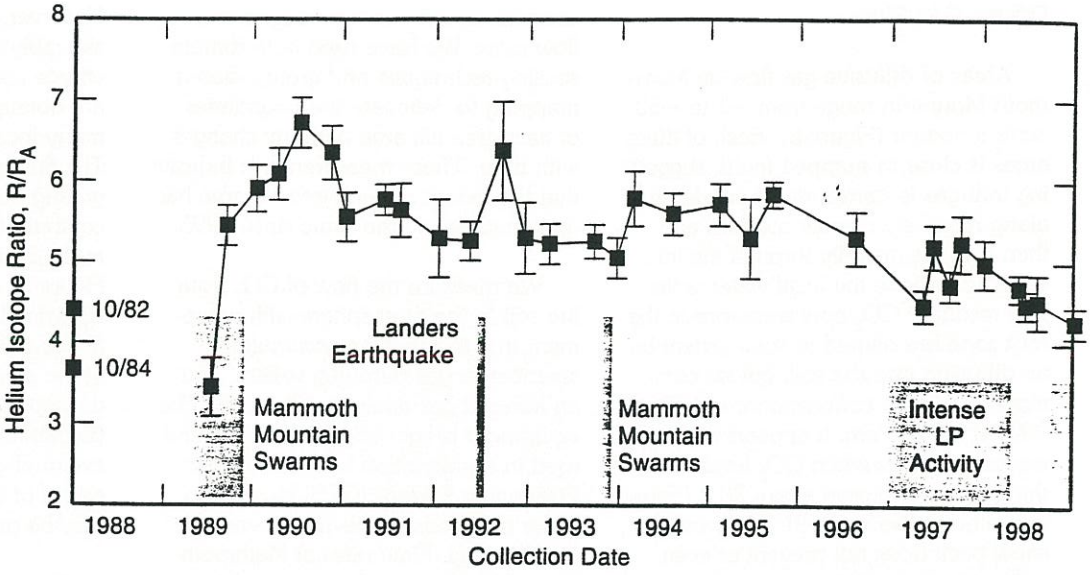


Figure 4. Plot of helium isotope ratio ($^3He/^4He$) R in gas sampled from steam vent MMF, divided by the ratio in air R_A, during 1982-1998. Also shown are periods of significant seismic activity beneath the Mammoth Mountain region and the timing of the Landers earthquake in southern California. Periods of shallow, tectonic earthquakes beneath Mammoth Mountain and the Landers event are shown in blue (height of blue region is not proportional to the magnitude of the earthquakes). Long period (LP) earthquakes occurred intermittently over the entire 1989-1998 period, but the frequency of occurrence increased significantly in 1997 and 1998 (as indicated by the green pattern).

Helium Isotopes

Helium isotopic compositions, expressed as the ratio (R) of ^3He to ^4He and compared to that ratio in air (R_A), can also be used to delineate the sources of gas found in the soils and ground-waters at Mammoth Mountain. This is particularly useful in that it removes the ambiguity that exists with the carbon isotopes in attempting to discern whether the non-biogenic gas source is magmatic or crustal (from carbonate-rich rocks). Helium isotope ratios for the most-concentrated soil gas samples (70-98% CO_2) from each tree-kill area and for gas sampled from CO_2-charged cold groundwaters on Mammoth Mountain are near 5 R_A, or 5 times the $^3He/^4He$ value in air. A similar value was also obtained for soil gas sampled from vaults that access buried water lines in a narrow fault zone beneath the summit (Figure 2). For comparison, $^3He/^4He$ values for volcanic rocks in the Long Valley area are near 7 R_A, whereas values for metamorphic basement rocks are less than 0.10 R_A. Furthermore, $^3He/^4He$ values in steam vent MMF have ranged from 4-7 R_A since 1989. Thus, there must be a significant component of helium from magmatic sources.

The magmatic component of gas has varied over the past 10 years (Figure 4). We deduce this from frequent analyses of the helium isotopic content in steam vent MMF, which provides a useful time line for these changes. To begin with, the significant rise in $^3He/^4He$ between July and September 1989 signaled the arrival of an increased component of magmatic helium in this vent in response to magmatic intrusion. This arrival was followed in a matter of months by the onset of diffuse CO_2 discharge in the tree-kill areas, suggesting that magmatic gas reached other areas on Mammoth Mountain along similar faulted pathways in response to the same magmatic event.

The $^3He/^4He$ at MMF began to decline from high values near 7 R_A in late 1990 to values near 5 R_A. Subsequent periods of increasing $^3He/^4He$ at MMF (Figure 4) correlate with other tectonic activity, such as the M7 Landers earthquake in July 1992 and periods of renewed earthquake swarms in 1993 and more intense long-period earthquake activity in 1997-1998 beneath the Mammoth Mountain region. This suggests that changes in gas components at the surface can be caused by intrusions and/or crustal strain from both near and distant earthquakes (Sorey and others, 1993, 1998).

MEASUREMENTS OF GAS DISCHARGE

Gas discharge at Mammoth Mountain occurs by several diverse mechanisms. Because of this, different techniques are required to evaluate and quantify rates of discharge by 1) diffuse emanations through the soils, 2) as dissolved gas in groundwater, and 3) direct discharge in steam vents. Gas discharge from steam vents such as MMF, although considered an important parameter in terms of monitoring changes induced by crustal unrest, is insignificant in volume compared to the discharge from the other two mechanisms. Equipment used to measure outflow from steam vents is discussed by Sorey and others (1993, 1998). We focus here on the measurement of diffusive gas flow through soils and rates of discharge of gas dissolved in groundwater.

Diffuse Gas Flow

Areas of diffusive gas flow on Mammoth Mountain range from ~1 to ~50 acres in extent (Figure 2). Each of these areas is close to mapped faults, suggesting that gas is transported from depth along relatively narrow conduits and then spreads laterally through the forested soil above the local water table. The resultant CO_2 concentrations in the root zone are diluted to some extent by air diffusing into the soil, but we commonly measure concentrations of 70-90% at 50-100 cm. It appears that tree mortality occurs when CO_2 levels within the root zone exceed about 30% (Farrar and others, 1995, 1999). The winter snow pack does not prevent or even reduce the gas discharge, but does cause CO_2 concentrations in the underlying soil to increase. Thus, shallow tree roots are exposed to higher gas concentrations in the winter and spring than in the summer, and CO_2 levels in the snow are similar to those existing in the soil under snow-free conditions.

At most sites, there is a visual demarcation between areas of live trees and areas of dead or dying vegetation with anomalous CO_2 concentrations and flow rates. We have used both remote sensing techniques and ground-based mapping to delineate the boundaries of each tree-kill area and any changes with time. These measurements indicate that the extent of each tree-kill area has remained nearly the same since 1995.

We measure the flow of CO_2 from the soil to the atmosphere with equipment that includes an accumulation chamber, a gas pumping system, and an infrared gas analyzer (Photo 3). The equipment is lightweight, portable, and used in combination with the Global Positioning System (GPS) receiver to make hundreds of gas-flow measurements a day. Flow rates at Mammoth Mountain, expressed in terms of mass flow (in grams per day) per unit area (in meters squared), or g/d/m^2, vary from typical background values of <10 g/d/m^2 to values approaching 20,000 g/d/m^2 in some of the tree-kill areas.

Total CO_2 discharge at each tree-kill area, referred to as flux and expressed in metric tonnes per day (t/d), can be approximated by multiplying a gas flow rate by the total area of gas discharge.

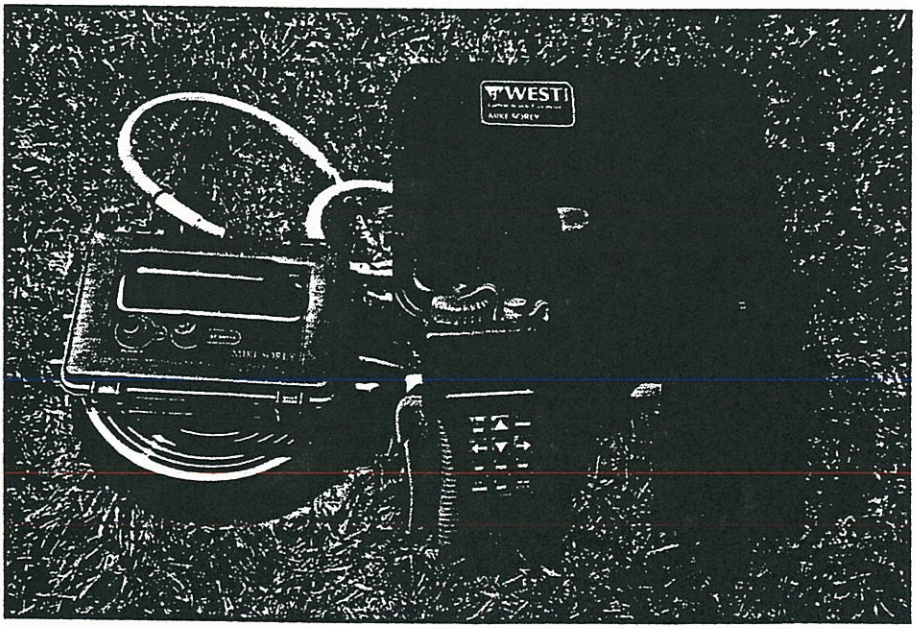


Photo 3. Portable equipment used to measure the flow rate of CO_2 from soils on Mammoth Mountain. Pictured from left to right are a chamber for accumulating CO_2 discharge from the soil, tubing for circulating gas between the chamber and an infrared analyzer (in black case), a GPS receiver for locating measurement site, and a small computer used to determine the gas flow rate based on the rate of increase in CO_2 concentration with time inside the chamber. *Photo by M. Sorey.*

However, because flow rates vary considerably with position within each discharge area, more accurate flux values are obtained by measuring gas flow at many locations and contouring the data. The flux can then be calculated by integrating flow rates and areas between contours (Figure 5). The flow-rate data in the Horseshoe Lake treekill (Photo 4: Figure 5) show values ranging from 0 to 63 g/d/m^2 around the margins to values above 6,500 g/d/m^2 within the interior of the anomaly. These values, obtained during one of our most recent surveys (September 1998), show that the areal extent of gas discharge is less than the extent of treekill, suggesting that gas flux may be on the decline.

Numerous flux determinations at the Horseshoe Lake treekill suggest that the flux for that area has declined from near 350 t/d in 1995 to values near 90 t/d in 1998 (Figure 6). Noteworthy, however, is a period in the fall of 1997 when the CO_2 flux doubled rapidly and remained relatively high for several months (Gerlach and others, 1998). This temporary increase in gas flux may be related to the increase in the intensity of long-period earthquakes beneath the Mammoth Mountain region during 1997, and possibly to a period of accelerated deformation and tectonic earthquakes beneath the caldera's resurgent dome in the summer and fall of 1997.

Our gas-flux determinations yield a current estimate of 200-300 t/d for the total diffuse CO_2 flux from Mammoth Mountain, and suggest that the total flux may have been as high as 1000 t/d prior to 1996. These values put the diffuse gas flux at Mammoth Mountain on a par with CO_2 discharges from the summit plumes of many active volcanos during recent periods of low-level eruptive activity (e.g., Kilauea, Mt. St. Helens, Augustine-Farrar and others, 1995). Such comparisons, along with the ongoing intermittent unrest at Mammoth Mountain, imply that in spite of an absence of recent volcanic eruptions, Mammoth Mountain should be considered an active volcano.

Gas Dissolved in Groundwater

We can estimate the rate of discharge of magmatic CO_2 dissolved in

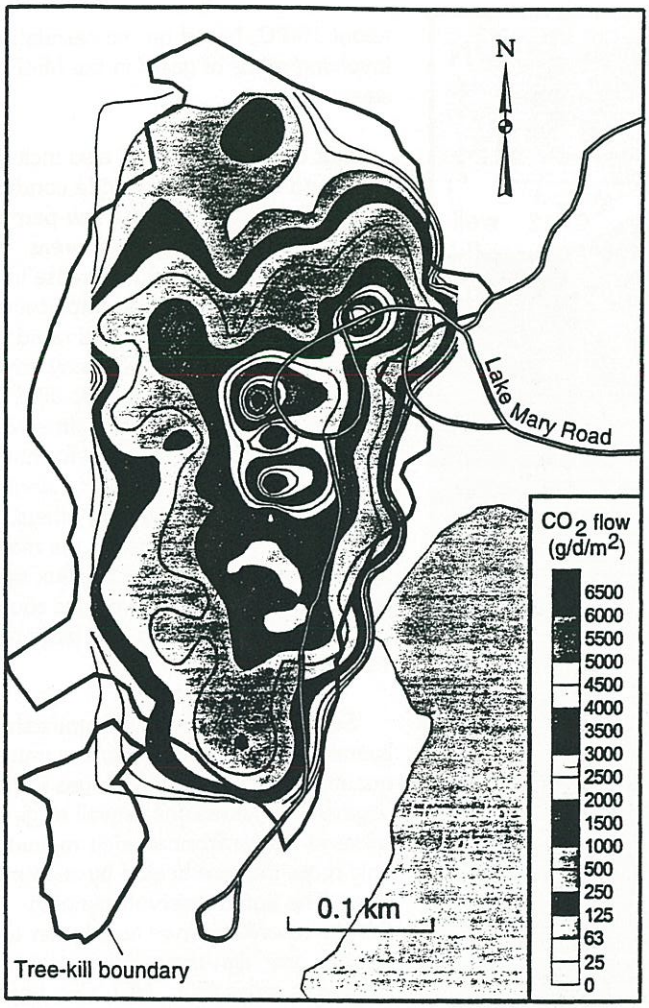


Figure 5. Showing contours of CO_2 flow rates measured at 71 stations on September 23, 1998, in the Horseshoe Lake tree-kill area. Contours are in grams per day per square meter ($g/d/m^2$). The total gas flux calculated from these contours is 93 metric tonnes per day, above an assumed background flow rate of 25 $g/d/m^2$. Note that the tree-kill area boundary extends beyond the current zone of anomalous CO_2 emission.

the groundwater system beneath Mammoth Mountain by measuring the flow rates of springs and wells and the carbon content and isotopic composition of these waters. Our estimates of the total flux of dissolved magmatic CO_2 range from 50-100 t/d, based on flow measurements and chemical analyses made in the summers of 1997 and 1998. Such flux values are significant compared to our estimates of diffuse gas flux at the tree-kill areas. Our results to date suggest that the dissolved gas flux may vary from year to year with the amount of snowfall and groundwater recharge. This leads us to the possibility that variations in the flux of dissolved CO_2 may be responsible for some degree of variability in the diffuse gas flux at the tree-kill areas.

We surmise that the discharge of dissolved magmatic gas was occurring prior to the onset of magmatic intrusion beneath Mammoth Mountain in 1989 because wells at the ski area on the north side of the mountain discharged low-pH water in the 1980s. Further evidence has come from ^{14}C measurements in the annual growth rings of live trees that overhang the CO_2-charged springs. Rings dating back to the 1960s are depleted in ^{14}C as a result of the incorporation of magmatic CO_2 (exolved from the springs) through the needles. In contrast, ^{14}C depletions are not found in the pre-1990 rings of trees sampled within the tree-kill areas where we surmise that diffuse degassing of magmatic CO_2 did not exist prior to 1990.

In summary, we have two important findings indicating that a relatively large and long-lived source of magmatic gas exists beneath Mammoth Mountain. First, there is the remarkable similarity in chemical and isotopic characteristics for soil gas, fumarolic gas, and gas dissolved in low-pH groundwaters at many locations on the mountain. Second, there are the high rates of diffuse and dissolved gas flux that have been sustained for periods of almost 10 years. In the following section we describe a model for a gas reservoir beneath Mammoth Mountain that accounts for these findings and additional observations about the gas phenomenon.

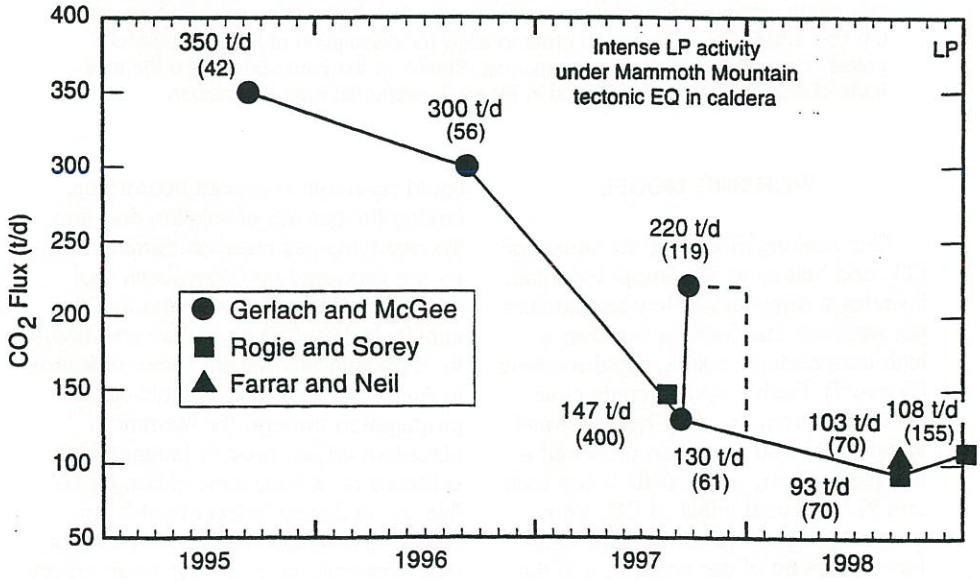


Figure 6. Annual determinations of total CO_2 flux in the Horseshoe Lake tree-kill area. Results from three different research groups are indicated along with the number of measurements used on each date to determine total flux. Terry Gerlach and Ken McGee are USGS staff from the Cascade Volcanic Observatory; Chris Farrar and John Neil work for the California District of the USGS. Lines drawn between data points may, but do not necessarily, represent the actual pattern of variation in gas flux. The dashed line represents a likely pattern of decline in gas flux following the rapid increase in late September 1997, based in part on the continuous CO_2 soil-gas concentration measurements reported by McGee and Gerlach (1998).

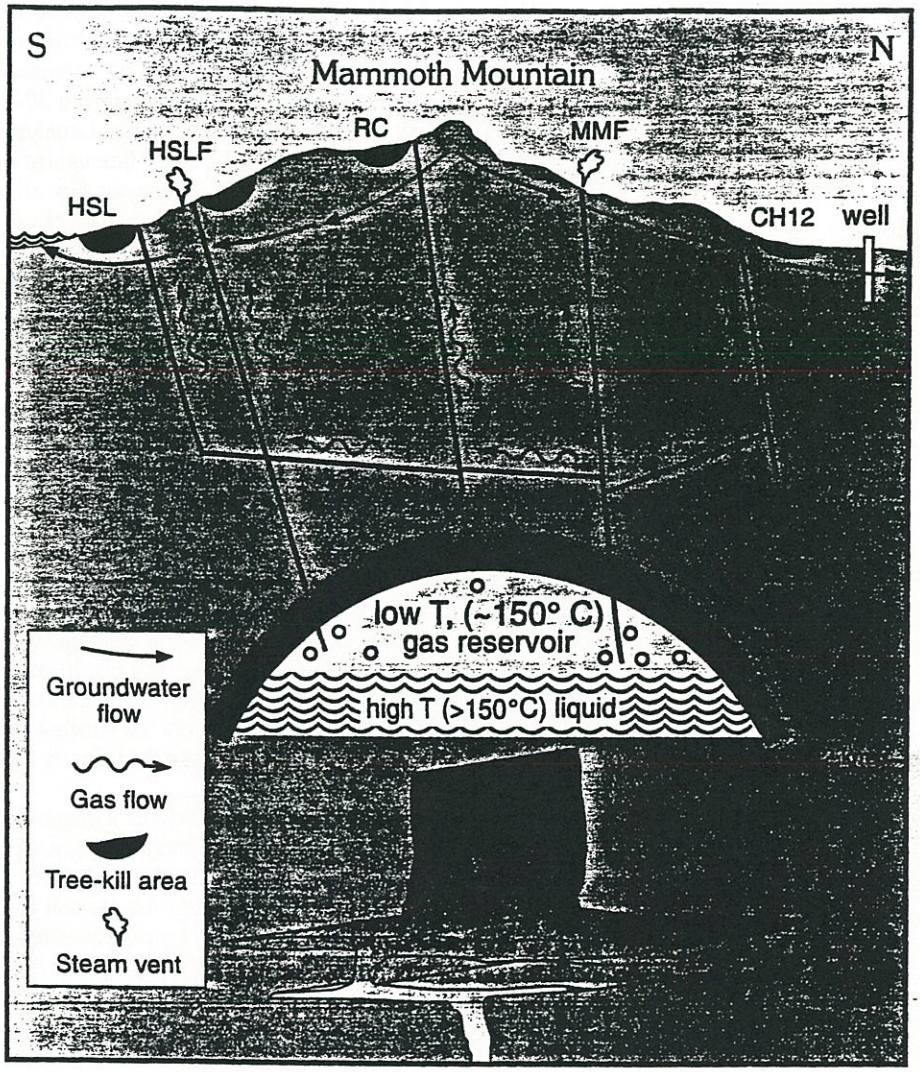


Figure 7. Schematic section through Mammoth Mountain showing hypothesized reservoir of gas derived from crustal and magmatic sources, underlain by a zone of hotter liquid, from which gas leaks upward along faults. Also shown is a magmatic intrusive (dike) thought to have been emplaced in 1989 and responsible for a significant increase in the rate of upward gas leakage through the low-permeability seal. The depth scale is relative to the top of the dike (> 2 km), which must be beneath the gas and liquid reservoirs in order to allow for dissolution of high-temperature gases released from the intruded magma. Shown at the land surface are the locations of selected features mapped in Figure 2, projected onto the section.

WORKING MODEL

Our working model for the source of CO_2 and helium at Mammoth Mountain involves a semi-sealed, low-temperature gas reservoir that forms a cap over a high temperature, boiling liquid reservoir (Figure 7). Such a system could have developed from an older hydrothermal system if 1) acid alteration produced a low-permeability (semi-sealed) cap rock and 2) continued influx of CO_2 from magmatic intrusions allowed the combined pressure of gas and steam in the liquid reservoir to exceed hydrostatic, forcing the gas out of solution and into the overlying gas reservoir. Similar models are proposed by Giggenbach and others (1990) for Ruiz volcano in Columbia and by Chivas and others (1987) for a geologically Recent **maar volcano** in Australia. Studies of seismic-wave propagation through the Mammoth Mountain edifice provide independent evidence of a large zone of compressible gas at depths below about 2 km (Julian and others, 1998). We estimate that temperatures in the gas reservoir are about 150°C, based on the calculations involving ratios of gases in the MMF steam vent.

Our conceptual model also includes faults and fractures to provide conduits for gas to flow through the low-permeability seal toward discharge areas. We propose that a significant increase in gas leakage followed the dike-emplacement event in mid-1989. The initial rapid rise in $^3He/^4He$ in MMF in 1989 may have resulted from degassing of this dike. However, the dike volume estimated from the pattern of ground deformation in 1989-90 (0.01 to 0.04 km^3, Langbein and others, 1993; Sorey and others, 1993), is too small to sustain the magnitude and duration of the CO_2 flux since that time. Hence, additional gas sources that would be contained in a large reservoir are required.

Such a gas reservoir of significant lateral extent could serve to accumulate quantities of both magmatic gas from degassing of intrusions as well as gas released from carbonate-rich metamorphic rocks that are heated by such intrusions. The liquid reservoir beneath the gas reservoir serves as a buffer to remove any high-temperature reactive magmatic gases (SO_2, HCl, CO) because these species have not been detected in MMF. Differences noted previously in the composition and temperature of gas emissions from MMF compared to those in the tree-kill areas may result from more direct flow paths from the gas reservoir to the fumarole, or, localized regions of hot rock along the flow paths leading from the gas reservoir to areas of steam discharge.

The amount of gas stored in a pressurized reservoir whose areal extent is mountain-wide (and whose volume is therefore on the order of 10s of cubic km [km^3]) could easily supply the quantity likely to have discharged since 1989. as well as additional gas that may have discharged in groundwater prior to 1989. For example, at an average rate of 400 t/d over the past 9 years, the gas discharged would occupy a volume of about 1 km^3 at ambient pressure-temperature conditions (0.7 atmospheres, 25°C). For higher pressure-temperature conditions of 15-20 atmospheres and 150°C, the required volume of gas-filled

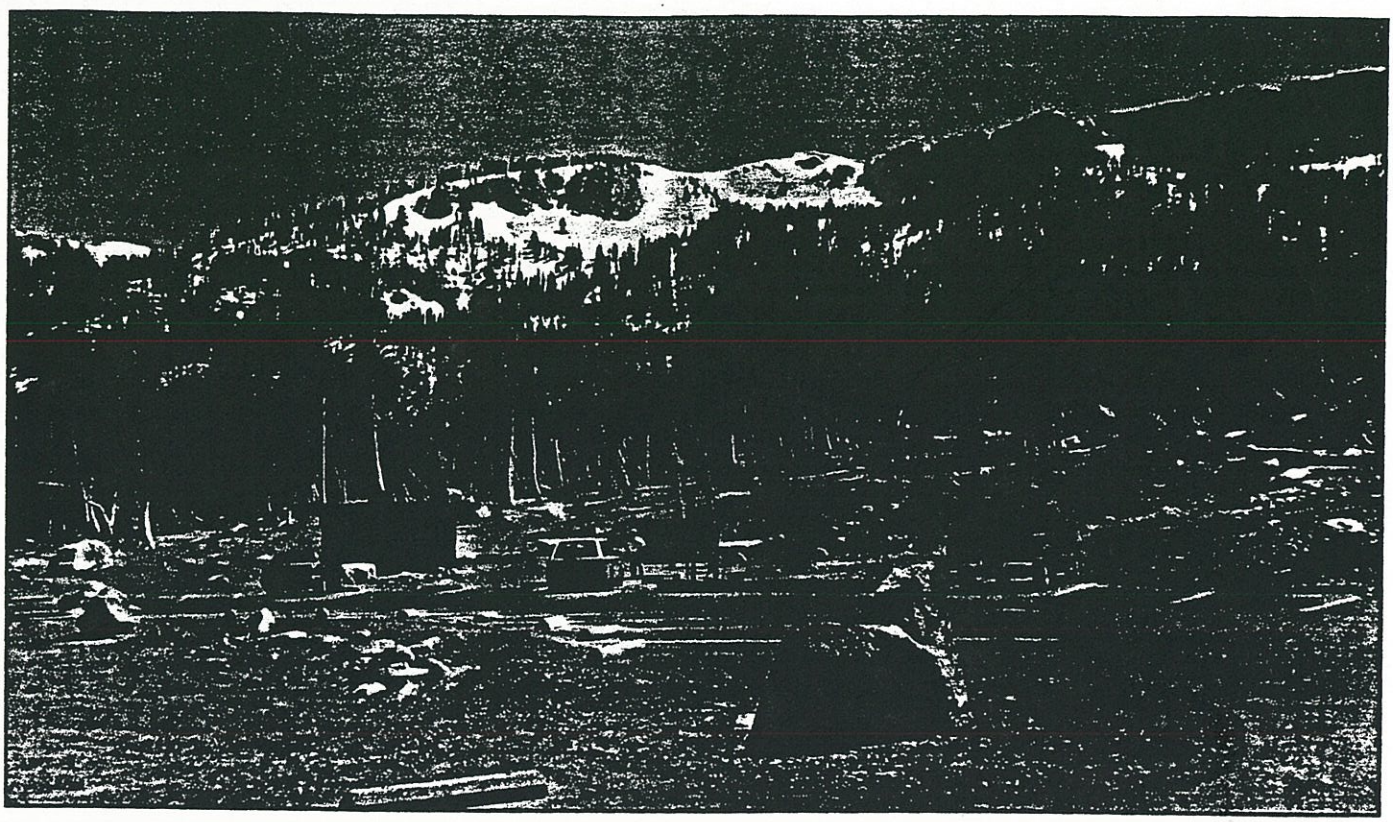


Photo 4. Looking south through the tree-kill area adjacent to Horseshoe Lake on the south side of Mammoth Mountain. The trees have died from levels of CO_2 in excess of about 30% in the root zone. Dead trees have been removed from portions of the parking lot in the foreground. The restroom pictured at the left is shown in Photo 5 in winter. *Photo by M. Sorey.*

reservoir would be less than 1 km^3, for (reasonable) porosity values near 0.01.

IMPLICATIONS FOR VOLCANIC HAZARDS

The ongoing occurrence of seismic activity and magmatic gas release at Mammoth Mountain are warnings of the potential for volcanic activity in this area. We expect that such activity would be preceded and accompanied by more intense shallow seismicity and deformation than are seen at present. This situation could change rapidly; monitoring and research are continuing. Although deformation and seismicity east of Mammoth Mountain under the caldera's resurgent dome and south moat have been more intense since 1980, we do not as yet understand how this activity relates to conditions under Mammoth Mountain.

The large, diffuse flux of CO_2 from Mammoth Mountain does not in itself indicate that an eruption may occur in the foreseeable future. It seems most likely that the current high gas flux results from fracturing and breaching of the seal on a large gas reservoir during dike emplacement in 1989 and that this reservoir has existed beneath Mammoth Mountain for a considerable period of time. However, the presence of such a gas source beneath the mountain could increase the severity or explosivity of an eruption, analogous to the process that Giggenbach and others (1990) proposed for the 1985 eruption of Nevado del Ruiz in Columbia.

A gas reservoir beneath Mammoth Mountain presents an intrinsic hazard if dangerously high levels of cold CO_2 discharge followed seismic or intrusive triggering events. Such releases could cause fatal gravity-driven flows of denser-than-air CO_2, such as occurred at Lakes Nyos and Monoun in Cameroon (Sigvaldson, 1989). Even under the current discharge conditions at Mammoth Mountain, there are CO_2 hazards for public safety from exposure to toxic concentrations in unvented structures, natural depressions, and man-made pits. In the summer, such hazards are particularly evident in the tree-kill area near Horseshoe Lake, a popular recreational site. During the winter, CO_2 levels build up beneath the snow to concentrations as high as 70-90% in the tree-kill areas and high rates of gas discharge are often found in the cavities or wells that form around buildings and in tree wells. Near Horseshoe Lake, Photo 5 shows the snow level near the top of a restroom, typical of winter conditions. Carbon dioxide concentrations have been measured to be as high as 70% in the well around this building. In order to provide warnings of the dangers posed by CO_2 to skiers and hikers, the USGS and scientists from Penn State University are working with the U.S. Forest Service and the Mammoth Mountain Ski Area to develop monitoring stations, design and install warning signs, and where necessary to recommend closures of ski runs, trails and campgrounds.

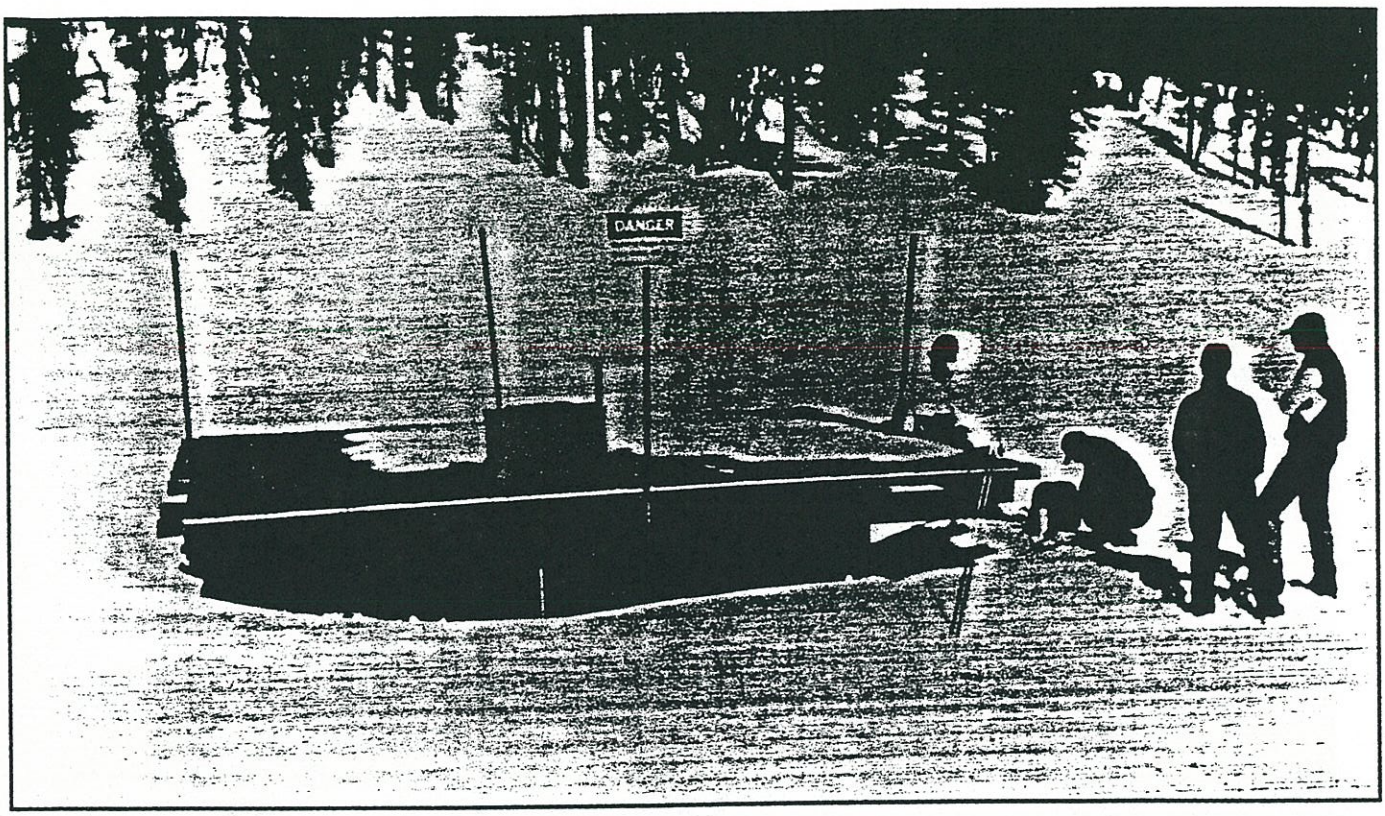


Photo 5. Public restroom near the parking lot at Horseshoe Lake, taken in March 1999, showing a depression (well) in the snow around the building and a sign mounted to the building warning of the danger of CO_2 in such depressions. Snow depth at this time was approximately 3 m. *Photo by Elizabeth Colvard, USGS.*

ACKNOWLEDGMENTS

Numerous colleagues at the U.S. Geological Survey assisted in the preparation and review of this report including Liz Colvard, Bob Mariner and Jake Lowenstern. We also acknowledge Doug White, Bob Michel, Mark Huebner, and Steve Silva for various isotopic analyses run at USGS laboratories in Menlo Park, and Laura Hainsworth for assistance in radiocarbon determinations of tree-ring samples. Chris Farrar of the USGS has shared information and provided many helpful discussions regarding the degassing phenomenon at Mammoth Mountain. Finally, we note that noble-gas isotope determinations made at the Lawrence Berkeley National Laboratory were supported by the Director, Office of Energy Research, Office of Basic Energy Sciences and that John Rogie is supported by grants from the National Science Foundation (grant EAR 98-10417; D.M. Kerrick) and the Pennsylvania State University Earth Systems Science Center.

More Information

Additional information and updates of current activity regarding the gas discharge at Mammoth Mountain and crustal unrest in the Long Valley caldera are given in **U.S. Geological Survey Fact Sheets 108-96 (1996), 073-97 (1997), and 172-96 (1996)** and the Long Valley caldera website:
http://quake.wr.usgs.gov/VOLCANOES/LongValley

Fact Sheets can be obtained by writing to: Volcano Hazards Program Office, USGS, 345 Middlefield Road, MS 910, Menlo Park, CA 94025.

For additional definitions see the Photo Glossary on the USGS Volcano Hazards Program website:
http://volcanoes.usgs.gov/Products/Pglossary/pglossary.html

GLOSSARY

Alkalinity: A measure of a solution's capacity to neutralize acid. Given (Table) as millimoles per kilogram (mmol/kg) of bicarbonate (HCO_3).

Basalt: A dark-colored extrusive rock with <53 weight-percent silica (SiO_2) and commonly containing olivine. Basaltic magma has been interpreted to intrude the region beneath Mammoth Mountain to form dikes.

Caldera: A large, basin-shaped volcanic depression, formed during eruptions of magma chambers by collapse of the land surface along one or more steep-sided faults or ring fractures.

Carbon isotopic abundance: Amount of either ^{13}C or ^{14}C relative to ^{12}C.

Cold springs: Springs discharging at temperatures less than 15°C above the mean annual air temperature for a given region.

$\delta^{13}C$ (for CO_2): $[(({}^{13}C/{}^{12}C)_{sample} - ({}^{13}C/{}^{12}C)_{standard})/({}^{13}C/{}^{12}C)_{standard}]x1000$.

^{14}C content: The ratio of $^{14}C/^{12}C$ in a soil gas sample relative to this ratio in the pre-nuclear age atmosphere. Given as a percentage of the modern carbon (pmC) value. Carbon from sources such as magma and carbonate-rich rocks contains no ^{14}C, and therefore is considered "dead" in terms of radioactive carbon.

Dacite: A light-colored extrusive rock with 63-68 weight-percent silica (SiO_2) and often containing crystals of plagioclase and pyroxene (synonymous with quartz andesite).

DIC: Dissolved inorganic carbon concentration in a water solution. Given (Table) as millimoles per kilogram of solution (mmol/kg).

Hot springs: Springs discharging at temperatures above that of the human body, or, alternatively, a spring whose temperature is >15°C above the mean annual air temperature for a given region.

Long-period earthquakes: Earthquakes deficient in high-frequency energy, sometimes referred to as harmonic tremor.

Maar volcano: A low-relief depression formed by explosive venting of magmas during phreatic and phreato-magmatic eruptions.

Phreatic eruptions: Explosion of steam, mud and rock fragments caused by eruptions of steam, usually groundwater that has been rapidly heated by magma.

Resurgent dome: Uplifted and faulted central region of a caldera formed by renewal of pressure in the underlying magma chamber and eruptions of lava and pyroclastic material.

Rhyolitic eruptions: Eruption of rhyolitic magma in the form of pyroclastics (ash and pumice) and flows, rhyolite being an extrusive rock with >68 weight-percent silica (SiO_2). Such eruptions can be explosive as bubble-rich pumice and ash or more effusive as dark, viscous obsidian flows.

Root-zone respiration: The physical and chemical processes by which plant roots supply their cells with energy by the oxidation of sugars. Oxygen is utilized; CO_2 and water are produced. High concentrations of CO_2 can inhibit or stop this process and in effect suffocate the roots and kill the plant.

Specific conductance: A measure of the ability of water to conduct electrical current and is roughly proportional to the quantity of dissolved solids. Given (Table) as microsiemen per centimeter (µS/cm).

Steam vents: Vents discharging steam and gas (also referred to as fumaroles).

Tritium (T): A radioactive isotope of hydrogen (^3H) (half-life = 12.3 years) whose concentration in the atmosphere was significantly elevated by bomb testing in the 1950s and 1960s, and whose concentration in water can be used to date groundwaters. Given in tritium units (TU), where one TU is defined as one tritium atom in 10^{18} hydrogen atoms.

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AUTHORS

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Nominations Sought

Alfred E. Alquist Award for 2000

Nominations are now being taken by the California Earthquake Safety Foundation for the Alfred E. Alquist Award for Achievements in Earthquake Safety. This award recognizes individuals and/or organizations who have made outstanding contributions to seismic safety in California. Awards are give in areas including basic and applied research, education, volunteer services and program implementation.

Past award recipients include elected leaders, educators, engineers, architects, disaster specialists, governmental advisors, businesses and others. One to three awards are given each year. Posthumous awards are not given.

A candidate may be nominated by another individual, company, or agency. Letters describing a nominee's background and accomplishments should be sent to:

California Earthquake
Safety Foundation
c/o George Mader, Spangle Associates
3240 Alpine Road
Portola Valley, CA 94028

Nominations must be postmarked no later than November 20, 1999.

The California Earthquake Safety Foundation was founded in 1985 with the specific purpose of promoting earthquake safety in California. It relies on tax-deductible donations to support its activities [illegible] by a volunteer Board of Directors. [illegible]

George Mader, Chairman
[illegible]
[illegible]

MAMMOTH COMMUNITY WATER DISTRICT
POST OFFICE BOX 597
MAMMOTH LAKES, CALIFORNIA 93546
Phone (760) 934-2596 FAX (760) 934-2143
e-mail gsisson@mcwd.dst.ca.us

October 6, 1999

Town of Mammoth Lakes
Planning Division
Post Office Box 1609
Mammoth Lakes, CA 93546

Re: Zoning Code Amendment 99-1, Tentative Tract Map 36-193 and Design Review of North Village Specific Plan and Development of Phase 1

Mammoth Community Water District personnel have reviewed the North Village Specific Plan Amendment Initial Study / Environmental Checklist information provided and have the following comments regarding the project.

This proposed project will involve the legal re-configuration of existing property, therefore it will be necessary to apportion existing assessment amounts in accordance with the reconfiguration of the property. Existing property within the community has assessment liens from Assessment District 1993-1, formed by the Mammoth Community Water District in 1994. An "Application to Apportion Special Assessment" (copy attached) is required to be submitted to the District together with an apportionment fee and copies of the final map. An option to apportionment of existing assessment amounts would be to pay the remaining balance prior to recording of a final map.

As stated in the document, some water and sewer pipelines may require modifications to provide adequate service. All water and sewer improvements will require construction permits to be issued by the District.

The District had estimated future water and sewer demand for this project utilizing data in the North Village Specific Plan adopted by the Town on June 22, 1994. Any change in the amended plan such as increased densities would impact water demand projections and should be evaluated. It should also be noted that it is projected that sufficient water supplies are available to meet the demands of this project and other planned water uses under normal precipitation water years. Under extended drought periods, it has been projected that additional water supplies would be necessary to meet unrestricted water demand from all planned water uses at build-out of the community.

Expansion of the District's wastewater treatment facility has not been fully completed to handle flow projected to be generated by the community at build-out. The solids handling/treatment portion of the facility requires expansion.

The District is currently investigating the feasibility of utilizing the geothermal resource in the Mammoth Lakes area for the purpose of space heating and snowmelt systems. The North Village project involves areas that may benefit from the provision of a geothermal district heating system. The District would like to see reference to the potential use of geothermal energy within the project area.

Thank you for providing the opportunity to review and comment on this proposed project. If you should have any questions, please feel free to contact me at the District office at 934-2596, extension 238.

Sincerely,
MAMMOTH COMMUNITY WATER DISTRICT

Gary Sisson

GARY SISSON
Assistant General Manager

cc: Gail Smith, Permit Official

MAMMOTH COMMUNITY WATER DISTRICT

APPLICATION TO APPORTION SPECIAL ASSESSMENT

(IMPROVEMENT BOND ACT OF 1915)

COMPLETE AND RETURN THIS FORM TO:	Mammoth Community Water District P.O. Box 597 Mammoth Lakes, CA 93546

OWNER/ENGINEER _____ PHONE ( ) _____

ADDRESS _____

CITY, STATE ZIP _____

DISTRICT NAME _____

PROJECT NAME _____

(CALL MUNIFINANCIAL AT (800) 755-6864 FOR DISTRICT INFORMATION)

ORIGINAL APN(S)	ORIGINAL LIEN
	$
	$
	$
	$
	$
	$

√	PURPOSE
	SUBDIVISION MAP NO.:
	PARCEL MAP NO.:
	LOT LINE ADJUSTMENT NO.:
	PARCEL MAP WAIVER NO.:

LOTS TO BE ASSESSED: _____

1. The undersigned holds an ownership interest in the above referenced property within the identified assessment district located in the Mammoth Lakes, County of Mono, State of California. This property is now proposed to be legally re-configured.
2. The Mammoth Community Water District is requested to apportion the assessment amount(s) listed above in accordance with the reconfiguration of the property.
3. This application is made under the provisions of Part 10.5 of Division 10 of the *California Streets and Highways Code* and per Section 66493 (d) of the *Subdivision Map Act.*

Applicant's Name (please print)	*Signature*	*Date*

ATTENTION PROPERTY OWNER/ENGINEER!

A COPY OF THE FINAL MAP (18" x 26" BLUELINE & 8½" x 11" REDUCTION) MUST BE DELIVERED TO THE MAMMOTH COMMUNITY WATER DISTRICT TO BE USED AS THE BASIS FOR THE AMENDED ASSESSMENT DIAGRAM.

Tract Map Apportionment Fee	Parcel Map Apportionment Fee
Tract Map Apportionment Fee (5 final parcels or more) per Chapter 2, Section 66426 of the *Subdivision Map Act* A fee of $1,950 per subdivision/tract map plus $25 per final parcel is required. FEE = $1,950 + [number of parcels x $25]	Parcel Map Apportionment Fees (4 final parcels or less) per Chapter 2, Section 66426 of the *Subdivision Map Act* A flat fee of $950 per apportionment is required. Please include a copy of the document and plat.

CITY USE ONLY: FEE PAID $ _____ DATE _____ RECEIPT # _____ BY _____

THE TOWN OF MAMMOTH LAKES CALIFORNIA

PUBLIC FACILITIES DEPARTMENT

P. O. Box 1609 Mammoth Lakes, CA 93546
(760) 934-8989 Ext. 257 Fax (760) 934-8608

October 7, 1999

TO: Glenn Lajoie, RBF
COPY: Karen Johnston, Jeff Mitchell
FROM: Craig Tackabery
SUBJECT: September 24 letter regarding North Village Specific Plan Amendment Program EIR

Roadway Maintenance Questionnaire

1. A. The project will increase the amount of large delivery vehicles using Town streets and will have a short-term increase in heavy equipment using the streets during construction. There will be an increase in the amount of snow hauling and the use of heavy equipment on Town streets.

B. Hillside Drive appears to be substandard street (less than 30' of pavement). The circulation pattern changes should be evaluated to determine if additional traffic might use this street.

C. The plans indicate sidewalks along Canyon Boulevard. Sheet 3 of the plans indicates a sidewalk along Forest Trail in the typical section, but not in the plan view. The Town does not currently maintain sidewalks during the winter.

D. The sidewalks and transit lanes along Canyon Boulevard reduce the snow storage areas from what is available today.

E. The gondola building appears to cross over the street. The skier bridge will also shade the roadway. Shaded areas can result in ice buildup. This is a problem today at the Chair 15 tunnel.

F. The traffic signal at Lake Mary Road/Miller Siding and streetlights along Town streets will require additional maintenance.

G. The roundabout at Forest Trail and Minaret Road will increase the cost of snow removal and likely require replacement of curb and gutter damaged in snow removal operations every 2 to 5 years.

CT/ct/GC441

H. Section 6.c. of Page 38 of the Specific Plan indicates that the gondola's front support mast may be placed in the right-of-way. This would be classified as a fixed roadside object.

I. The 10' building setbacks from the right-of-way proposed in the Specific Plan are reduced from the 20' used in the rest of Town, which may result in additional damage to buildings or vehicles during snow removal operations, and result in an increase in claims against the Town. The existing buildings along Miller Siding/Canyon will be closer to the edge of pavement with the realignment, which will result in similar issues.

J. No day use skier parking is provided. This may result in illegal onstreet parking, which would conflict with snow removal activities.

K. Public parking structures and a temporary commercial/public parking lot are indicated.

L. The northwest curb return at Lake Mary Road/Miller Siding appears to be a low point with no outlet. Page 62 of the specific plan indicates removal of the cross gutter on the south side of Hillside Drive/Forest Trail with no outlet at the low point on the southwest corner.

1. A. The plans indicate a complete reconstruction of Canyon Blvd./Miller Siding and the impact can be addressed in the design of the new pavement section. Forest Trail may require some mitigation (such as an overlay) to accept the increased load.

B. Improve Hillside Drive to Town standards.

C. Possible mitigation measures include: 1)amending the Municipal Code to require adjacent property owners to maintain the sidewalk; 2) forming a Maintenance District to provide funds to offset the additional costs incurred by the Town in maintaining the sidewalks; 3) installing a snowmelt system in the sidewalks,

D. Possible mitigation measures include: 1) provision of a pocket park/snow storage area along Canyon Blvd.; 2) forming a Maintenance District to provide funds for snow hauling; 3) installing a snowmelt system in the roadway.

E. Possible mitigation measures include: 1) no structures allowed in the right-of-way; 2) installation of a snowmelt system in the roadway and the sidewalk; 3) installation of a drainage system that addressed the problem; forming a Maintenance District to address the increase in maintenance.

F. Possible mitigation measures include: 1) formation of a maintenance district or a lighting and landscape maintenance district.

G. In discussions with Caltrans, we have conceptually agreed to share the maintenance costs similar to a traffic signal, based on intersection legs. Therefore the Town's share would be 50%. Possible mitigation measures include: 1) formation of a maintenance district. Caltrans may also have concerns regarding the incremental cost of increased maintenance.

H. Possible mitigation measures include: 1) place supports outside of right-of-way; 2) comply with Highway Design Manual section 309.1 for horizontal clearance; 2) comply with Highway Design Manual section 309.2 for vertical clearance.

I. Possible mitigation measures include: 1) move buildings and parking to a 20' setback; 2) provision of a pocket park/snow storage area; 2) forming a Maintenance District to provide funds for snow hauling; 3) installing a snowmelt system in the roadway; 4) hold harmless or waiver of right to file claims by property owners.

J. Possible mitigation measures include: 1) operation of a transit system with adequate capacity to handle the demand during gondola operation; 2) provision of an adequate area for people waiting for transit; 3) provision of some shelter from the elements when waiting for transit

K. To address public maintenance expenses, possible mitigation measures include: 1) redesignate the parking to private; 2) forming a Maintenance District; 3) institute a paid parking program.

L. Possible mitigation measures include: 1) extend the drainage system and install inlets; 2) a roadside ditch along Hillside Drive

3. It is assumed that the additional maintenance for sidewalks, street lights, snow removal, etc. along Minaret Road (SR203) will be addressed by either the property owner or Caltrans, and that the Town will not assume any additional responsibilities.

Drainage Facility Questionnaire

Per our conversation, I understand that this is being addressed in a technical study being prepared by Triad/Holmes Associates. Another source to review is the Mammoth Lakes Storm Drain Master Plan. One thing I noticed in the plans was the intention to upgrade the drainage facilities through the project area and tie in to the existing downstream

facility. The impacts of this bottleneck in the system may require mitigation.

Park and Recreation Questionnaire

Per our conversation, I understand that Karen Johnston has provided this information. Another source to review is the Development Impact Fee Calculation Report by MSI, and Resolution No. 98-06.

WESTSIDE MOUNTAIN POND

GONDOLA PLAZA LOOKING NORTHEAST

PEDESTRIAN SHOPPING AREA EAST OF MINARET

GONDOLA PLAZA LOOKING SOUTHWEST

EXHIBIT J - SKETCHES

from 4/27/94 Draft NV Specific Plan

Glenn - Do you have comments? I need to get back to them today, if possible, since I will be out Thurs. + Fri.
Karen

NORTH VILLAGE DRAINAGE STUDY

SCOPE OF WORK

❖ Tributary Drainage Facilities

- Identify existing facilities tributary to North Village.
- Determine existing capacities of those facilities at the boundary of North Village.

❖ North Village Drainage

- Determine storm flows from existing development in North Village.
- Determine storm flows from North Village when developed.
- Identify proposed retention facilities to be constructed comparing proposed to required volumes.

❖ Downstream Impacts

- Does combined flow from existing upstream drainage facilities and developed North Village exceed downstream facilities?
- If impacted identify what facilities need to be constructed per the Storm Drain Master Plan.
- If not identify when downstream facilities will need to be constructed.

Bob Floyd

From: Jim and Elizabeth Tenney <tenney@QNET.COM>
To: <townofml@gte.net>
Sent: Thursday, October 14, 1999 4:46 PM
Subject: Att: Mike Vance (public wants to know)

FYI

This message (excerpts below) was sent to me by John Cunningham (who asked to be on the ESAN distribution list some months ago) after the Planning Commission meeting yesterday. It echoes what we were discussing this morning.
--Elizabeth Tenney

"I had the feeling the Planning Commission felt it was a pain in the ass for them to have to listen to public comment. In some sense it must be. We are in the position of commenting on something we really know nothing about. And they really don't want us to know. THAT NEEDS FIXING! For example I was unaware of the existence of the report that they had before them.*****"

"How can we put pressure on them to provide more information to the interested public, in a timely manner?. They seemed smug in telling us that the meeting was "legally noticed". I think we need two things:"

"1. A TOWN WEB SITE that posts all public meetings, with proposed agendas, and URLs to pertinent documents. It should also have information about license requirements, building permits and fees, etc."
"Bereniece was enthusiastic about this idea when she was running for office, but I have seen no action . I'm sure it would require the Town Council to order the Town Manager to set up such a site. And there would be a cost for maintaining it. I know there would be lots of foot dragging, because they really don't want to inform, or involve the citizens, so it would take a lot of pushing. Maybe it could be made an election issue this spring."
"2. A section of the local newspaper with a calendar of public meetings."

RAMSEYER AND ASSOCIATES, INC.
□ CIVIL ENGINEERS □ LAND PLANNERS □ SURVEYORS □

October 15, 1999

VIA FAX

Ms. Karen Johnson
Town of Mammoth Lakes
Planning Department
P.O. Box 1609
Mammoth Lakes, Calif. 93546

Subject: Traffic Concerns North Village (GondolaVillage)/ Specific Plan/ EIR

Dear Ms. Johnson,

Thank you for meeting with me regarding my concerns on the traffic problems that I see with the North Village Specific Plan/EIR.

Since my meeting with you, I have spoken to the town traffic consultants and received a draft copy of the Forest Trail neighborhood traffic plan.

I still have concerns that the North Village project will have a traffic impact on Forest Trail and Minaret; more specifically my concerns are as follows:

1. More vehicles will back up on Minaret from 3-5pm on weekends.
2. There will be an impact of non-residential vehicles on Forest Trail east of Minaret for PM traffic.
3. There will be an impact of non-residential vehicles on Forest Trail west of Minaret for AM traffic.

The draft traffic report proposes to establish a base-line condition for non-residential traffic on Forest Trail east and west. I recommend that a base line condition also be established for the number of vehicles using Minaret.

The draft traffic report also recommends that if there is an increase of 25 vehicles/hr during the week or 50 vehicles/hr during the weekend once the North Village is complete mitigation to the problem will be required. The number of 25/50 vehicles per hour vehicle increase is not acceptable. Forest Trail is a quiet residential collector street in the winter, kids play with their sleds in the street, skiers and pedestrians are walking to and from shuttle stops.

The proposed increase of 25/50 or more through vehicles per hour should be reduced to 5/10 or more vehicles per hour in implementing a program of neighborhood traffic diversions sufficient to reduce cut/through traffic to base-level-conditions

1881 KNOLL DRIVE, VENTURA, CALIFORNIA 93003 TELEPHONE: (805)654-1088 FAX: (805) 654-8013

Traffic Circulation

Editor,

The front page of the *Mammoth Times* shows an illustrative plan that realigns Canyon Boulevard by abandoning Canyon Boulevard from Minaret to Hillside, and realigning Canyon Boulevard southerly to tie into Lake Mary Road (Main Street) ["Mammoth: Mile by Mile," Aug. 5].

As a professional engineer and land planner, it is my opinion that the traffic on Forest Trail westerly of Hillside will increase considerably, impacting the existing residential area.

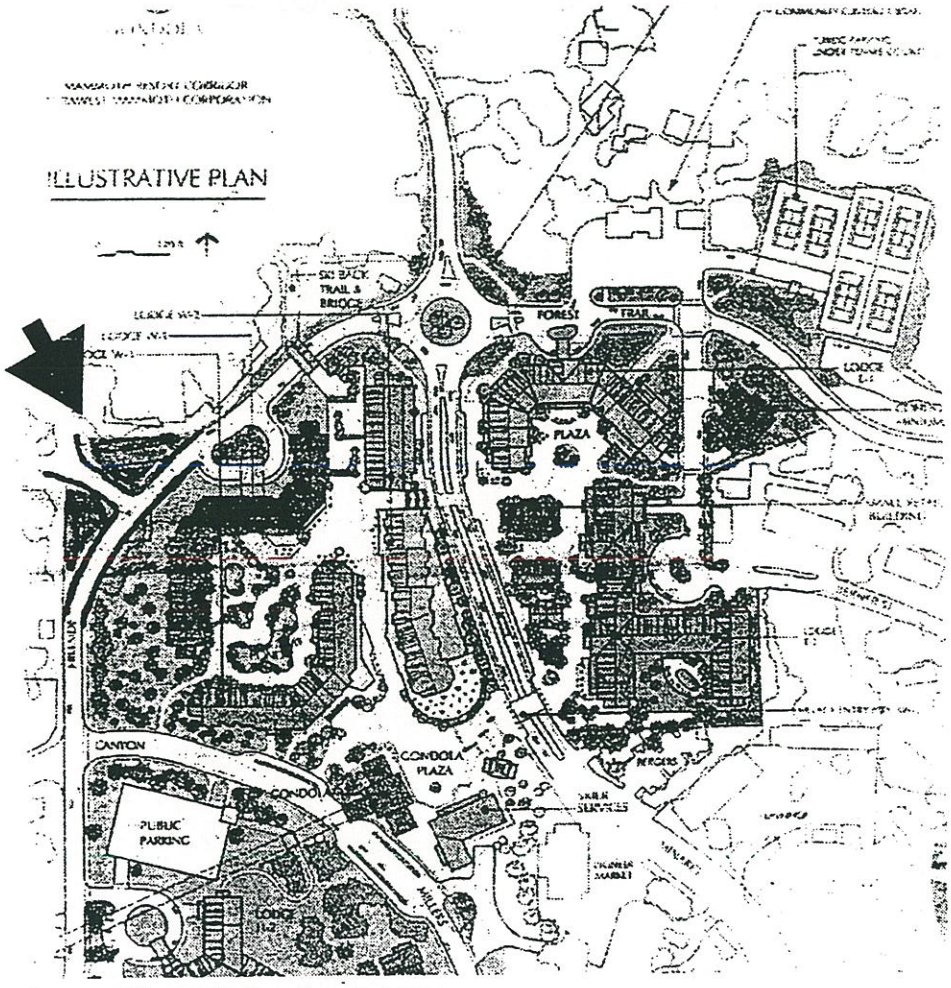
I request that a traffic study be made during this coming ski season to determine the ADT (average daily traffic) for both Canyon Boulevard and Forest Trail, with a projection of what the ADT will be on Forest Trail after build-out.

The problem is, as I see it, (see map below, top left) thousands of vehicles traveling westerly on Main where their destination is "Canyon Lodge" (during the winter to go skiing) will either go north on Minaret Boulevard to Forest Trail and westerly on Forest Trail without turning left on Hillside, or go westerly on Lake Mary Road via Lake View, or take the new alignment of Canyon Boulevard (Miller's Siding).

To mitigate the increased traffic on Forest Trail, I recommend that the developer consider realigning Forest Trail (see map); or make the realignment of Canyon Boulevard (Miller's Siding) more accessible for through traffic, like it is today.

I look forward to the completion of this project, and hopefully the traffic engineers will solve the problem before its too late.

Eddie P. Ramseyer
Mammoth Lakes *MT*



Proposed Forest Trail realignment map.

To Ed Breese

From: Karen Johnston

I just got this via FAX. You may want to have Brad look into these issues as part of their technical study. Otherwise, RBF will have to do the work.

Karen

Confirmation Report – Memory Send

Time : Oct-19-99 12:56pm
Tel line :
Name :

Job number	:	475
Date	:	Oct-19 12:55pm
To	:	9240050
Document pages	:	03
Start time	:	Oct-19 12:55pm
End time	:	Oct-19 12:56pm
Pages sent	:	03
Status	:	OK

Job number : 475 *** SEND SUCCESSFUL ***

To: Ed Brisson
From: Karen Johnston

I just got this via FAX. You may want to have [illegible] look into these issues as part of their technical study - Otherwise, RBF will have to do the work.

Karen

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October 15, 1999

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The traffic engineers have acknowledged that there will be a problem upon the completion of North Village. I recommend that a condition be added for realigning Forest Trail as recommended in my letter and exhibit of August 19, 1999 (attached) when the development is initiated. I also recommend that the proposed conditions, along with the potential conditions regarding traffic, be reviewed by the Forest Trail residents for their comments and/or approval.

Sincerely,

Eddie P. Ramseyer
Registered Civil Engineer 26362
1690 Forest Trail
Mammoth, CA 93546
Mailing address: 10629 Encino Drive
Oak View, Calif. 93022
805-649-3428

cc: Town Council

Editor,

The front page of the *Mammoth Times* shows an illustrative plan that realigns Canyon Boulevard by abandoning Canyon Boulevard from Minaret to Hillside, and realigning Canyon Boulevard southerly to tie into Lake Mary Road (Main Street) ["Mammoth: Mile by Mile," Aug. 5].

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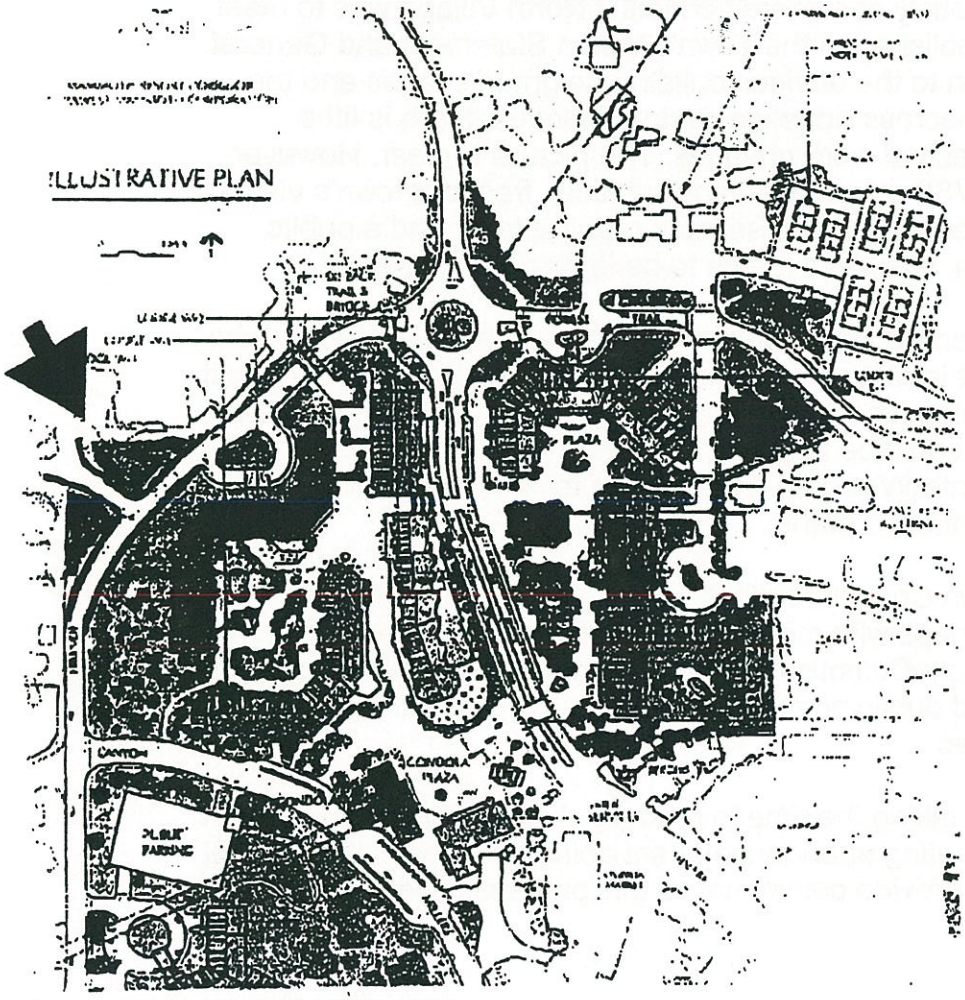
Eddie P. Ramseyer
Mammoth Lakes *MT*



Proposed Forest Trail realignment map.

Bob Floyd

From: <sburak@QNET.COM>
To: <townofml@gte.net>
Sent: Friday, October 15, 1999 2:04 PM
Subject: attn: mike vance

To: Bill Taylor
From: Sue Burak
Re: Planning commission meeting re: New EIR for North Village

Hi Bill;
It's finally time for me to speak up. I received information regarding the last Planning Commission meeting. I know you guys are crunched for time, but enough is enough. First there was the change in the original plans fro Juniper Springs Lodge. Those changes were followed by a special water ordinance favorable to IntraWest. The town lost out on TOT, not to mention the view. Now another IntraWest switch in the game plan is in the works. I liken their approach to "let's hope the country bumpkins don't notice" or, more likely, "we will steamroll (by any means), whatever we want through the planning commission and the Town Council".

These changes in the 1994 plan relieve Intrawest of commitments that were previously considered critical if North Village was to meet the criteria established in the Town's Vision Statement and General Plan. In addition to the obvious building height increases and the almost straight-across ridgeline design changes, there is little subtlety in the actual word changes. The picture is clear. However, the Revised NVSP covers so many subjects, from our town's vision to the elimination of gondola setback requirements and a public events program, that each needs to be looked at separately.

I am very concerned about what the proposed changes mean. I am also aware that IntraWest wants these changes approved asap. Is it necessary to accommodate all their hurry-up requests? I know the wrath of Rusty could be incurred, but this is our Town and many of us don't think IntraWest has any concern for the Town and our vision statements and plans.

I know the Town Council routinely approves these requests by IntraWest- perhaps with more public involvement and cooperation from the Planning Commission, we can provide Council with specific information and public comment to change the way our Town is being developed.

Thanks Bill for taking the time to read my diatribe. Unfortunately (in terms of my meeting attendance), I am going to school in Reno until Dec. 15. I will provide comments as this process develops.

BILL MCNEILL
P.O. BOX 1477
MAMMOTH LAKES, CA 93546

phone (760) 934-4141
fax (760) 934-9611
e-mail rwmcn@mail.qnet.com

October 17, 1999

Karen Johnston, Senior Planner
Department of Community Development
Town of Mammoth Lakes

Dear Karen,

Thank you for taking the time to meet with Elizabeth Tenney and me last week regarding the North Village Specific Plan Amendment. I appreciate your responding to our questions and comments about the review process and your department's resolve to improve communication with the public on the status of this project.

Enclosed are specific questions and comments that have arisen in my review of the amended plan. I acknowledge that some of these subjects have already received preliminary review in the Initial Study/Environmental Checklist. However, I request that the issues enumerated here be considered by the Planning Department and the Planning Commission in their review of the amended plan as it relates to the plan approved by Town Council in 1994.

Please call me if you have questions or if you wish clarification of my comments.

Sincerely,

Bill McNeill

BILL MCNEILL
P.O. BOX 1477
MAMMOTH LAKES, CA 93546

phone (760) 934-4141
fax (760) 934-9611
e-mail rwmcn@mail.qnet.com

DATE: October 13, 1999
TO: Mammoth Lakes Planning Commission/Planning Department
FROM: Bill McNeill
RE: Comments/Questions, North Village Specific Plan Amendment as Revised August 1999

• p. 7 Last ¶ deleted. *Why does the Amendment delete a detailed site plan? How can the public, Planning Commission, Planning Department, and Town Council consider a proposal that does not include a detailed site plan?*

• p. 16 Third ¶ added. This addition provides for "alternate creative development concepts and building designs which will meet the requirements and goals which are described in the Specific Plan's text". *Does such an open-ended provision give the Town of Mammoth Lakes sufficient control over final design particularly considering that the goals described in the text have been changed? Will it be possible for the proponent to change the goals and requirements in the future and thus change the design at will?*

• p. 16 Last ¶ modified. The amended plan drastically alters building scale, proportion, height variation, and set-back in comparison to the plan on which the original Specific Plan was based. Phase I calls for three buildings of relatively uniform mass, height and exterior detail. The 1994 plan incorporated nine buildings ranging widely in height, mass, setback and exterior design. The 1994 plan indicated that the buildings "are to be generally vertical rather than horizontal", and achieved this by including buildings from one to five stories in height. The Phase I buildings are all 4 floors in height with only minor variations in roof configuration to relieve the monotony. *Does the plan as amended meet the original "concept" that, "The village commercial center should be perceived as a clustering of individual buildings which have grown over time?" Does the amended plan conform to the design concepts called for in the Town Vision Statement?*

• p. 17 First ¶. The amendment includes a proposal for only Phase I of North Village. It does not include the gondola site/building, plans for overall pedestrian circulation, parking for proposed commercial space, resolution of pedestrian/vehicle interface along Meridian, etc. *How then can the plan support its contention that the "major premise guiding the*

form of North Village is that the pedestrian system ultimately establishes the structure of the Village?" Can the Town approve an incomplete plan with assurance that it will be self contained with respect to these elements in the event the proponent chooses not to proceed with subsequent phases?

- p. 19 Last ¶ modified. p. 20 First and second ¶s modified. The amendment adds "resort condominiums, timeshare units" to the "allowable uses" in the Plaza Resort, Resort General and Specialty Lodging zones. *How will this addition impact transient occupancy tax receipts? What will the relative proportion of each of the nine cited uses be? How will each impact physical requirements such as parking,pedestrian circulation, street level access, and infrastructure elements? How will each impact fiscal variables such as tax receipts, and infrastructure costs? Should the plan include specific designation of proportional use mix so that the above variables are known in advance and are controllable by the Town?*

- p. 20 Last ¶. The amended plan states that, "the central focus of the pedestrian system will be on the public plaza areas and the ski lift". *Given that the amendment is incomplete with regard to the gondola and plaza areas interfacing with Phase I on the south and east, how can the Town access this aspect of the plan?*

- p. 21 First ¶, 8. Land use objectives include "To avoid a 'strip commercial' development which renders public transit and pedestrian facilities less effective." The Phase I buildings of relatively uniform height and limited set-back variation are at odds with this objective. Of particular concern is building W2 that on its east side frontage presents a height of between 50 and 60 feet above Minaret Road level. If this is combined with similar building height and set-back of subsequent development on the east portion, a tunnel effect will be created. The relatively narrow pedestrian mall between W2 and W3 in combination with the ≈ 50 foot building height not only creates a tunnel effect but is likely to result in accelerated wind velocities, particularly during storm events. *How can the undesirable impacts of high buildings and narrow inter-building spaces be mitigated? How can the cumulative impacts on viewsheds, ambient sunlight, and compatibility with pedestrian use be judged with validity if the Phase I is considered independent of subsequent development? Will separate approval of Phase I limit flexibility of the Town to control the nature and extent of future development in North Village?*

- p. 21 First ¶ 10. modified. Employee housing should to the greatest

extent possible be located contiguous to the place of employment. This will diminish vehicular traffic, reduce loads on public transit, and preclude "ghetto-like" concentrations of employee support facilities. *Should the amended plan revert to the original proposal that it "create housing for at least half of the number of expected full-time equivalent employees generated within the North Village area"?*

• p. 21 Second ¶ 3. Deletion of the words "a centralized area" leads to the possibility that there will be no actual physical facility for such activities but only the "opportunity" for them. This is particularly critical since preliminary plans for the East Side development (p. 26) indicates that, "The public shopping lane uses the same area now utilized for events and art shows." *Will the village-like atmosphere and pedestrian friendliness of the public spaces be compromised by eliminating "a centralized area for non-ski oriented activities? Will the public be well served by eliminating an area historically used for public events and providing no replacement? How can the cumulative impact of the West and East side developments on elements such as this be accurately appraised without a complete plan?*

• p. 23, 3.,4. Building mass and relatively uniform building heights proposed for Phase I compromise viewsheds and sunlight. Pedestrian use of the central plaza area will be limited during the low-sun-angle winter months because the proposed buildings will keep much of the plaza in shade. *Should the design proposal be modified to incorporate greater variation in building height so viewsheds and light access will be enhanced and the stated goals of pedestrian friendliness adhered to?*

• p. 25, 4. The elimination from the design proposal of a Minaret Road pedestrian bridge is clearly is at odds with the Development Objective to "facilitate easy pedestrian access". Since temporary parking for commercial space is proposed for the east side and future plans will incorporate residential/lodging/commercial units on the east side, cross-Minaret pedestrian use will be extremely high. Surface crossing will inevitably conflict with vehicular traffic. *Should the plan be modified to include over and/or under surface pedestrian facilities in order to preclude this conflict?*

• p. 27, 9. The land use policy that "Development shall reflect the image of a "town within a forest." and, "building heights generally held at or below the height of surrounding trees." is consistent with the Town Vision Statement and General Plan. Its elimination or drastic modification will create a more urban environment inconsistent with the desired

mountain resort atmosphere. *Should this land use policy be reinstated and the proponent be required to modify the design to conform with its intent?*

• p. 28 Plaza Resort, 4. modified The 1994 plan required that "all parking for P-R facilities shall be placed understructure". The amended plan excludes "short-term parking" without defining "short-term" and provides for "freestanding structured garages". The latter do not appear on the Phase I plan as submitted. The surface parking east of Minaret Road, supporting Phase I commercial space is not in conformity with the stated land use policy. *Should the proponent be required as an element of Phase I to provide parking in conformity with the stated land use policy?*

• p. 29, 3. modified. The prior provision that "Understructure parking shall be required" has been changed to "predominately understructure, etc." *Given the visual desirability of understructure parking and the goals of creating a pedestrian friendly atmosphere and maximizing esthetic value, shouldn't the prior land use policy be reinstated?*

• p. 31, 1. modified. Base Lodge facilities, which may total as much as 30,000 square feet, are eliminated from density calculations. *What is the regulatory basis for not counting this building(s)? Does elimination of this space from density calculations preclude compliance with the development objectives as stated on p.23-24.*

• p. 31, 2. modified. The term "up to five levels" is misleading since all building in Phase I are four or five levels. One, two and three floor buildings as approved in the 1994 plan have been eliminated. *See previous comments and questions re blocking of sunlight and viewsheds, esthetic undesirability of relatively uniform building mass and height, visual impact of building uniformity, and creation of tunnel effect.*

• p. 32, 7. modified. The previously approved quasi-public site is completely eliminated. As a substitute, the proponent co-opts the existing community center, library and park. *Since the latter are not even within the boundaries of the proposed development, how can they be substituted for space previously committed for public events? If they are substituted will visitors to and employees of the proponents development displace town residents' access to these facilities?*

• p. 38, c. modified. Density calculations exclude "commercial space ancillary to village and lodging operations, MMSA uses within the gondola building(s)". *How can environmental impacts of density be accounted for if some buildings are not included?*

• p. 38. e,ii. modified. The provision allowing density exchanges is changed to permit such exchanges even when aggregate density within the district is exceeded. *What is the justification for this change? What are the circumstances under which the Town would permit aggregate density limits to be exceeded?*

• p. 41, 42 Table 4 Allowable building heights greatly exceed those called for in the 1994 plan. Of particular concern is elimination of the requirement that building projections above allowable heights be balanced by "a roughly equivalent reduction in building height below the permitted height" and substitute of the provision that up to 50% of the building square footage may exceed the permitted height. *What is the justification for having a building height limit that can be exceeded by up to half of the building mass? By how much can such a projection exceed allowable building height?*

• p. 48. d. modified. The 1994 plan provision limiting building exteriors to three materials in addition to glass has been eliminated. Elevations of the Phase I buildings indicate as many as seven materials will be employed creating an impression of "busyness" which detracts from the natural surroundings. *What is the justification for this change? Will the change meet standards of the Town Vision Statement?*

• p. 50 k. deleted. Requirement for separation of pedestrian walkways and sidewalks from vehicular traffic is eliminated. Given anticipated peak traffic flows, this could pose a safety hazard for pedestrians, particularly during storm events when visibility and safe footing are reduced. *How will this hazard be mitigated?*

• p. 68 Second ¶, 1. Phase I does not provide structured or understructure parking for the planned commercial facilities. Thus it fails to comply with the circulation policy that "Adequate off-street, structured parking will be required for each proposed development of North Village." *How will circumvention of this policy be mitigated? Does the surface parking planned for the northeast corner of the east segment conform withthe Town Vision Statement and General Plan? If the surface parking is considered to be a temporary solution, what is its permissible duration?*

• p. 72 f. added. Reference to pedestrian bridge has been deleted elsewhere in plan. *Will there be a pedestrian bridge crossing Minaret?*

• p. 75 6. modified. Plan states that, "The gondola will be constructed as

one of the first major facilities of North Village." Since Phase I does not include the gondola, this provision of the amended plan is not met. *Should the Town require plans for the gondola and base service facilities be submitted and processed in conjunction with Phase I so buildings, public space, pedestrian flow and public transit access can be coordinated? Can cumulative impacts be addressed with validity if the plans are considered in a piecemeal fashion?*

- p. 75 8 b,c. modified, added. Town Vision Statement notes that "North Village .... parking is understructure." The amended plan provides indicates that structured and unstructured surface lots will (may be) fulfill parking requirements for affordable housing. *How will this violation of the Vision Statement be mitigated?*

- p. 77 3a added. Plan states that parking standards "may be reduced by the Community Development Director...." based on a list of factors. Given the number of known and unknown variables that will ultimately impact parking density, it is conceivable that parking requirements may have to be increased rather than reduced, or increased for one segment of the project and reduced for others. *Should the Community Development Director also have the option to increase parking requirements based on the same list of considerations?*

- p. 81 first ¶ b. Section 1. b., p. 70 indicates that there will be "No turning movements into structures allowed." That conflicts with this section that notes "Joint access driveways shall be provided between developments." *How will obstruction of one lane traffic flow be avoided if vehicles are turning into driveways? Would traffic flow be enhanced if all vehicular access were to be from secondary streets rather than from Minaret? If driveways are permitted should the right of way be widened from the proposed 70' to provide a right turn lane at driveway access points?*

- p. 82 Parking 7. modified. The approved 1994 plan required that "All merchandise delivery, loading and unloading areas, trash collection and recycling activities shall be conducted within an understructure parking garage or within a structure and not be visible from public view". Deletion of this requirement in the amendment compromises the objective of developing a resort atmosphere in a "concentrated, pedestrian oriented activity center with restricted vehicular access." (p.16) *How will this provision as amended be mitigated? What types of visual and safety barriers will be constructed between pedestrian areas and service bays? How will noise levels from service activities be mitigated? How will*

surface service traffic influence pedestrian flow?

- p. 83 10. There is no time certain for expiration of permitted "Temporary surface parking lots" thus violating the Vision Statement provision that all parking "is understructure". *For what duration will temporary surface parking lots be permitted.?*

- p. 83 11 Moving parking off-site will likely contribute to traffic congestion and reduce the objective that North Village be "self contained". *Given that the development is being phased, should additionally required parking for early phases be absorbed in subsequent phases rather than be permitted off site?*

- p.99 Noise Standards 5 a,b. added. This addition eliminates Town control over noise levels at the core of the project, that is along Minaret Road. Since this is the area of most dense activity and likely highest noise levels, and will be used by visitors and residents transiting rather than residing in or patronizing the project, monitoring of noise levels should be required along this right of way. *If noise levels are not monitored in the core of the project how will their impact on visitors and residents be mitigated?*

Karen

Bob Floyd

From: <JANWORK1@aol.com>
To: <TownofML@gte.net>
Sent: Monday, October 18, 1999 8:01 AM
Subject: Attn Mike Vance

To Town of Mammoth lakes Palnning Dept/ Village EIR

Please document my expressed concerns with regards to new mammoth Village plans:
1. Large massive buildings are not in context with a "village" moitif
2. Height increases are pretty much unacceptable since they affect everyone who has a view across them. 15 feet increses might be acceptable.
3. Larger buildings would need larger setbacks to avoid a crowded /urban feeling.

Robert Atlee
Resident - Mono Co.

California Regional Water Quality Control Board
Lahontan Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.mscomm.com/~rwqcb6
2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
Phone (530) 542-5400 • FAX (530) 544-2271

Gray Davis
Governor

October 18, 1999

Town of Mammoth Lakes
Attn: Karen Johnston
437 Old Mammoth Road
Mammoth Lakes, CA 93546

Dear Ms. Johnston:

COMMENTS ON "NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT" FOR THE NORTH VILLAGE SPECIFIC PLAN AMENDMENT, TOWN OF MAMMOTH LAKES, MONO COUNTY

Staff of the California Regional Water Quality Control Board, Lahontan Region (RWQCB) have reviewed the above-referenced Notice of Preparation (NOP). The proposed North Village Specific Plan includes the development of a destination resort facility on 41 parcels within the Town of Mammoth Lakes, totaling 64.1 acres. The proposal includes 3,020 accommodation rooms, 135,000 square feet of commercial uses, a gondola to Mammoth Mountain Ski Area, and associated access roads and parking facilities. The RWQCB will be a responsible agency under the California Environmental Quality Act (CEQA) for this project. Staff of the RWQCB have the following comments:

1. The draft environmental impact report (DEIR) will need to carefully analyze and mitigate potential impacts to water quality from stormwater discharges, both during and after construction activities. The DEIR should address source control measures as well as the collection, conveyance, treatment, and/or discharge of stormwater. Objective and mandatory mitigation and monitoring measures should be clearly specified within the project description. The DEIR should address all of the erosion control guidelines contained in the *Water Quality Control Plan for the Lahontan Region* (Basin Plan), Section 4.8, pages 1 through 3 (copy enclosed).

2. The proposal includes ground disturbance exceeding five acres. The applicant will need to apply for and obtain a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity. An application packet will be sent to the project proponent.

3. The NOP states (p. 32) that "dewatering for subterranean structures on-site is anticipated." The DEIR will need to fully address the potential water quality impacts from extraction and discharge of ground water. Related issues include, but are not

limited to, well construction standards, pumping rates, and plans for discharge of extracted ground water.

4. The NOP states that there are no wetlands or riparian areas within the proposed village area. However, we could not locate in the NOP any discussion of whether wetlands or riparian areas may be potentially impacted by construction of the proposed gondola. Any impacts to wetlands or riparian areas should be disclosed and mitigated in the DEIR. Any potential impacts to wetlands should be evaluated by following the sequence detailed in the Basin Plan, Section 4.9, pages 8 through 14.

The above comments are based on our review of the NOP. We may have additional comments as we learn more about the project and/or the site. Please note that the RWQCB retains authority (pursuant to California Water Code Section 13000 et seq.) to formally regulate this project (via adoption or conditional waiver of waste discharge requirements) if all water quality issues are not adequately addressed by the lead agency. Our decision whether to request a Report of Waste Discharge (and filing fees) from the project proponent, and to consider formal regulation of this project, will depend largely on the analyses and mandatory mitigation and monitoring elements contained in the DEIR.

We look forward to working with you as you plan your project to protect water quality. Please call Tom Suk at (530) 542-5419 if you have any questions regarding this letter.

Sincerely,

for Cindy Wise, Environmental Specialist IV
Acting Lead, Central Sierra Watersheds Unit

Enclosure: Copy of Basin Plan Section 4.8, pages 1-3

TS/sht:nvillage.doc
[26/NEW/North Village (Intrawest)]

4.8 LAND DEVELOPMENT

The construction and maintenance of urban and commercial developments can impact water quality in many ways. Construction activities inherently disturb soil and vegetation, often resulting in accelerated erosion and sedimentation. Stormwater runoff from developed areas can also contain petroleum products, nutrients, and other contaminants.

This section contains a discussion of the potential water quality impacts expected to result from land development activities, followed by control measures to reduce or offset water quality impacts from such activities.

Construction Activities and Guidelines

Construction activities often produce erosion by disturbing the natural ground surface through scarifying, grading, and filling. Floodplain and wetland disturbances often reduce the ability of the natural environment to retain sediment and assimilate nutrients. Construction materials such as concrete, paints, petroleum products, and other chemicals can contaminate nearby water bodies. Construction impacts such as these are typically associated with subdivisions, commercial developments, and industrial developments.

Control Measures for Construction Activities

The Regional Board regulates the construction of subdivisions, commercial developments, industrial developments, and roadways based upon the level of threat to water quality. The Regional Board will request a Report of Waste Discharge and consider the issuance of an appropriate permit for any proposed project where water quality concerns are identified in the California Environmental Quality Act (CEQA) review process. Any construction activity whose land disturbance activities exceed five acres must also comply with the statewide general NPDES permit for stormwater discharges (see "Stormwater" section of this Chapter).

The following are guidelines for construction projects regulated by the Regional Board, particularly for projects located in portions of the Region where erosion and stormwater threaten sensitive watersheds. The Regional Board recommends that each county within the Region adopt a grading/erosion control ordinance to require implementation of these same guidelines for all soil disturbing activities:

1. Surplus or waste material should not be placed in drainageways or within the 100-year floodplain of any surface water.

2. All loose piles of soil, silt, clay, sand, debris, or other earthen materials should be protected in a reasonable manner to prevent any discharge to waters of the State.

3. Dewatering should be performed in a manner so as to prevent the discharge of earthen material from the site.

4. All disturbed areas should be stabilized by appropriate soil stabilization measures by October 15th of each year.

5. All work performed during the wet season of each year should be conducted in such a manner that the project can be winterized (all soils stabilized to prevent runoff) within 48 hours if necessary. The wet season typically extends from October 15th through May 1st in the higher elevations of the Lahontan Region. The season may be truncated in the desert areas of the Region.

6. Where possible, existing drainage patterns should not be significantly modified.

7. After completion of a construction project, all surplus or waste earthen material should be removed from the site and deposited in an approved disposal location.

8. Drainage swales disturbed by construction activities should be stabilized by appropriate soil stabilization measures to prevent erosion.

9. All non-construction areas should be protected by fencing or other means to prevent unnecessary disturbance.

10. During construction, temporary protected gravel dikes, protected earthen dikes, or sand bag dikes should be used as necessary to prevent discharge of earthen materials from the site during periods of precipitation or runoff.

11. Impervious areas should be constructed with infiltration trenches along the downgradient sides to dispose of all runoff greater than background levels of the undisturbed site. Infiltration trenches are not recommended in areas where infiltration poses a risk of ground water contamination.

12. Infiltration trenches or similar protection facilities should be constructed on the downgradient side of all structural drip lines.

13. Revegetated areas should be continually maintained in order to assure adequate growth and root development. Physical erosion control facilities should be placed on a routine maintenance and inspection program to provide continued erosion control integrity.

14. Waste drainage waters in excess of that which can be adequately retained on the property should be collected before such waters have a chance to degrade. Collected water shall be treated, if necessary, before discharge from the property.

15. Where construction activities involve the crossing and/or alteration of a stream channel, such activities should be timed to occur during the period in which stream flow is expected to be lowest for the year.

16. Use of materials other than potable water for dust control (i.e., reclaimed wastewater, chemicals such as magnesium chloride, etc.) is strongly encouraged but must have prior Regional Board approval before its use.

Specific Policy and Guidelines for Mammoth Lakes Area

To control erosion and drainage in the Mammoth Lakes watershed at an elevation above 7,000 feet (Figure 4.8-1), the following policy and guidelines apply:

Policy:

A Report of Waste Discharge is required not less than 90 days before the intended start of construction activities of a **new development** of either (a) six or more dwelling units, or (b) commercial developments involving soil disturbance on one-quarter acre or more.

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.

Guidelines:

1. 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.

2. Surplus or waste materials shall not be placed in drainageways or within the 100-year flood plain of surface waters.

3. 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.

4. Dewatering shall be done in a manner so as to prevent the discharge of earthen materials from the site.

5. All disturbed areas shall be stabilized by appropriate soil stabilization measures by October 15 of each year.

6. 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.

7. Where possible, existing drainage patterns shall not be significantly modified.

8. 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.

9. Drainage swales disturbed by construction activities shall be stabilized by the addition of crushed rock or riprap, as necessary, or other appropriate stabilization methods.

10. All nonconstruction areas shall be protected by fencing or other means to prevent unnecessary disturbance.

11. 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.

12. 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.

13. 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.

Land Development/Urban Runoff Control Actions for Susan River Watershed

1. To protect riparian vegetation and wetlands from land disturbance activities, the Regional Board shall recommend that Lassen County and the City of Susanville require new development or any land disturbing activities to include buffer strips of undisturbed land, especially along the Susan River and its tributaries.

2. The Regional Board, with assistance from the City of Susanville and the California Department of Transportation (Caltrans), should conduct monitoring of the Susan River and Piute Creek within the City of Susanville to assess impacts from urban runoff. Control measures should be planned and implemented based on the results of the monitoring. The monitoring plan should be developed to identify nonpoint sources needing control. Monitoring proposals will be submitted by the Regional Board, and work will be conducted as resources allow and as the Susan River gains priority.

3. The Regional Board shall encourage and assist other agencies in watershed restoration efforts along the Susan River.

4. The Regional Board shall encourage the City of Susanville and Lassen County to adopt a comprehensive grading ordinance. These ordinances should require, for all proposed land disturbing activities, the use of Best Management Practices to reduce erosion and stormwater runoff, including but not limited to temporary and permanent erosion control measures.

5. The Regional Board shall encourage the City of Susanville, Lassen County and Caltrans to implement Best Management Practices to reduce erosion and stormwater runoff when constructing and maintaining roads, both paved and unpaved, under their jurisdiction.

Road Construction and Maintenance

Road construction activities often involve extensive earth moving, including clearing, scarifying, excavating for bridge abutments, disturbing or modifying floodplains, cutting, and filling. Additionally, the potential for land disturbance exists from construction materials, equipment maintenance, fuel storage facilities, and general equipment use.

Once constructed, impervious road surfaces create another source of water pollution. Oils, greases, and other petroleum products, along with such toxic materials as battery acid, antifreeze, etc., may be deposited along the road surfaces. These contaminants become suspended or dissolved in any stormwater runoff that is generated on the road surfaces. Unless otherwise treated, these contaminants will flow toward local surface or ground waters. (See "Stormwater" section of this Chapter.)

Road maintenance can be potentially threatening to water quality in a number of ways. Below-grade culverts slowly fill with sediment and are cleaned out periodically, sometimes by flushing accumulated sediment into downstream drainageways. Grading of shoulders and drainageways can detach sediments and increase the risk of erosion into nearby surface waters. Road surfaces may be repainted or resealed

with materials that harden quickly, but which can be washed off while still fresh by stormwater runoff.

In the winter, roads are often snowy, icy, or wet. To reduce winter road hazards, maintenance crews may remove the snow or ice, apply sand to provide added traction, and/or apply deicing chemicals to melt the snow and ice. Sand is rapidly dissipated or crushed by the traffic, and must be replaced frequently. Great quantities of sediment enter drainageways and/or surface waters due to this practice. Snow may be removed mechanically via snowplow or snowblower. This practice is not particularly detrimental to water quality in itself, but the snow often carries substances from the roadway when removed. Sediments, chemical deicers, and vehicle fluids may travel much farther than they would otherwise, possibly reaching area surface waters. Ice and small accumulations of snow may be removed with chemical deicers. The deicer in widest use is rock salt (sodium chloride), due to its low cost, high availability, and predictable results.

Winter road maintenance was brought to the forefront in 1989 when significant numbers of roadside trees in the Lake Tahoe Basin suddenly started dying. The public outcry caused many environmental groups and regulatory agencies, including the Regional Board, to look more closely at what had been a more or less unscrutinized, unregulated process in the past. Data began to show that Caltrans was using very high amounts of salt each winter, and the figure seemed to increase from one year to the next. The consensus of the various regulatory agencies was that Caltrans should reduce salt use, explore various alternate deicers, and monitor the impacts of salt applications on soil, water, and vegetation. Salt use decreased significantly from 1989-1992, due to more careful application procedures and to drought conditions.

At least three alternate deicers have been explored: calcium magnesium acetate, potassium acetate, and magnesium chloride with corrosion inhibitors. These products have shown some promise, but further study is required. The cost to switch to an alternate deicer will be significant. The road departments are unwilling to make the switch unless an alternate deicer is demonstrably better environmentally, will not require too much adjustment on the part of the maintenance crews and equipment, and will actually do an effective and predictable job when applied.

However, Caltrans' monitoring of vegetation showed minimal and temporary salt accumulation within the vegetation. During the spring, any salt that had accumulated in the vegetation was flushed out from the plant material. The impacts of chemical deicers on fish and wildlife within the Lahontan Region have not been studied.

Control Measures for Road Construction and Maintenance

(Additional control measures for roads are included in the "Stormwater" section of this Chapter.)

The Regional Board regulates road construction and maintenance projects within the Lahontan Region, concentrating efforts on major construction and construction in sensitive areas. Major construction projects and those projects in sensitive areas are most often regulated under individual WDRs, and are routinely inspected. Less significant projects may be issued conditional waivers of WDRs. The Regional Board has also adopted road maintenance waste discharge requirements for some county governments in the Region. Road construction and maintenance in the Lake Tahoe Basin is also regulated under municipal NPDES Stormwater Permits (see Chapter 5).

For all road projects, the Board requires that construction be conducted in a manner which is protective to water quality, and that, at the end of a given project, the site be restabilized and revegetated. These requirements are detailed in a Management Agency Agreement with Caltrans regarding the implementation of BMPs. Additionally, all road projects are to be in compliance with the Caltrans Statewide 208 Plan (CA Dept. of Transportation 1980), which was approved by the State Board in 1979. This Plan contains a commitment to implement BMPs, but does not include great detail on the BMPs themselves. The State Board should encourage Caltrans to update its 208 plan to provide such detail, with particular attention to:

- stormwater/erosion control along existing highways
- erosion control during highway construction and maintenance

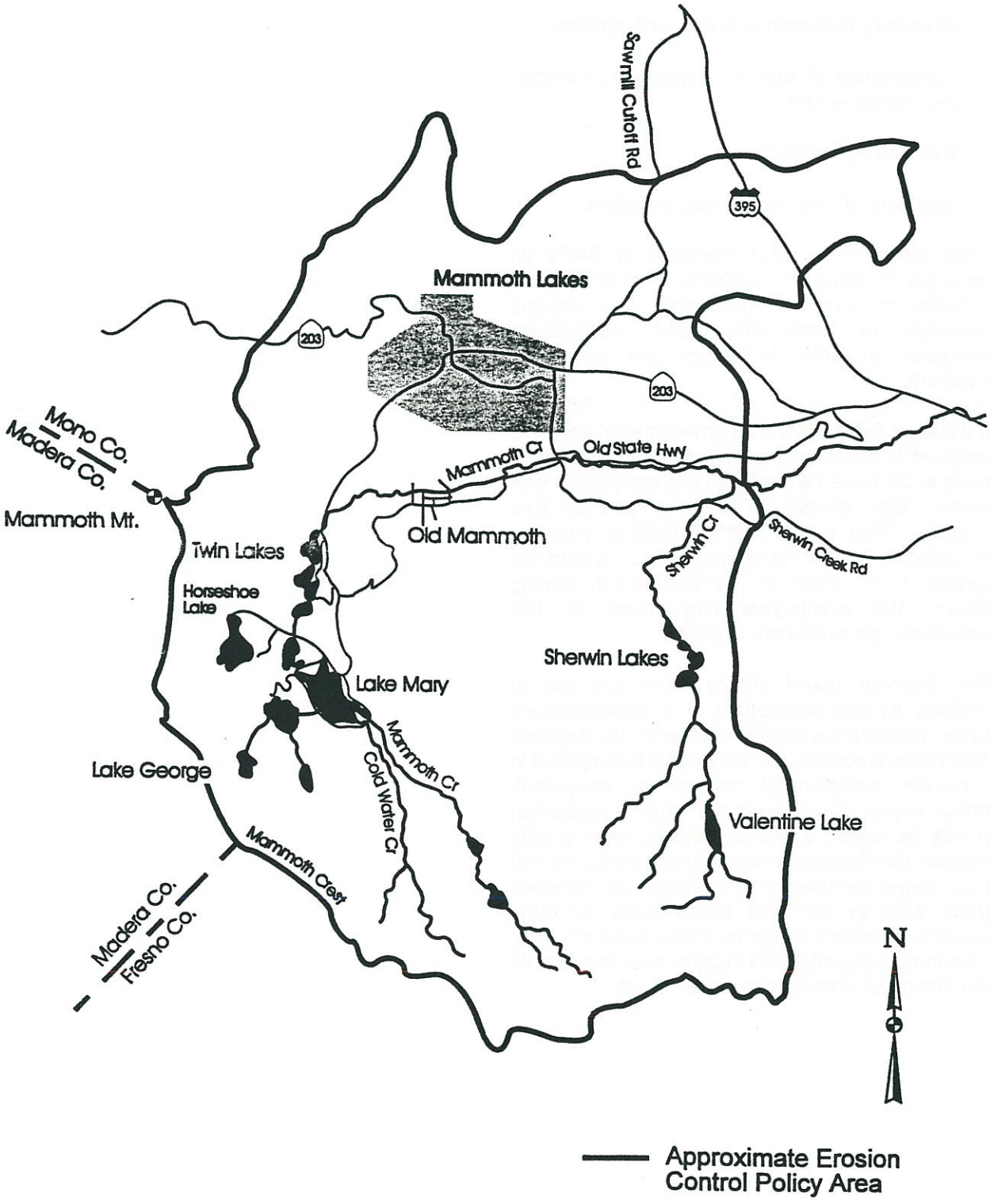
- reduction of direct discharges (e.g., through culverts)
- reduction of runoff velocity
- infiltration, detention and retention practices
- management of deicing compounds, fertilizer, and herbicide use
- spill cleanup measures
- treatment of toxic stormwater pollutants

Since much of the implementation of BMPs on highways is done by Caltrans' contractors, the selection of qualified contractors and ongoing education of construction and maintenance personnel on BMP techniques are particularly important.

In the Lake Tahoe Basin, all governmental agencies assigned to maintain roads are required to bring all roads in the Lake Tahoe Basin into compliance with current "208" standards within a specified time schedule. That is, all existing facilities must be retrofitted to handle the stormwater runoff from the 20-year, 1-hour storm, and to restabilize all eroding slopes. The twenty-year time frame for this compliance process ends in 2008.

The Regional Board should allow salt use to continue as one component of a comprehensive winter maintenance program. However, the Regional Board should continue to require that it be applied in a careful, well-planned manner, by competent, trained crews. Should even the "proper" application of salt be shown to cause adverse water quality impacts, the Regional Board should then require that it no longer be used in environmentally sensitive areas, such as the Lake Tahoe Basin. Similarly, should an alternate deicer be shown to be effective, environmentally safe, and economically feasible, its use should be encouraged in lieu of salt.

Figure 4.8-1
OWENS HYDROLOGIC UNIT



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - LAHONTAN REGION
2092 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA 96150
(916) 542-5400 FAX (916) 544-2271

August 2, 1995

TO ALL INTERESTED PARTIES AND AGENCIES:

GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT

The General Construction Activity Storm Water Permit (Permit), including the Fact Sheet, Notice of Intent (NOI) form, and NOI instructions, was adopted by the State Water Resources Control Board (SWRCB) on August 20, 1992.

To be covered by this Permit, the owners of land where a construction activity occurs must submit the completed NOI form, with the appropriate fee, to the State Water Resources Control Board. Permits are required for all storm water discharges associated with a construction activity where clearing, grading, and excavation results in a land disturbance of five or more acres. Storm water discharges from a construction activity that results in a land disturbance of less than five acres, but which is part of a larger common plan of development or sale, also require a Permit. Permits are required until the construction is complete.

A Permit must be obtained by October 1, 1992, for an ongoing construction activity that satisfies these criteria. For a new construction activity that begins after October 1, 1992, a Permit must be obtained before construction starts.

The NOI must be sent to the following address:

State Water Resources Control Board
Division of Water Quality
Attention: Storm Water Permit Unit
P. O. Box 1977
Sacramento, CA 95812-1977

The NOI must be accompanied by the appropriate annual fee and site map. The fee for construction projects within the jurisdiction of the Lahontan Regional Water Quality Control Board (the counties of Alpine, El Dorado*, Inyo, Kern, Lassen, Modoc, Mono, Nevada, Placer*, Sierra, northern portions of San Bernardino county, and eastern portions of Los Angeles county) is $500.00 per year (* Outside of the Lake Tahoe watershed basin.). The site map should provide a "to scale" drawing of the construction site and its immediate surroundings. Include as much detail about the construction site as possible. At a minimum, show existing and proposed buildings, roadways, storm water collection and discharge points, a north arrow, and the names of adjacent streets. The NOI will not be processed if not accompanied by the fee and site map. Enclosed is a checklist to assist in submitting the NOI.

We would appreciate it if you would inform other members of the construction industry of the need to obtain a storm water Permit. If you know of others that need to obtain a Permit but may be unaware of the State's program, please have them call the SWRCB Construction Activity Storm Water Hotline at (916) 657-1146, or contact the SWRCB at the address above. If you have questions or concerns related to the Permit, you should discuss them with Regional Board staff at (916) 542-5400.

Sincerely,

JOHN SHORT

John Short
Senior Engineer, Chief of Regulation and Enforcement Unit

enclosure

DSE/ch3swrcbcsp.let

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - LAHONTAN REGION
2092 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA 96150
(916) 542-5400 FAX (916) 544-2271

TO: Storm Water Permit Applicants

CHECK LIST FOR SUBMITTING A NOTICE OF INTENT (NOI)

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted:

1. _____ Completed NOI with all applicable sections filled out and signed by the owner/operator;

2. _____ Check for $500.00, made payable to the State Water Resources Control Board;

3. _____ Site map displaying the layout of the construction site with all potential stormwater discharge locations clearly marked.

Please submit the above items to the address below. If you have any questions regarding this matter, please call the SWRCB Construction Activity Storm Water Hotline at (916) 657-1146, or the Lahontan Regional Board staff at (916) 542-5400.

State Water Resources Control Board
Division of Water Quality
Attention: Storm Water Permit Unit
P. O. Box 1977
Sacramento, CA 95812-1977

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
PETE WILSON, Governor

STATE WATER RESOURCES CONTROL BOARD
PAUL R. BONDERSON BUILDING
901 P STREET
P. O. BOX 100
SACRAMENTO, CALIFORNIA 95812-0100
916/657-0941

FAX: 916/657-0932

SEP 8 1992

TO: Interested Parties

GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT

Enclosed is a copy of the General Construction Activity Storm Water Permit (Permit), including the Fact Sheet, Notice of Intent (NOI) form, and NOI instructions, which was adopted by the State Water Resources Control Board (State Water Board) on August 20, 1992.

To be covered by this Permit, the owners of land where a construction activity occurs must submit the completed NOI form, with the appropriate fee, to the State Water Board. Permits are required for all storm water discharges associated with a construction activity where clearing, grading, and excavation results in a land disturbance of five or more acres. Storm water discharges from a construction activity that results in a land disturbance of less than five acres, but which is part of a larger common plan of development or sale, also require a permit. Permits are required until the construction is complete.

A permit must be obtained by October 1, 1992 for an ongoing construction activity that satisfies these criteria. For a new construction activity that begins after October 1, 1992, a permit must be obtained before construction starts.

The NOI must be sent to the following address:

State Water Resources Control Board
Division of Water Quality
Attention: Storm Water Permit Unit
P. O. Box 1977
Sacramento, CA 95812-1977

The NOI must be accompanied by the appropriate annual fee. The fee will either be $250.00 or $500.00 depending on the area of the construction activity. The NOI will not be processed if not accompanied by the fee. Enclosure 1 describes those areas in which the $250.00 annual fee applies. Dischargers in all other areas of the State must pay the $500.00 fee.

Attachment No. 1 to the Permit lists the nine California Regional Water Quality Control Boards' (Regional Water Boards) addresses and telephone numbers. If you have any questions or concerns related to the Permit, you should discuss them with Regional Water Board staff.

We would appreciate it if you would inform other members of the construction industry of the need to obtain a storm water permit. If you know of others that need to obtain a permit but may be unaware of the State's program, please have them call the State Water Board's Construction Activity Storm Water Hotline at 916/657-1146.

Sincerely,

Walt Pettit
Executive Director

Enclosures (2)

AREAS OF THE STATE IN WHICH THE $250.00 ANNUAL FEE APPLIES

Municipality	Permitted Area
1. Alameda County	The permitted area of the county is the westerly side of the county which drains to San Francisco Bay.
2. Los Angeles County	The permitted area consists of the five hydrologic subbasins which drain into the Pacific Ocean as follows: Santa Monica Bay, Upper Los Angeles River, including Sycamore Channel, Upper San Gabriel River, Lower Los Angeles River, and Lower San Gabriel River, including Santa Clarita Valley. The permit does not cover the cities of Avalon, Lancaster, and Palmdale.
3. Orange County	The permitted area is delineated by the Los Angeles County line on the northwest, the San Bernardino County line on the north and northeast, the Riverside County line on the east, the San Diego County line on the south, and the Pacific Ocean on the southwest.
4. Riverside County	The permitted area is delineated by the San Bernardino County line on the north and northwest, the Orange County line on the west, the San Diego County line on the south, and the Santa Ana/Colorado River Basin Regional Boards' boundary line on the east (mountain crest).
5. Sacramento County	The entire county except for the incorporated City of Isleton.
6. San Bernardino County	The permitted area is delineated by the Santa Ana-Lahontan Regional Board boundary line on the north and northeast, the Santa Ana-Colorado River Basin Regional Board boundary line on the east, the San Bernardino-Riverside

Municipality	Permitted Area
	County boundary line on the south and southeast, the San-Bernardino-Orange County boundary line on the southwest, and the San Bernardino-Los Angeles County boundary line on the west.
7. San Diego County	The permitted area is delineated by the San Diego County lines on the north and south, the Pacific Ocean on the west, and the San Diego/Colorado River Basin Regional Board boundary on the east (mountain crest).
8. Santa Clara County	The Santa Clara Valley Basin portion of the county containing eleven hydrologic subbasins which discharge into watercourses which in turn flow into South San Francisco Bay.

STATE WATER RESOURCES CONTROL BOARD

901 P STREET, SACRAMENTO, CA 95814

FACT SHEET

FOR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT FOR

STORM WATER DISCHARGES ASSOCIATED WITH

CONSTRUCTION ACTIVITY

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations require that discharges of storm water associated with construction activity (storm water discharges) from soil disturbances of five (5) acres or more must be regulated as an industrial activity and covered by a NPDES permit.

In a recent ruling, the Ninth Circuit Court of Appeals invalidated the exemption granted by USEPA for storm water discharges from soil disturbances of less than five acres but remanded the regulation to USEPA for further action. The State Water Board, at this time, is not requiring storm water discharges from soil disturbances of less than five acres to be covered by this general permit. Instead, the State Water Board will await future USEPA or court action clarifying the types of storm water discharges that must be permitted. If necessary, the State Water Board will reopen the general permit to accommodate such a clarification.

While Federal regulations allow two permitting options for storm water discharges (individual permits and general permits), the State Water Board has elected to adopt only one statewide general permit at this time that will apply to all storm water discharges, except from those on Indian lands and the Lake Tahoe Hydrologic Unit. The State Water Board has previously adopted a separate statewide general permit for all other industrial storm water discharge categories, except for those discharges in Santa Clara County that drain to San Francisco Bay and on Indian Lands.

This general permit requires all owners of land where construction activity occurs (dischargers) to:

1. Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation,
2. Develop and implement a storm water pollution prevention plan, and
3. Perform inspections of storm water pollution prevention measures (control practices).

This general permit will be implemented and enforced by the nine California Regional Water Quality Control Boards (Regional Water Boards).

The general permit accompanying this fact sheet is intended to initiate regulation of storm water discharges. Regulating many storm water discharges under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting individual storm water discharges. Dischargers must submit a notice of intent (NOI) to obtain coverage under this general permit. It is expected that as the storm water program develops, the Regional Water Boards may issue general permits containing more specific permit provisions. When this occurs, those dischargers will no longer be regulated by this general permit.

TYPES OF CONSTRUCTION ACTIVITY COVERED BY THIS GENERAL PERMIT

Construction activity includes clearing, grading, or excavation that results in soil disturbance of at least five acres of total land area. Construction activity that results in soil disturbances of less than five acres requires a permit if the construction activity is part of a larger common plan of development or sale. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Dischargers may confirm with the local Regional Water Board that a particular routine maintenance is not subject to this general permit.

Storm water discharges from those portions of a construction project which include dredging and/or filling which are subject to regulation by the U.S. Army Corps of Engineers (Corps), pursuant to Section 10 of the Rivers and Harbors Act and/or Section 404 of the CWA, are excluded from regulation under this general permit. Said portions of the project are, however, subject to the certification requirements of Section 401 of the CWA and must be addressed via the certification process. Storm water discharges from dredge spoil placement which occurs outside of Corps jurisdiction (upland sites) and is part of a construction activity which disturbs five or more acres of land are covered by this general permit.

NOTIFICATION REQUIREMENTS

The owner of the land where the construction activity is occurring is responsible for obtaining coverage under this general permit by filing a NOI and appropriate fee in accordance with the NOI instructions. For construction activity conducted on easements, or on nearby property by agreement or permission, the entity responsible for the construction activity must file a NOI.

A separate NOI must be submitted to the State Water Board for each covered construction activity. Owners of land with ongoing construction activity will be required to submit a NOI by September 30, 1992. Owners of land with construction activity commencing after September 30, 1992 must submit a NOI prior to commencement of construction activity. The NOI requirements of the general permit are intended to establish a mechanism which can be used to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the general permit.

The NOI must be sent to the following address:

California State Water Resources Control Board
Division of Water Quality
Storm Water Permit Unit
P.O. Box 1977
Sacramento, CA 95812-1977

The current annual fee for this general permit is either $500 or $250 depending on location. Dischargers who fail to obtain coverage under this general permit and are not otherwise covered by a NPDES permit for storm water discharges will be in violation of the CWA and the California Water Code. When construction is complete or ownership has been transferred, dischargers are required to notify the State Water Board indicating that all State and local requirements have been met in accordance with Special Provision 7 of the general permit.

TYPES OF CONSTRUCTION ACTIVITY NOT COVERED BY THIS GENERAL PERMIT

This general permit does not apply to storm water discharges from those areas on Indian lands and the Lake Tahoe Hydrologic Unit. Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region (Lahontan Regional Water Board). USEPA will regulate storm water discharges on Indian lands. Permit applications for storm water discharges that will be conducted in the Lake Tahoe Hydrologic Unit should be submitted directly to the Lahontan Regional Water Board.

DESCRIPTION OF GENERAL PERMIT CONDITIONS

The following is a brief description of the major provisions of the general permit and the basis for the general permit. Dischargers should read the general permit carefully.

Prohibitions

This general permit authorizes the discharge of storm water associated with construction activity from construction sites. It prohibits the discharge of materials other than storm water and all discharges which contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4 unless a separate NPDES permit has been issued to regulate those discharges.

Effluent Limitations

Permits for storm water discharges associated with construction activity must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards.

It is not feasible at this time for the State Water Board to establish numeric effluent limitations. The reasons why establishment of numeric effluent limitations is not feasible is discussed in detail in State Water Board Orders Nos. WQ 91-03 and WQ 91-04. Therefore, the effluent limitations contained in this general permit are narrative and include the requirement to implement appropriate pollution prevention control practices and/or Best Management Practices (BMPs). The BMPs may include treatment of storm water discharges, along with source reduction, which will constitute BAT and BCT and will achieve compliance with water quality standards. The effluent limitations constitute compliance with the requirements of the CWA. However, if storm water discharges cause water quality standards to be exceeded, this general permit may be amended, or the appropriate Regional Water Board may adopt a general permit which replaces this general permit to include additional effluent limitations necessary to achieve water quality standards. Elimination or reduction of non-storm water discharges is a major goal of this general permit. Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping and to prevent illicit connections during construction can often be addressed through BMPs. This general permit prohibits the discharge of materials other than storm water. The general permit, however, recognizes that certain non-storm water discharges may be necessary for the practical performance and completion of construction projects. Such discharges include, but are not limited to: landscape irrigation of erosion control measures, pipe flushing and testing, street washing, and dewatering. Such discharges are allowed by this general permit if the discharges are (1) infeasible to eliminate, (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan, (3) do not cause or contribute to a violation of water quality standards, and (4) are not required to be permitted by the local Regional Water Board (e.g., some Regional Water Boards have adopted general permits for dewatering discharges).

Storm Water Pollution Prevention Plan (SWPPP)

This general permit requires development and implementation of SWPPPs emphasizing storm water BMPs. This approach provides the flexibility necessary to establish control practices which can appropriately address sources of pollutants at different construction activities.

All dischargers must prepare, retain at the construction site, and implement a SWPPP. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and (2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharges. The SWPPP must include BMPs which address source reduction, and, if necessary, should include BMPs which require treatment.

The SWPPPs are considered reports available to the public under Section 308(b) of the CWA and will be made available by the Regional Water Board upon request. Required elements of the SWPPPs include: (1) site description, (2) erosion and sediment controls, (3) waste disposal, (4) implementation of approved local plans, (5) proposed post-construction controls, including description of local post-construction erosion and sediment control requirements, and (6) non-storm water management.

Monitoring Program

Another major feature of the general permit is the development and implementation of a monitoring program. All dischargers are required to conduct inspections of the construction site prior to anticipated storm events and after actual storm events to identify areas contributing to a storm water discharge and to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly implemented in accordance with the terms of the general permit or whether additional control practices are needed.

Each discharger must certify annually that its construction activity is in compliance with the requirements of this general permit and its SWPPP. Dischargers who cannot annually certify compliance or who have had other instances of noncompliance must notify the appropriate Regional Water Board. A well-developed monitoring program will provide a good method for checking on the effectiveness of the SWPPP.

Retention of Records

The discharger is required to retain records of all monitoring information, copies of all reports required by this general permit, and records of all data used to complete the NOI for the construction activity to be covered by the general permit for a period of at least three years. This period may be extended by request of the State and/or Regional Water Boards. With the exception of noncompliance reporting, dischargers are not required to submit the records, except upon specific request by the Regional Water Board.

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)

ORDER NO. 92-08-DWQ

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS (WDRS)

FOR

DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY

The State Water Board finds that:

1. Federal regulations for controlling pollutants in storm water runoff discharges were issued by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). The regulations require discharges of storm water associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale)[1/] to obtain a NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

2. This general permit shall regulate pollutants in discharges of storm water associated with construction activity (storm water discharges) except from those areas on Indian lands, the Lake Tahoe Hydrologic Unit, and where the storm water discharge is determined ineligible for coverage under this general permit by the California Regional Water Quality Control Boards (Regional Water Boards). Attachment 1 contains addresses and telephone numbers of each Regional Water Board office.

3. This general permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to separate storm sewer systems or other watercourses within their jurisdiction, as allowed by State and Federal law.

4. To obtain authorization for current and future storm water discharges pursuant to this general permit, the owner of a site where construction activity occurs (discharger) must submit a Notice of Intent (NOI) and appropriate fee to the State Water Board. Dischargers who submit a NOI and appropriate fee are authorized to discharge storm water under the terms and conditions of this general permit.

5. If an individual NPDES permit is issued to a discharger otherwise subject to this general permit, or an alternative general permit is subsequently adopted which covers storm water discharges regulated by this general permit, the applicability of this general permit to such discharges is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the subsequent general permit.

6. This action to adopt a NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.), in accordance with Section 13389 of the California Water Code.

1/ In a recent ruling, the Ninth Circuit Court of Appeals invalidated the exemption granted by USEPA for storm water discharges from soil disturbances less than five acres but remanded to USEPA for further action. This general permit may be reopened, as necessary, to accommodate a redefinition of the types of storm water discharges that must be permitted.

7. The State Water Board adopted the California Ocean Plan on March 22, 1990 and the California Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan on April 11, 1991. In addition, the Regional Water Boards have adopted and the State Water Board has approved Water Quality Control Plans (Basin Plans). Dischargers regulated by this general permit must comply with the water quality standards in these Plans and subsequent amendments thereto.

8. It is not feasible at this time to establish numeric effluent limitations for pollutants in storm water discharges from construction activities. Instead, the provisions of this general permit that require implementation of Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges constitute compliance with BAT/BCT requirements and with requirements to achieve water quality standards.

9. Discharges of non-storm water may be necessary for the practical performance and completion of certain construction projects. Such discharges include, but are not limited to: landscape irrigation of erosion control measures, pipe flushing and testing, street washing, and dewatering. Such discharges are allowed under this general permit so long as they comply with BMPs as described in the Storm Water Pollution Prevention Plan and they do not cause or contribute to violation of any water quality standard.

10. Following adoption of this general permit, the Regional Water Boards shall enforce the provisions of this general permit including the monitoring and reporting requirements.

11. Following public notice in accordance with State and Federal laws and regulations, the State Water Board in a public meeting held May 14, 1992 heard and considered all comments. The State Water Board has prepared written responses to all significant comments.

12. This Order is a NPDES permit in compliance with Section 402 of the Clean Water Act (CWA) and shall take effect upon adoption by the State Water Board.

13. This general permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA Section 404 and does not constitute a waiver of water quality certification under CWA Section 401.

IT IS HEREBY ORDERED that all dischargers who file a Notice of Intent (NOI) indicating their intention to be regulated under the provisions of this general permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Discharges of material other than storm water, which are not otherwise regulated by a NPDES permit, to a separate storm sewer system or waters of the nation are prohibited, except as allowed in Provision C.3.

2. Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.

3. Storm water discharges regulated by this general permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

B. RECEIVING WATER LIMITATIONS:

1. Storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. Storm water discharges shall not cause or contribute to a violation of any applicable water quality standards contained in the California Ocean Plan, Inland Surface Waters Plan, Enclosed Bays and Estuaries Plan, or the applicable Regional Water Board's Basin Plan.

C. SPECIAL PROVISIONS FOR CONSTRUCTION ACTIVITY:

1. All dischargers must file a NOI and appropriate fee for construction activities conducted at each site as required by Attachment 2: Notice of Intent--General Instructions.

2. All dischargers must develop and implement a Storm Water Pollution Prevention Plan in accordance with Section A: Storm Water Pollution Prevention Plan (SWPPP).

3. Discharges of non-storm water are allowed only when necessary for performance and completion of construction projects and where they do not cause or contribute to a violation of any water quality standard. Such discharges must be described in the SWPPP. Wherever feasible, alternatives which do not result in discharge of non-storm water shall be implemented, in accordance with Section A.7 of the SWPPP requirements.

4. All dischargers must develop and implement a monitoring program and reporting plan in accordance with Section B: Monitoring Program and Reporting Requirements.

5. All dischargers must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Boards to local agencies.

6. All dischargers must comply with the standard provisions and reporting requirements contained in Section C: Standard Provisions.

7. The discharger may revoke (cancel) coverage under this general permit by submitting to the State Water Board certification, in accordance with the signatory requirements of Section C: Standard Provisions, Items 9 and 10, that construction activity has been completed, that all elements of the SWPPP have been completed, that construction and equipment maintenance waste have been disposed of properly, that the site is in compliance with all local storm water management requirements including erosion/sediment control requirements, policies, and guidelines. In addition, a discharger may revoke (cancel) coverage under this general permit when ownership of all or a portion of the project has been transferred. The new owner must comply with the provisions of Section A(2)(c) and B(3)(b) of this general permit. The revocation should accompany the NOI from the new owner when possible.

8. This general permit will expire on August 20, 1997. Upon reissuance of a NPDES general permit by the State Water Board, dischargers subject to the reissued general permit may be required to file a revised NOI.

D. REGIONAL WATER BOARD AUTHORITIES:

1. Following adoption of this general permit, Regional Water Boards shall:

   a. Implement the provisions of this general permit. Implementation of this general permit may include, but is not limited to, reviewing SWPPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions.

   b. Issue permits as they deem appropriate to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a Regional Water Board, the affected dischargers shall no longer be regulated by this general permit.

2. Regional Water Boards may provide guidance to dischargers on SWPPP and Monitoring Program implementation.

3. Regional Water Boards may require dischargers to retain records for more than three years.

4. Regional Water Boards may require additional monitoring and reporting program requirements.

CERTIFICATION

The undersigned, Administrative Assistant to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 20, 1992.

AYE: W. Don Maughan
Eliseo M. Samaniego
Marc Del Piero
James M. Stubchaer

NO: None

ABSENT: John Caffrey

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

Section A: STORM WATER POLLUTION PREVENTION PLAN

1. Objectives

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed and implemented for each construction site covered by this general permit. The SWPPP shall be certified in accordance with the signatory requirements of Standard Provision C.9. The SWPPP shall be developed and amended, when necessary, to meet the following objectives:

a. To identify pollutant sources that may affect the quality of discharges of storm water associated with construction activity (storm water discharges) from the construction site, and

b. To identify, construct, and implement storm water pollution prevention measures (control practices) to reduce pollutants in storm water discharges from the construction site both during construction and after construction is completed.

2. Implementation Schedule

a. For construction activity commencing on and after October 1, 1992, the SWPPP must be developed and implemented concurrent with commencement of construction activities.

b. For construction activity commencing prior to and continuing beyond October 1, 1992, the SWPPP must be developed and implemented by October 1, 1992.

c. For ongoing construction activity involving a change of ownership of property covered by this general permit, the new owner must accept and maintain the existing SWPPP.

3. Availability

The SWPPP shall be kept on site during construction activity and made available upon request of a representative of the Regional Water Board and/or local agency.

4. Required Changes

a. The discharger shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, or a municipal separate storm sewer system. The SWPPP should also be amended if it is in violation of any condition of this general permit or has not achieved the general objective of reducing pollutants in storm water discharges.

b. The Regional Water Board, or local agency with the concurrence of the Regional Water Board, may require the discharger to amend the SWPPP.

5. Source Identification

The SWPPP shall provide a description of potential sources which are likely to add significant quantities of pollutants to storm water discharges or which may result in non-storm water discharges from the construction site. The SWPPP shall include, at a minimum, the following items:

a. A map extending approximately one-quarter mile beyond the property boundaries of the construction site showing: the construction site, surface water bodies (including known springs and wetlands[1/]), known wells, an outline of off-site drainage areas that discharge into the construction site, general topography, and the anticipated discharge location(s) where the construction site's storm water discharges to a municipal storm sewer system or other water body. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map(s) showing:

i. Location of control practices used during construction;

ii. Areas used to store soils and wastes;

iii. Areas of cut and fill;

iv. Drainage patterns and slopes anticipated after major grading activities are completed;

v. Areas of soil disturbance;

vi. Surface water locations;

vii. Areas of potential soil erosion where control practices will be used during construction;

viii. Existing and planned paved areas and buildings;

ix. Locations of post-construction control practices;

x. An outline of the drainage area for each on-site storm water discharge point;

xi. Vehicle storage and service areas; and

xii. Areas of existing vegetation.

c. A narrative description of the following:

i. Toxic materials that are known to have been treated, stored, disposed, spilled, or leaked in significant quantities onto the construction site;

ii. Practices to minimize contact of construction materials, equipment, and vehicles with storm water;

iii. Construction material loading, unloading, and access areas;

iv. Preconstruction control practices (if any) to reduce sediment and other pollutants in storm water discharges;

v. Equipment storage, cleaning, and maintenance areas;

1/ The determination of whether wetlands exist shall be made by the person who prepares the SWPPP and shall not be binding upon any other person.

vi. Methods of on-site storage and disposal of construction materials; and

vii. The nature of fill material and existing data describing the soil on the construction site.

d. A list of pollutants (other than sediment) that are likely to be present in storm water discharges in significant quantities. Describe the control practices (if different from Item 6 below) appropriate to reduce these pollutants in the storm water discharges.

e. An estimate of the size of the construction site (in acres or square feet), an estimate of the runoff coefficient of the construction site before and after construction, and an estimate of the percentage of the area of the construction site that is impervious (e.g., pavement, buildings, etc.) before and after construction.

f. A copy of the NOI.

6. Erosion and Sediment Control

The SWPPP shall include:

a. A description of soil stabilization practices. These practices shall be designed to preserve existing vegetation where feasible and to revegetate open areas as soon as feasible after grading or construction. In developing these practices, the discharger shall consider: temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, protection of trees, or other soil stabilization practices. At a minimum, the operator must implement these practices on all disturbed areas during the rainy season.

b. A description or illustration of control practices which, to the extent feasible, will prevent a net increase of sediment load in storm water discharge. In developing control practices, the discharger shall consider a full range of erosion and sediment controls such as detention basins, straw bale dikes, silt fences, earth dikes, brush barriers, velocity dissipation devices, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, rock outlet protection, sediment traps, temporary sediment basins, or other controls. At a minimum, sandbag dikes, silt fences, straw bale dikes, or equivalent controls practices are required for all significant sideslope and downslope boundaries of the construction area. The discharger must consider site-specific and seasonal conditions when designing the control practices.

c. Control practices to reduce the tracking of sediment onto public or private roads. These public and private roads shall be inspected and cleaned as necessary.

d. Control practices to reduce wind erosion.

7. Non-Storm Water Management

The SWPPP shall include provisions which eliminate or reduce to the extent feasible the discharge of materials other than storm water to the storm sewer system and/or receiving waters. Such provisions shall ensure, to the extent feasible, that no materials are discharged in quantities which will have an adverse effect on receiving waters. Materials other than storm water that are discharged shall be listed along with the estimated quantity of the discharged material.

8. Post-Construction Storm Water Management

The SWPPP shall describe the control practices to reduce pollutants in storm water discharges after all construction phases have been completed at the site. These must be consistent with all local post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific and seasonal conditions when designing the control practices. Operation and maintenance of control practices after construction is completed shall be addressed, including short- and long-term funding sources and the responsible party.

9. Waste Management and Disposal

All wastes (including equipment maintenance waste) disposed at the site or removed from the site for disposal shall be disposed of in compliance with Federal, State, and local laws, regulations, and ordinances.

10. Maintenance, Inspection, and Repair

The SWPPP shall include maintenance, inspections, and repair procedures to ensure that all grade surfaces, walls, dams and structures, vegetation, erosion and sediment control measures, and other protective devices identified in the site plan are maintained in good and effective condition and are promptly repaired or restored.

11. Training

The SWPPP shall include procedures to ensure that all inspections required in Section B.4 of the Monitoring Program and Reporting Requirements of this general permit and maintenance and repair required in Paragraph 10 of this Section are done by trained personnel.

12. List of Contractors/Subcontractors

The SWPPP shall include a list of all contractors (or subcontractors) responsible for implementing the SWPPP.

13. Other Plans

This SWPPP may incorporate, by reference, the appropriate elements of other plans required by local, State, or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

14. Public Access

The SWPPP is considered a report that shall be available to the public under Section 308(b) of the CWA. Upon request by members of the public, the discharger shall make available for review a copy of the SWPPP either to the Regional Water Board or directly to the requestor.

15. Preparer

The SWPPP shall include the signature and title of the person responsible for preparation of the SWPPP and include the date of initial preparation and each amendment, thereto.

Section B: MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. General

Dischargers are required to conduct inspections before and after storm events and to annually certify that they are in compliance with the general permit and their SWPPP. Other than reporting incidents of noncompliance, dischargers are not required to submit reports or certifications.

2. Required Changes

The Regional Water Board may require the discharger to conduct additional site inspections, submit reports and certifications, or to perform sampling and analysis.

3. Implementation

a. The requirements of this Section shall be implemented by October 1, 1992 or commencement of the construction activity. The discharger is responsible for implementing these requirements until construction activity is complete.

b. For ongoing construction activity involving a change in ownership of property covered by this general permit, the new owner must implement the requirements of this Section concurrent with the change of ownership.

4. Site Inspections

Dischargers shall conduct inspections of the construction site prior to anticipated storm events and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity and to evaluate whether control practices to reduce pollutant loadings identified in the SWPPP are adequate and properly implemented in accordance with the terms of the general permit or whether additional control practices are needed. A record of the inspections must include the date of the inspection, the individual(s) who performed the inspection, and the observations.

5. Compliance Certification

Each discharger must annually certify that its construction activity is in compliance with the requirements of this general permit and its SWPPP. This certification should be based upon the site inspections required in Paragraph 4 of this Section. The first certification must be completed by July 1, 1993, and each July 1 thereafter.

6. Noncompliance Reporting

Dischargers who cannot certify compliance, in accordance with Paragraph 5 of this Section and/or who have had other instances of noncompliance, must notify the appropriate Regional Water Board. The notifications shall identify the type(s) of noncompliance, describe the actions necessary to achieve compliance, and include a time schedule, subject to the modifications by the Regional Water Board, indicating when compliance will be achieved. Noncompliance notifications must be submitted within 30 days of identification of noncompliance.

7. Monitoring Records

Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years. With the exception of noncompliance reporting, dischargers are not required to submit these records.

Section C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

1. Duty to Comply

The discharger must comply with all of the conditions of this general permit. Any permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from general permit coverage.

The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this general permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

This general permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a general permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any general permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this general permit, this general permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition; and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this general permit.

4. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this general permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this general permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems, installed by a discharger when necessary to achieve compliance with the conditions of this general permit.

6. Property Rights

This general permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The discharger shall furnish the Regional Water Board, State Water Board, or USEPA, within a reasonable time, any requested information to determine compliance with this general permit. The discharger shall also furnish, upon request, copies of records required to be kept by this general permit.

8. Inspection and Entry

The discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this general permit;

b. Have access to and copy at reasonable times, any records that must be kept under the conditions of this general permit;

c. Inspect at reasonable times the construction site and the related erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring general permit compliance.

9. Signatory Requirements

a. All Notices of Intent submitted to the State Water Board shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA).

b. All storm water pollution prevention plans, reports, certifications, or other information required by the general permit and/or requested by the Regional Water Board, State Water Board, USEPA, or the local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative if:

1. The authorization is made in writing by a person described above and retained as part of the SWPPP;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

3. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization must be attached to the SWPPP prior to submittal of any reports, information, or certifications to be signed by the authorized representative.

10. Certification

Any person signing documents under Provision 8 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The discharger will give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity which may result in noncompliance with general permit requirements.

12. Penalties for Falsification of Reports.

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this general permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this general permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject under Section 311 of the CWA.

14. Severability

The provisions of this general permit are severable, and, if any provision of this general permit or the application of any provision of this general permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this general permit shall not be affected thereby.

15. Reopener Clause

This general permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 CFR 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this general permit is subject to a civil penalty not to exceed $25,000 per day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

17. Availability

A copy of this general permit shall be maintained at the construction site during construction activity and be available to operating personnel.

18. Transfers

This general permit is not transferable. A new owner of an ongoing construction activity must submit a NOI in accordance with the requirements of this general permit to be authorized to discharge under this general permit. An owner who sells property covered by this general permit shall inform the new owner of the duty to file a NOI and shall provide the new owner with a copy of this general permit.

19. Continuation of Expired Permit

This general permit continues in force and effect until a new general permit is issued or the State Water Board rescinds this general permit. Only those dischargers authorized to discharge under the expiring general permit are covered by the continued general permit.

STATE WATER RESOURCES CONTROL BOARD
P. O. Box 100, Sacramento, CA 95812-0100
Legislative and Public Affairs: (916)657-2390
Water Quality Information: (916) 657-0687
Clean Water Programs Information: (916) 739-4400
Water Rights Information: (916) 657-2170

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)

5550 Skylane Blvd. Suite A
Santa Rosa, CA 95403
(707) 576-2220

SAN FRANCISCO BAY REGION (2)

2101 Webster Street, Ste. 500
Oakland, CA 94612
(510) 464-1255

CENTRAL COAST REGION (3)

81 Higuera St., Suite 200
San Luis Obispo, CA 93401-5414
(805) 549-3147

LOS ANGELES REGION (4)

101 Centre Plaza Drive
Monterey Park, CA 91754-2156
(213) 266-7500

CENTRAL VALLEY REGION (5)

3443 Routier Road, Suite A
Sacramento, CA 95827-3098
(916) 361-5600

Fresno Branch Office

3614 East Ashlan Ave.
Fresno, CA 93726
(209) 445-5116

Redding Branch Office

415 Knollcrest Drive
Redding, CA 96002
(916) 224-4845

LAHONTAN REGION (6)

2092 Lake Tahoe Boulevard, Suite 2
South Lake Tahoe, CA 96150
(916) 544-3481

Victorville Branch Office

Civic Plaza,
15428 Civic Drive, Suite 100
Victorville, CA 92392-2359
(619) 241-6583

COLORADO RIVER BASIN REGION (7)

73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
(619) 346-7491

SANTA ANA REGION (8)

2010 Iowa Avenue, Suite 100
Riverside, CA 92507-2409
(714) 782-4130

SAN DIEGO REGION (9)

9771 Clairemont Mesa Blvd. Ste. B
San Diego, CA 92124
(619) 467-2952

STATE OF CALIFORNIA
Pete Wilson, Governor

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
James M. Strock, Secretary

7 25 92

Attachment 2

NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

Who Must Submit

Discharges of storm water associated with construction activity (storm water discharges) that results in the disturbance of five acres or more of total land area or which is part of a larger common area of development or sale must be permitted. Construction activity includes clearing, grading, excavation, and reconstruction of existing facilities involving removal and replacement. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

The owner of the land where the construction activity is occurring is responsible for obtaining a permit. Owners may obtain coverage under the General Storm Water Permit to Discharge Storm Water Associated with Construction Activity (General Permit) by filing a NOI in accordance with the following instructions. Coverage for construction activity conducted on easements (e.g., pipeline construction), or on nearby properties by agreement or permission, shall be obtained by the entity responsible for the construction activity.

Construction Activities Not Covered by This General Permit

Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahonton Region, and may not seek coverage under the State Water Board's general permit. Storm water discharges on Indian lands will be regulated by the U.S. Environmental Protection Agency.

Where to Apply

The NOI should be mailed to the State Water Resources Control Board at the following address:

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water Permit Unit
P.O. Box 1977
Sacramento, CA 95812-1977

When to Apply

Owners of ongoing construction must file a NOI, along with the appropriate annual fee, by September 30, 1992. Owners of new construction (those beginning construction after September 30, 1992) must file a NOI prior to the commencement of construction. For ongoing construction activity involving a change of ownership, the new owner must submit a new NOI within 30 days of the date of change of ownership. Preferably, the NOI should be sent with the revocation prepared by the previous owner.

Fees

The current annual fee is $250.00 for each construction site which discharges into a municipal separate storm sewer system regulated by an areawide urban storm water permit and $500.00 for all other construction sites.

Completing the NOI

Completion and submittal of the attached NOI (Form NOI-2) is required to gain coverage under the general permit. It must be completely and accurately filled out. A construction site will be considered to be covered by the general permit upon filing a complete and accurate NOI and submitting the appropriate annual fee. Upon receipt of the NOI and fee, each discharger will be sent a letter containing the discharger's identification number.

Questions?

If you have any questions on completing the NOI after reading the following line-by-line instructions, please call us at (916) 657-1146.

NOI-- BY LINE INSTRUCTIONS

The NOI consists of two parts--a NOI Form (Form NOI-2) and a site map. Please type or print when completing the NOI Form and site map.

Mark one of the three boxes at the top portion of the NOI. Check box 1 if the NOI is being completed for ongoing construction, box 2 if the construction site is new (commencing on or after October 1, 1992), and box 3 if the NOI is being submitted to report changes for a construction site already covered by the general permit. An example of a change that warrants a resubmittal of the NOI would be a change of ownership of the construction site. Complete only those portions of the NOI that apply to the changes (the NOI must always be signed). If box 3 is checked, the WDID No. must be included.

SECTION I--OWNER

Enter the owner of the construction site's official or legal name, address, contact person, and contact person's title and telephone number.

SECTION II--CONSTRUCTION SITE INFORMATION

In Part A, enter the name of the developer (or general contractor), official, or legal name, address, contact person, and contact person's title and telephone number. The contact person should be the construction site manager completely familiar with the construction site and charged with compliance and oversight of the general permit.

In Part B, enter the address, county, and telephone number (if any) of the construction site. Construction sites that do not have a street address must attach to the NOI a legal description of the construction site.

In Part C, indicate whether the construction site is part of a larger common plan of development or sale. For example, indicate yes if the construction activity is occuring on a two-acre site within an industrial park development of greater than five acres. If the construction site is part of a larger common plan of development or sale, name the common plan (e.g., XYZ Estates, ABC Industrial Park).

In Part D, indicate the construction commencement date (month, day, year). When there is a change in ownership of the property that requires a new NOI, the construction commencement date should be the date of the change in ownership.

In Part E, indicate when the construction is expected to be completed.

SECTION III--BILLING ADDRESS

To continue coverage under the general permit, the annual fee must be paid. Use this section to indicate whether the annual fee invoices should be sent to the owner, developer, or other party (include address).

SECTION IV--RECEIVING WATER INFORMATION

In Part A of this section, the owner is required to indicate whether the construction site's storm water runoff discharges to a separate storm sewer system, directly to waters of the United States, or indirectly to waters of the United States.

Discharges to separate storm sewer systems are those that discharge to a collection system operated by municipalities, flood control districts, utilities, or similar entities. Storm water discharges directly to waters of the United States will typically have an outfall structure directly from the facility to a river, creek, ocean, etc. Indirect discharges are those that may flow over adjacent properties or rights-of-way prior to discharging to waters of the United States.

Regardless of point of discharge, the owner must determine the closest receiving water for the construction site's storm water discharge. If discharge is to a separate storm sewer system, the owner of that system should know the receiving water. The name of the receiving water of a direct discharge should be easily available while the receiving water of an indirect discharge may require some effort to identify.

SECTION V--TYPE OF CONSTRUCTION

Indicate the type of construction taking place. Transportation should be checked for the construction of roads. Utility should be checked for installation of sewer, electric, and telephone systems.

SECTION VI--MATERIAL HANDLING/MANAGEMENT PRACTICES

Part A of this section requires identification of the type(s) of materials stored and handled outdoors. If materials other than those listed are maintained on site, please check "other" and describe the type of material.

Part B of this section requests information on proposed management practices to reduce pollutants in storm water discharges. Check the appropriate categories or list other control measures you will use at your construction site.

SECTION VII--SITE INFORMATION

List the size, in acres, of the facility and the percentage of the site that is impervious before construction and after construction is completed.

SECTION VIII--REGULATORY STATUS

Indicate whether the construction site's erosion/sediment control plan must be reviewed and approved by a local agency. If yes, identify the name of the local agency.

SECTION IX--CERTIFICATION

This section must be completed by the owner of the construction site. The certification provides for assurances that the NOI and site map were completed in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. It also requires the owner to certify that the provisions in the general permit will be complied with.

The NOI must be signed by:

For a corporation: a responsible corporate officer (or authorized individual).
For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
For a municipality, State, Federal, or other public agency: either a principal executive officer, ranking elected official, or duly authorized representative.

SITE MAP

Provide a "to scale" drawing of the construction site and its immediate surroundings. Include as much detail about the construction site as possible. At a minimum, show existing and proposed buildings, roadways, storm water collection and discharge points, a north arrow, and the names of adjacent streets.

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ Order No. 92-08-DWQ)

MARK ONLY ONE ITEM	1. ☐ Ongoing Construction	3. ☐ Change of Information
	2. ☐ New Construction	WDID # _____

I. OWNER

Name			Contact Person
Local Mailing Address			Title
City	State	Zip	Phone

II. CONSTRUCTION SITE INFORMATION

A. Developer			Contact Person
Local Mailing Address			Title
City	State	Zip	Phone
B. Site Address			County
City	State CA	Zip	Phone

C. Is the construction site part of a larger common plan of development or sale ? ☐ Yes ☐ No	If yes, name of plan or development
D. Construction commencement date M M D D Y Y	E. Projected construction completion date M M D D Y Y

III. BILLING ADDRESS

Send to:	Name		
☐ OWNER ☐ DEVELOPER	Mailing Address		
☐ OTHER *(Enter information at right)*	City	State	Zip

IV. RECEIVING WATER INFORMATION

A. Does your construction site's storm water discharge to: (Check one)

1. ☐ Storm drain system - Enter system owners name
2. ☐ Directly to waters of U.S. (e.g., river, lake, creek, ocean)
3. ☐ Indirectly to waters of U.S.

B. Name of closest receiving water

STATE USE ONLY

WDID:	Regional Board Office:	Date Permit Issued:
NPDES Permit Number: CA	Order Number:	Fee Amount Received: $	Date NOI Received:
---	---	---	---

V. TYPE OF CONSTRUCTION (Check all that apply)

1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☐ Reconstruction 5. ☐ Transportation
6. ☐ Utility 99. ☐ Other (Please List)

VI. MATERIAL HANDLING/MANAGEMENT PRACTICES

A. Types of materials that will be handled and/or stored at the site: (Check all that apply)

1. ☐ Solvents 2. ☐ Metal 3. ☐ Petroleum Products 4. ☐ Plated Products
5. ☐ Asphalt/Concrete 6. ☐ Hazardous Substances 7. ☐ Paints 8. ☐ Wood Treated Products
99. ☐ Other (Please list)

B. Identify proposed management practices to reduce pollutants in storm water discharges: (Check all that apply)

1. ☐ Oil/Water Separator 2. ☐ Erosion Controls 3. ☐ Sedimentation Controls 4. ☐ Overhead Coverage
5. ☐ Detention/Desiltation Pond 99. ☐ Other (Please list)

VII. SITE INFORMATION

A. Total size of construction site:

_____ Acres

B. Percent of site impervious: (Including rooftops)

Before construction _____ % After construction _____ %

VIII. REGULATORY STATUS

Is the site subject to a locally approved erosion/sediment control plan ? ☐ Yes ☐ No

If yes, name of local agency

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan, will be complied with.

Printed Name: _____

Signature: _____ Date: _____

Title: _____

DEFINITIONS

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, waste disposal, or drainage from raw material storage.

2. "Clean Water Act" ("CWA") means the Federal Water Pollution Control Act enacted by Public Law 92-500 as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; 33 USC. 1251 et seq.

3. "Construction Site" is the location of the construction activity.

4. "Non-Storm Water Discharge" means any discharge to storm sewer systems that is not composed entirely of storm water except discharges pursuant to a NPDES Permit and discharges resulting from fire fighting activities.

5. "Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

6. "Significant Quantities" is the volume, concentrations, or mass of a pollutant in storm water discharge that can cause or threaten to cause pollution, contamination, or nuisance; adversely impact human health or the environment; and cause or contribute to a violation of any applicable water quality standards for the receiving water.

7. "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

8. "Pollution" means "the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water". [Clean Water Act Section 502(19)]. Pollution also means "an alternation of the quality of the waters of the state by waste to a degree which unreasonably affects either...the waters for beneficial uses...or facilities which serve these beneficial uses." [California Water Code Section 13050(l)]

9. "Contamination" means "an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease ... including any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected." [California Water Code Section 13050(k)]

10. "Nuisance" means "anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life and property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during or as a result of the treatment or disposal of wastes." [California Water Code Section 13050(m)]

11. "Local Agency" means any agency that is involved with providing review, approval, or oversight of the construction sites' (a) construction activity, (b) erosion and sediment controls, or (c) storm water discharge.

Bob Floyd

From: Melanie Garside <sierramel@QNET.COM>
To: <townofml@gte.net>
Sent: Monday, October 18, 1999 2:48 PM
Subject: "Att: Mike Vance" Re: Mammoth Lakes: Barbarians at the gates.

Dear Mr. Vance;

It's just as I've feared all along:
IntraWest comes in, pumps sunshine up the towns' skirts, and the "town" gets all touchy feely towards development and IntraWest.
In actuality, throughout this time, IntraWest has been indulging in Machiavellian schemes to undermine reasonable and "mostly" environmentally sensitive building proposals which have been in the works prior to IntraWests' appearance on this scene.
It seems the only people truly concerned with the end of the "means" are those who stand to profit from the eventual outcome.
Not the majority of the population of the town.
Not the majority of the wildlife in the areas surrounding the town.
Not the native vegetation which clothes the town.
WHO in their RIGHT MIND ACTUALLY BELIEVED INTRAWEST WOULD ABIDE BY ANY AGREEMENTS MADE TO THIS TOWN?
Are those indivduals who have been intrusted with the future of our town actually that DENSE?
Corporations have no conscience. Corporations exist for the amount of money they can make for the people who run the show. They do NOT exist for the little towns and smaller people into whose lives they intrude.
IntraWest has begun to devour what many people used to hold precious: their integrity. It has been cheaply bought.
We have been sold down a constructed river for silver and gold.
I've lived here for 18 years. I remember when our elected officials had a connection with our actual citizens, not a huge corporate entity in their stead.
I've recently had the opportunity to watch in facinated horror, IntraWests machinations.
I've also had the opportunity to watch our town officials disappear into the maw of obfuscation and greed.
It is a sorry sight.

Melanie Garside
HCR 79 Box 188
Mammoth Lakes, CA 93546
935-4435

MAMMOTH LAKES FIRE DEPT.

Mammoth Lakes Fire Protection District
P.O. Box 5 Mammoth Lakes, CA 93546
(760) 934-2300 Fax (760) 934-9210

FAX COVER SHEET

Date: 10-19-99

TO: KAREN JOHNSTON FAX: 934-8608
PLANNING

FROM: Marty Larson
Assistant Chief & Fire Marshal

MESSAGE: KAREN: I AM INCLUDING A FAXED SURVEY RESPONSE TO RBF & ASSOCIATES CONCERNING THE SAME PROJECT FOR YOUR INFORMATION

Number of pages including this sheet: 6

Mammoth Lakes Fire Protection District
PO Box 5
Mammoth Lakes, CA 93546
(760)934-2300 Fax (760)934-9210
Fire Prevention Bureau

10-19-99

Town of Mammoth Lakes
Community Development
Planning Division
PO Box 1609
Mammoth Lakes, CA 93546

Attn. Karen Johnston, Planner

Re. ZCA 99-1, TTM 36-193, and Design Review of North Village Specific Plan and Development of Phase 1 of the Village

Dear Sirs:

Review of submitted materials concerning the above-identified project reveal the following comments:

Site Access:
All access roads shall comply with minimum District standards. This includes all roads, fire lanes, emergency access routes, and private driveways determined to be fire department access roads. Any gates provided to control access for these roads shall maintain a clear minimum open width of 20-feet.
The District may require turnouts in the area of fire hydrants or fire department connections for fire protection systems, per District standards, if parking or other on-site conditions inhibit a clear 20-foot clear width for the access road.
All required access roads must be installed and approved by this Office prior to commencement of combustible construction.

Building Access:
Building access does not comply with minimum District standards. Project proponents will need to provide approved building access as required or provide acceptable mitigation measures to compensate for inadequate building access. The provision of an emergency access road is indicated on site plans entering off of Canyon Blvd to serve as access to the pedestrian court. More details need to be provided to this Office concerning such road before acceptance as an approved mitigation measure for inadequate building access.

Vegetation Management:
A vegetation management plan is required and must be approved by this Office to provide for maintenance of access road dimensions and creation of necessary defensible space surrounding the project.

Fireflow:
Fire hydrants shall be provided in compliance with minimum District requirements. Additional fire hydrants, both on and off site, may be required based on projected fire flow needs due to building use, construction type, and building size. Due to the extensive use of pedestrian courts and limited building access, additional approved mitigation measures will be required to provide adequate access to a water supply. This is required whenever the exterior walls of a building are located more than 150 feet from an approved water source on an approved access road.
Fire hydrants will be required to be installed and approved by this Office prior to the commencement of combustible construction.

Building Construction:
Any and all buildings having floors 55 feet or more above the lowest fire department access for human occupancy shall comply with high-rise structure requirements as found in the California Building Code (local code adoption due to significant climatic and topographical conditions). This includes the provision of an approved fire suppression equipment storage room in an approved location.

Fire Protection:
All buildings having a total building area of 5000 square feet or more shall be protected using an approved fire sprinkler system. This is in addition to existing requirements found in the Uniform Fire Code.

Other Comments:
Underground parking structures shall be provided with fire department access points as specified by this Office. Any trash collection or recycling facilities located inside of such underground parking structures shall be located as to provide easy access for fire suppression personnel.
Any visual screening used to obstruct the view of propane storage tanks shall be constructed using non-combustible materials. If large bulk delivery systems are used, isolation valves may be required by this Office to allow for easy isolation of zones in case of gas leak emergencies.

The Mammoth Lakes Fire Protection District reserves the right to impose additional requirements upon further submission of project plans.

Sincerely,

Marty Larson
Assistant Chief
Fire Marshal

Mammoth Lakes Fire Protection District
PO Box 5
Mammoth Lakes, CA 93546
(760)934-2300
Fire Prevention Bureau

10-15-99

RBF & Associates
14725 Alton Parkway
PO Box 57057
Irvine, CA 92618-2069

Attn Glenn Lajoie, Project Manager

Re: North Village Specific Plan Amendment Program EIR

Dear Sirs:

In response to your questionnaire dated 9-24-99, I have answered your questionnaire using the same numbering format as used by you. Bear in mind that all of my comments relate to the general project, and are not building specific. Additional mitigation needs may become apparent when the project proceeds to actual site development.

1. Mammoth Lakes Fire Protection District will serve the area using two stations:

A. The primary or first-in station is located at 3150 Main Street, Mammoth Lakes. It is within 1 1/2 mile of the area in question. It houses 3 engines, 1 truck, and 1 medium rescue unit (current staffing is with volunteer personnel in compliance with National Fire Protection Association recommendations). The County Paramedic ambulance is also located in this station.

B. The secondary station is located at 1574 Old Mammoth Road, which is within 3 miles of the area in question. It houses 2 engines and one truck (current staffing is with volunteer personnel in compliance with National Fire Protection Association recommendations).

2. Approximate response time to the area in question is less than 5 minutes from the primary station.

3. At this time mitigation fees are collected by the Town of Mammoth Lakes for fire protection. Additional fees are collected by the Fire Protection District for plan review and construction process.

4. Total build-out of projected development may place a significant burden on the fire service as provided by the Mammoth Lakes Fire Protection District. Such impacts will be in the form of additional calls for service, personnel costs and increased equipment, apparatus and facility costs.

5. Proposed building access, as shown in preliminary project plans, when coupled with seasonal conditions, will require mitigation measures such as alternative access, built-in fire protection systems, and alternative water delivery systems. Actual mitigation requirements can not be determined at this time with the limited project details as provided.

6. The current ISO rating for the area involved is 3. The Town of Mammoth Lakes was recently evaluated by ISO, resulting in an improved rating level. Development in the area will require an upgrade in the current water supply and hydrant placement to bring it into alignment with current District standards.

7. The project uses a concept of pedestrian access design. This design concept will provide access problems to the center core of the development, which will have to be mitigated to guarantee building access for emergency response apparatus. Along with access issues is the availability of water to meet fireflow needs. Such mitigation measures can not be outlined in full with the currently submitted materials concerning the project.

8. Increase demands placed on the District by build-out of this project will result in the need of an additional funding source to pay for personnel, equipment and specialized apparatus to deal with accessibility problems and increased call volume. Until project plans and phasing can be provided in a more definite state, such needs can not be fully anticipated.

Since the Fire District relies on property tax to fund its service, and this proposal lies within the Redevelopment Area (significantly reducing new property tax revenues available to the District) the proponate will need to create a new source of funding to cover impacts of the project (both capital and on-going operational needs) or a decrease in service levels may result, jeopardizing the current level of service to the entire town.

Sincerely,

Marty Larson
Assistant Chief
Fire Marshal

Bryce A. and Wilma A. Wheeler
PO Box 3802
Mammoth Lakes, CA 93546
760 934-3764

October 20, 1999

Mike Vance, Development Director
Karen Johnston, Project Planner
Town of Mammoth Lakes
Mammoth Lakes, CA 93546

Our comments regarding North Village Plan Amendment are submitted for your consideration.

Allowable building heights exceed those called for in the approved plan. With taller buildings, windtunnel effects, sunlight, visual impacts, and diminished viewsheds are concerns. The height of buildings as well as more diverse building materials proposed for building exteriors will detract from the natural setting.

All underbuilding parking on the eastern side of Highway 203 (Minaret Road) Lodges E-1 and E-2 should have driveway entrances and exits going to Forest Trail rather than Highway 203, although it is not clear whether understructure parking is even proposed. This would encourage traffic between the main part of town and the project to take Forest Trail thus reducing traffic on Highway 203, which will be very busy with the bus system, trails, and cars going to and from the ski area. The planned entrance to the underground parking for Lodges W-1, W-2, and W-3 is correctly located on Forest Trail. It is not clear whether understructure parking is proposed for H-1, H-2 and H-3 in the southwest project. Such understructure parking should be included.

An overpass crossing Minaret Road should be put in at the southern end for safety and to alleviate congestion. The overpass should be covered similar to the overpass crossing Forest Trail between the ski-back trail and the northwest end of the project. Pedestrians need a bridge to safely cross Minaret Road.

Geothermal heating at pedestrian walkways, road crossings, and around the commercial areas throughout the project is desirable and practical. Helping the town with the upfront investment in geothermal heating would eventually benefit all and would make the project more efficient and popular to visitors and residents.

We are also concerned that this amended plan is not the same as the North Village Specific Plan approved and adopted. The detailed site plan has been eliminated. There is no detailed site plan for three large buildings at North Village. Just what does "alternative creative development concepts and building designs" mean? Will the town have sufficient control over the final design?

Pedestrian circulation, gondola building, pedestrian/vehicle interface and commercial parking are not addressed in the proposal. The requirement that all parking facilities shall be placed understructure has been changed to "predominantly understructure." Does that mean less than half as it appears in the plan? Base service facilities at the gondola that may be as much as 30,000 square feet are not included in density calculations.

There is no provision for a public or quasi-public site in this plan. What happens to the community center, the library and the public park? What are the plans for adequate replacement of these community facilities?

Employee housing is not addressed in this plan. This was an understood requirement for this project.

Sincerely,

Bryce A. Wheeler

Wilma A. Wheeler

Bob Floyd

From: <JANWORK1@aol.com>
To: <TownofML@gte.net>
Sent: Monday, October 18, 1999 8:01 AM
Subject: Attn Mike Vance

To Town of Mammoth lakes Palnning Dept/ Village EIR

Please document my expressed concerns with regards to new mammoth Village plans:
1. Large massive buildings are not in context with a "village" moitif
2. Height increases are pretty much unacceptable since they affect everyone who has a view across them. 15 feet increses might be acceptable.
3. Larger buildings would need larger setbacks to avoid a crowded /urban feeling.

Robert Atlee
Resident - Mono Co.

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION, AND HOUSING AGENCY GRAY DAVIS, *Governor*
DEPARTMENT OF TRANSPORTATION
DISTRICT 9
500 S. Main Street
BISHOP, CA 93514
Phone (760) 872-0659
Fax (760) 872-0678

October 20, 1999

Karen Johnston
Senior Planner
Town of Mammoth Lakes
437 Old Mammoth Road
Mammoth Lakes, CA 93546

MONO 203 PM 4.47
North Village Specific Plan Amendment
NOP

Dear Ms. Johnston:

Thank you for the opportunity to review and comment on the North Village Specific Plan Amendment Notice of Preparation of a Draft Environmental Impact Report (NOP). We have the following comments and suggestions:

General:

- Caltrans is an integral part of this proposal because of the land exchanges between Caltrans and the project sponsor and between Caltrans and the Town. Caltrans is also involved because of the approvals required to install the roundabout at Forest Trail, the changes to the design of SR 203 and the signalized intersections at Main Street/Minaret and Lake Mary Road/Miller Siding. Please insure that these improvements and any disturbance that results from these improvements are specifically covered in the Environmental Reports for this project.

- Improvements within the State right-of-way must total less than one million dollars to be completed under the encroachment permit process. If improvements proposed under a permit total greater than one million dollars, a PSR/PSSR will be required and the improvements must be included in the RTP and approved by the CTC.

- Page 45, paragraph 21-j. Caltrans does not set the standards for construction outside our right-of-way. The Town may require the developer to use any appropriate standard in those areas.

- Page 60, Minaret Road, paragraph c. This section should call for joint approvals by the Town and Caltrans. This area will be owned by the Town with the signals controlled by agreement between the Town and Caltrans. Configuration should be dependent on need (which will be based on traffic studies to be included in the environmental reports for this project).

- Page 68, Parking. Current plans call for parking to be allowed on both sides of SR 203 within the Gondola Village area. This parking should be addressed in the specific plan along with the restriction that parking will only be allowed on the southwest side of the highway until phase 3 (the northeast side of the highway) is constructed. It is also our understanding that this parking is going to be of limited duration (restricted to 30 minutes or less) and may be closed during certain periods of time as needed (including snow periods, peak congestion periods and special events).

- Temporary and overflow parking for phase one of Gondola Village will be designed and accessed as per an agreement between the project developer and Caltrans. This specifically addresses the temporary (phase 1 & 2) parking on the northeast side of SR 203. This parking may be required to take some or all access off of Forest Trail.

- Page 69, Transit. The traffic studies and road designs for this project (and the entire Town of Mammoth Lakes) are based on a 9 percent trip capture rate for transit. Currently, the trip rate is about 5%. In order for this specific plan area and indeed, the entire town to operate as proposed, a significant increase in transit usage (and headway/Capacity) will need to be obtained. The specific plan should address these goals and actions that will be taken to achieve them. There will also be times where the road and transit system will not be able to accommodate the demand placed on them for several hours at a time. The specific plan should include actions required by development within its boundaries that address how these peak transportation demand periods will be addressed/handled/mitigated. (This addresses the differences between capacity design of the highway, which is the 30th highest hour, and those 30 hours that will be higher.)

- Page 69, Bicycle Circulation. Currently, the Mammoth Mountain Bike Park uses the parking lot of the Best Western (to be removed) as a pickup location. This is a heavily used location during the summer operations of the Bike Park. The specific plan should address how and where these pickups will be located.

- Page 66, Circulation Standards. We believe that the specific plan should include specific standards for the road system within the development. This is needed to insure the public is informed as to what is expected and acceptable in and around the North Village Specific Plan area. This should be a disclosure that during certain periods, significant congestion is expected and acceptable.

- Tentative Parcel Map Sheet 1. The property shown on the tentative parcel map to be acquired from Caltrans (parcel 33-043-05) is held by Caltrans as an easement for road purposes and not fee title. At the completion of the land exchange between Caltrans, Gondola Village and the Town, Caltrans expects to quit claim this portion of our road easement, returning control to the current owner of record (shown on the map as Mammoth Mountain Development Corporation and NAP of the tentative parcel map). Other minor changes may be required as the parties proceed through the land exchange process.

- Snow Removal. Snow removal, if not mitigated, will have a significant impact on many phases of the environment, including all transportation, safety, transit and other areas. While Caltrans, the Town and the Developer have all agreed to develop a comprehensive snow removal plan and program, the DEIR needs to specifically address these impacts and potential mitigation. We also suggest that the final specific plan include a comprehensive section on how snow removal will be handled and calling out whom is responsible of each part of the plan.

If you have any questions or concerns with our response, please contact Tom Meyers at (760) 872-0658.

Sincerely,

Thomas E Meyers

TOM MEYERS
Associate Transportation Planner

Pat Eckart
P.O. Box 7525
Mammoth Lakes, CA 93546
tel/fax: (760) 934-3726
e-mail: paeckart@qnet.com

Date: October 20, 1999
To: Mike Vance, Community Planning Director,
Mammoth Lakes Planning Commission and Planning Department
From: Pat Eckart
Re: Comments/Questions, North Village Specific Plan (NVSP) Amendments (as Revised 8/99) and "Subsequent" EIR for Phase 1

Preface:

What is appropriate development for the Town of Mammoth Lakes? Eldon Beck's 1994 design retained "a village in the forest" and small-town character. His plan was accepted and supported by the community after numerous public presentations and meetings. When will the proposed 1999 revised NVSP be presented to the community?

The proposed revisions to the NVSP appear to replace our community's vision with an urban setting out of proportion to our environment. The NVSP Amendments, as illustrated by Phase 1 construction drawings, appear as a betrayal of our community's trust, portending an end to our small-town character and a loss in quality of life. Attached I've included two drawings illustrating the difference between our community's vision in 1994 and Intrawest's vision today. Is the "template" that Intrawest has brought us what our community wants?

Comments on the Scope of the EIR for Phase 1 of the NVSP "Amendments"

First, the NVSP "Amendments" have not been presented to the community nor time allowed for citizens to gain a clear understanding of what changes are being proposed. In addition, the "subsequent" EIR is only directed at Phase 1 of the NVSP. With the dramatic changes being made in Phase 1, how is anyone to know what will be proposed (and changed) in the remaining two-thirds of North Village? How can anyone calculate cumulative impacts on every topic that should be scoped? Should an entirely new EIR be written, since in reality a very different project is being proposed?

Second, I would like to "second" Bill McNeill's Comments/Questions, dated October 13, 1999, submitted to the Mammoth Lakes Planning Commission/Planning Department. Some topics may not apply directly to environmental issues, but please address those that do.

The following are my additional comments/questions relating to the NVSP "Amendments" and their environmental impacts, if applicable:

1. Housing. (p. 21) Number 10 appears to dilute the responsibility of North Village to provide for employee housing generated by uses within North Village. Why the expansion to uses outside North Village?

2. Special features. (p. 24 etc.) Why are amenities and public facilities deleted from this plan?

3. Trees. (p. 26 etc.) What will be the environmental impacts, includingvisual degradation, additional runoff, pollution, air quality, winds, etc., as a result of the removal of more, including large, trees than originally planned?

4. Timeshares. (p. 27) How many timeshare units are planned in Phase 1 and for the entire North Village? What effect will this have on Town revenues (cumulative impact)?

5. Bifurcation of NV. (p. 28) The deletion of "what is supportable" in the amount of new retail commercial space indicates that the rest of North Village is no longer a part of the plan. Elsewhere in the document is evidence that Phase 1 and the Gondola area will become exclusive and not connected to the rest of the community—evidence such as elimination of community programs and quasi-public facilities, and emphasis on a single "common area" which would restrict Town control over noise, etc.

6. Gondola building. (p. 31) Why are the gondola facilities (including across-Canyon parking structure) not included in Phase 1? Will "vary in height" be changed to the block design of Phase 1when Phase 2 is later presented? How can cumulative impacts be addressed if nothing is known for certain about the gondola area—"multiple buildings," "multi-level" etc.?

7. Landscaped terrace. (p. 31) Is the "large landscaped terrace" being eliminated? If so, what will replace it?

8. Sunlight/views, hotel. (p. 32 top) Adding "should" eliminates the requirement of providing sunlight and views. Eldon Beck in 1994, provided detailed drawings specifically addressing sunlight and views; this no longer seems to be important. It is clear that a "major hotel" is not in Intrawest's plans for North Village and B&Bs have been moved out of Phase 1 and to the north side of Forest Trail. What's left are resort condominiums and retail/commercial. Where are the public facilities?

9. Design guidelines. (p. 32) Why eliminate locations, site plans, drainage, etc.? Isn't this making it difficult to determine the final result?

10. Building heights/seismic activity. (p. 41-42) I was told recently that State seismic standards are not being met at Sunstone (Juniper Springs) based on building height. Who is the Town expert verifying that these standards are being met? If they are not, the higher structures proposed for North Village could pose a significant safety hazard (as well as potential legal action against the Town).

11. Gondola building setbacks. (p. 43) Why the elimination of setback requirements?

12. Public events program. (p. 54) This has been eliminated, thus cutting out the community's participation in North Village. (see #5 above)

13. Landscaping and trees. (p. 57) Landscaping at entry points "that present a unified, quality image for North Village" is deleted. Why is this enhancement eliminated? Trees removed based on "overstock" are not required to be replaced. Please define "overstock."

14. Snow shedding. (p. 58) Does this deletion result in a safety issue?

15. Snow removal. (p. 66) The deletion eliminates a North Village special district as the source of funding. Are Minaret, Canyon and Miller Siding the only public rights-of-way?

16. On-street parking. (p. 68) What is meant by "short-term parking" (15 minutes; 30 min?) Does this term include the proposed parallel parking on Minaret?

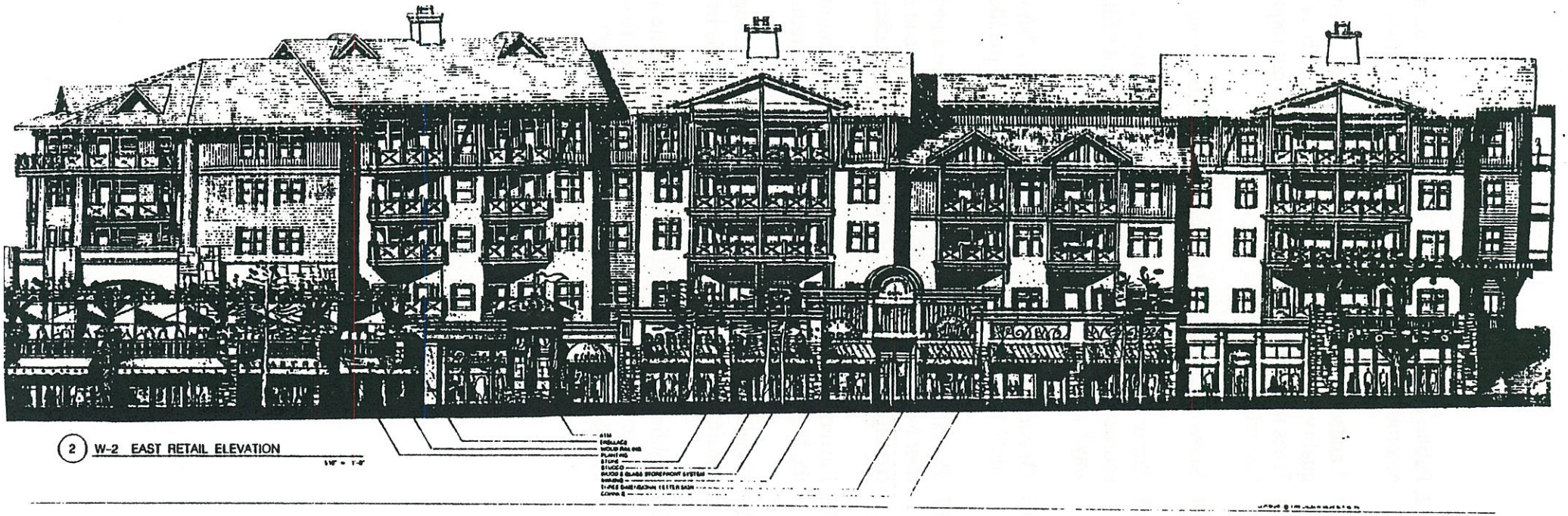
17. Pedestrian bridge (p. 72) Why will there be a pedestrian bridge over Canyon but not over Minaret? With traffic, parallel parking, and snow on Minaret during the winter, crossing the street will be both a traffic and safety issue.

18. Lowering standards. (p. 77) Why is the Community Development Director and not the Planning Commission given authority to reduce parking and other standards?

19. Housing (p. 86) The developer appears to no longer be required to provide employee housing in North Village. Why? How will this impact the rest of the community?

20. Public assistance. (p. 106, last sentence) Public assistance only related to community-wide benefits has been expanded to cover impacts caused by development in NV. What is the quid pro quo?

1 W-2 WEST RETAIL ELEVATION



2 W-2 EAST RETAIL ELEVATION

Gondola Village
Mammoth Lakes, California

Owner:
Minaret Development I
587 Old Mammoth Lakes Rd
Mammoth Lakes, CA 93546-2789
T 760-924-8189
F 760-924-8150

Callison Architecture, Inc.
1420 5th Ave., #2600
Seattle, WA 98101-2341
T 206-623-4646
F 206-623-4625

CALLISON ARCHITECTURE

GONDOLA VILLAGE - PHASE I

EXTERIOR RETAIL ELEVATIONS (BUILDING W-2)

W2-A3.02

TO: Karen Johnston
FAX 934-8608

PUBLIC COMMENT FORM

p. 1 of 3 including this page

PROJECT NAME:

Program Environmental Impact Report (EIR) for the North Village Specific Plan Amendment.

NAME AND ADDRESS OF COMMENTOR: (include group or public agency affiliation, as applicable)

Elizabeth Tenney for P.E.S.T.E.R.
POB 2428
M.L., CA 93546-2428

Telephone Number: 924-8475 PH/FAX

COMMENTS:

Please provide your comments on potential environmental issues/impacts which you feel should be addressed in further detail in the subject Program EIR. Attach additional pieces of paper, as needed.

This form and/or additional comments can be submitted by October 20, 1999 to Town Staff at the Scoping Meeting or mailed to the Town of Mammoth Lakes, 437 Old Mammoth Road, Mammoth Lakes, California 93546, Attention: Karen Johnston.

See following.

Preserving the Eastern Sierra Tradition of Environmental Responsibility

Working to preserve the spectacular natural beauty of the Eastern Sierra Nevada and to keep HWY 395 in Mono County a scenic corridor now and in the future

Post Office Box 2428
Mammoth Lakes, CA 93546
PHONE: 924-8475 / FAX: 924-8475 / E-MAIL: tenney@qnet.com / WEB: www.pester.org

October 20, 1999

Karen Johnston, Senior Planner
Town of Mammoth Lakes
Post Office Box 1609
Mammoth Lakes, CA 93546

Dear Karen:

We find the North Village Specific Plan Amendment as revised in August 1999 very troubling. It is difficult to understand why it is an "amendment" when the Intrawest proposal bears so little resemblance to the original Eldon Beck design for North Village approved and adopted by the Town in 1994. This is not the design the community approved and was led to believe was going forward when it was reviewed again in a community meeting a year ago at Mammoth Mountain Inn.

Would you please consider the following issues in the scope of the supplemental EIR:

1) The proposal for three massive, blocky relatively uniform buildings rather than the original proposal for nine buildings from one to six stories in height is more consistent with an urban college campus than a ski resort "village". We are concerned about this design with respect to aesthetics, its height above the trees, its size necessitating removal of most trees, blocking of viewsheds, blocking sun in the winter and creating unintentional wind tunnel effects. Similar structures in Breckenridge are noted as undesirable on p. 24 of the Colorado Peer Resorts Tour report.

2) No site plan has been submitted with Phase I, so how do we know what the ultimate project will look like? The public plaza or "centralized area" has been downgraded to an "opportunity". No consideration of the gondola impact is made in this plan with respect to pedestrian accessibility and circulation. Pedestrian and vehicle interface has not been adequately addressed. The original planned "understructure parking" is now a free-standing garages "opportunity" or "temporary" surface parking. How can this project be reviewed for approval without being in the context of the ultimate site plan?

3) There are so many changes and omissions in this proposal that not only does it not resemble the original approved plan for North Village; we question if it is consistent with the Town's Land Use policy, Vision Statement and General Plan.

Your consideration of our comments and concerns is appreciated.

On behalf of the members of Preserving the Eastern Sierra Tradition of Environmental Responsibility, I remain

Very truly yours,

Elizabeth G Tenney

Elizabeth Tenney