10.8.2008

READ THIS!

Attached is the 1978 Bear Valley Master Plan adopted by the Alpine County Board of Supervisors on February 9, 1979. This is a digitized copy of the original document. The digital copy was provided to the Alpine County Planning Department by a third party. Pages may be missing or misplaced. Alpine County does not guarantee the completeness or accuracy of this digital document. If you wish to review a hard copy of the Master Plan one is available at the Alpine County Community Development Department and the Bear Valley Library. If you have any questions related to the 1978 Bear Valley Master Plan please contact the Alpine County Community Development Department at 530.694.1878 or 530.694.2140 (after 10/14/2008).

Zach Wood
Planner
Alpine County Community Development

MASTER PLAN

BEAR VALLEY CALIFORNIA

NORTH

SCALE 1"=400'

LEGEND

- SINGLE FAMILY, DETACHED
- LOW-MEDIUM DENSITY MULTI-FAMILY
- VILLAGE CENTER
- PARKING
- TRANSPORTATION CENTER
- * 200 FT. BUILDING SETBACK LINE (SEE PAGE 57 FINAL EIR)
- ( ) NUMBER OF LIVING UNITS OR AUTO SPACES

MF-12 (113)
REC-4
MF-11 (12)
SF-2
BEAR LAKE
REC-3
SF-4 (26)
MF-10 (45)
MF-9 (30)
COMMUNITY CENTER
SF-2
CS-2
200' BSBL
SF-6 (13)
SF-3 (8)
VC-2 (500)
CS-1
MF-8 (12)
MF-1
VC-1
P-1 (0 AUTOS)
(500 AUTOS) P-3
(100) MF-5
EMPLOYEE HOUSING
C-1
MF-3
CS-3
MF-4
CS-4
C-3
C-2
OFF SITE PARKING
(500 AUTOS) P-2
SF-1
STATE HIGHWAY 4
SENSITIVE AREA
CS-10
TENNIS
REC-1
P-4 (500 AUTOS)
CORPORATION YARD & VEHICLE IMPOUND (2 Ac. APPROX.)
FACILITY
MF-14 (34)
STABLES & ARENA
REC 2
MF-18 (59)
MF-15 (54)
SF-5 (44)
CS-11
MF-16 (112)
MF-17b (187)
CS-12
RECREATION AREA
MF-16
ALPINE CO.
CALAVERAS CO.

CHAIRMAN, ALPINE COUNTY PLANNING COMMISSION

REV. NO.	DESCRIPTION	DATE
1	ADDED UNIT DENSITIES & SIGNATURE LINE	2-12-79

OCT. 78

REV. 12-14-78

C-2687a

PROJECT SUMMARY

BEAR VALLEY DEVELOPMENT PLAN

ALPINE COUNTY
PLANNING DEPARTMENT
P. O. Box 107
MARKLEEVILLE, CA 96120

General Development Plan
North Side

Single Family Parcel	Acreage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 1	52.8	1.1	59	354	118
SF 2	200.0	1.9	389	2334	778
SF 3	6.9	1.1	8	48	16
SF 4	33.1	1.4	45	270	90
SF 5	12.7	2.0	26	156	52
SF 11	6.2	1.6	10	60	20
Sub-Total	311.7		537	3222	1074

Multi Family Parcel	Acreage	Density	Units	Beds 4/Unit	Cars 1.5/Unit
MF 1	.7	22.8	16	64	24
MF 2	3.9	15.4	60	240	90
MF 3	4.1	17.6	72	288	108
MF 4	.7	28.6	20	80	30
MF 5	10.4	19.2	200	800	300
MF 6	.5	24.0	12	48	18
MF 7	-	-	-	-	-
MF 8	-	-	-	-	-
MF 9	3.5	8.6	30	120	45
MF 10	3.8	11.8	45	180	68
MF 11	2.5	12.0	30	120	45
Sub-Total	30.1		485	1940	728

Village Center	Acreage	Density	Units	Beds 2/Unit	Cars 1/Unit
VC 1	2.5	-	62	124	62
VC 2	15.2	-	500	1000	500
Sub-Total	17.7		562	1124	562

Commercial	Acreage	Density	Units	Beds 2/Unit	Cars 1/Unit
C 1	.1	-	14	28	14
C 2	.7	-	-	-	-
Sub-Total	.8		14	28	14

North Side Total					
	360.3		1598	6314	2378
80% Occupancy				5051	1902

South Side

Single Family Parcel	Acreage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 6	13.8	1.8	25	150	50
SF 7	20.4	2.5	50	300	100
SF 8	22.0	1.0	22	132	44
SF 9	39.4		44	264	88
SF 10 *	27.5	-	1	6	2
Sub-Total	123.1		142	852	284

Multi Family Parcel	Acreage	Density	Units	Beds	Cars
MF 12	4.6	7.4	34	136	51
MF 13	4.1	13.2	54	216	81
MF 14	3.9	15.9	62	248	93
MF 15	8.9	13.7	122	488	183
MF 16	3.0	13.3	40	160	60
Sub-Total	24.5	12.7	312	1248	468
Southside Total	147.6		454	2100	752
80% Occupancy				1680	602
General Development Plan Total	508		2052	8414	3130
80% Occupancy				6731	2504

Community Services

CS1	P.G.& E Substation	0.3 acres
CS2	Elementary School	2.9
CS3	Maintenance Center	1.6
CS4	Sheriff & Fire Station	0.4
CS5	Pacific Telephone	0.2
CS6	Maintenance Yard	0.4
CS7	Short Term Parking	0.9
CS8	Off-Site Parking	5.0
CS10	Heliport	2.0
CS11	School	5.9
CS12	Sewage Treatment	127.6

Recreation

ec1	Tennis Facility	13.6
Rec2	Stables and Arena	3.3
Rec3	Homeowner's Center	2.2
Rec4	Beach - Picnic Area	2.1

* Not a part of this project

General Development Plan
North Side Off-Site Parking Requirements

Single Family Parcel	Acreage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 1	52.8	1.1	59	354	118
SF 2	200.0	1.9	389	2334	778
SF 3	6.9	1.1	8	48	16
SF 4	31.1	1.4	45	270	90
SF 5	12.7	2.0	26	156	52
SF 11	6.2	1.6	10	60	20
Sub-Total	309.7		537	3222	1074

Multi Family Parcel	Acreage	Density	Units	Beds 4/Unit	Cars 1.5/Unit
MF 9	3.5	8.6	30	120	45
MF 10	3.8	11.8	45	180	68
MF 11	2.5	12.0	30	120	45
Sub-Total	9.8		105	420	158
North Side Total	319.5		642	3642	1232
80% Occupancy				2913	986

South Side Off-Site Parking Requirements

Single Family Parcel	Acreage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 6	13.8	1.8	25	150	50
SF 7	20.4	2.5	50	300	100
SF 8	22.0	1.0	22	132	44
SF 9	39.4		44	264	88
SF 10	27.5		1	6	2
Sub-Total	123.1		142	852	284
80% Occupancy				682	227
Total GDP	442.6		784	4494	1516
80% Occupancy				3595	1213

* Total Off-Site Parking Spaces Required 80% Occupancy

COUNTY OF ALPINE

DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR

BEAR VALLEY MASTER PLAN

SUBMITTED

JUNE 29, 1978

OWNER

BEAR VALLEY POLICY COMMITTEE
% Perry Walther
P.O. Box 1135
Bear Valley, California 95223
(209) 753-2327

WRITERS OF DRAFT E.I.R.

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Western Planning & Research
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Auburn, CA 95603
(916) 823-1209

Eugene Weatherby
Gretzinger & Weatherby Inc.
8 Court Street
Jackson, CA 95642
(209) 223-0381

TABLE OF CONTENTS

APPENDIX

PROJECT DESCRIPTION

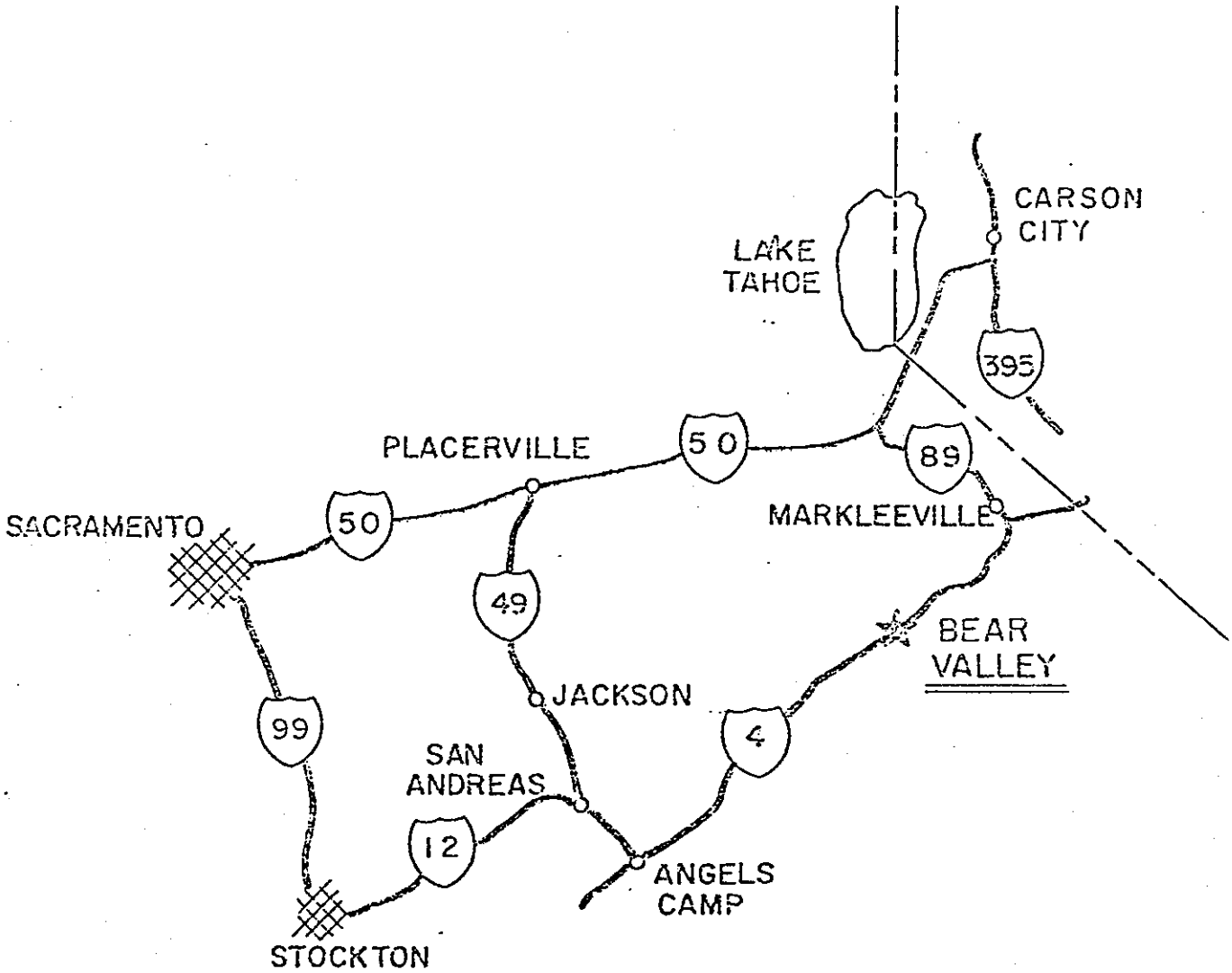
This project consists of modifications and enlargement of an existing approved plan for residential, commercial, and recreational uses in the Central Sierra. It is located at Bear Valley on State Highway 4 in Alpine County, as shown on the Location Map following this page.

Part of the development authorized under the approved plan has already been constructed. A summary of the completed structures follows.

Single-family homes	±200 units
Condominiums and apartments	148 units
Lodge rooms (two lodges)	75 rooms
Commercial floor area	± 26,000 sq. ft.

The development also contains a gasoline station, transportation center, elementary school, fire station, post office, sheriff's office, sewage treatment plant and substations for electric power (P.G.&E.) and telephone (Pacific Bell). Existing recreational facilities include a small stable, airstrip, and six tennis courts. About 300 vacant lots exist within the developed portion of Bear Valley. The present community occupies about half* of an 870 acre privately-owned site surrounded by the Stanislaus National Forest.

* 421 acres (includes developed area, lake, sewer plant area)



LOCATION MAP

The balance of the site (the project) is proposed for development as shown on the site plan in the pocket following the location map. The project includes the following elements:

1) 230 single-family residential lots on 155 acres
2) 1,149 lodging, condominium or apartment units* on 63.6 acres.
3) Expansion of the commercial floor space by 125,000 square feet
4) Parking in accordance with the following standards:

Land Use	Off-Street Parking Required
Single-family dwelling	two spaces per unit
Apartments, condominiums	1.5 spaces per unit
Lodge or hotel units	1.0 spaces per unit

5) Additional community facilities including expansion of sewer systems, water systems, and roadways
6) Ski lifts for recreation and transportation to Mt. Reba
7) Expanded recreational facilities: heliport, equestrian center, 26 tennis courts, a visitor's and homeowners' center, and lakeside picnic facilities.
8) Open space reservations on environmentally sensitive areas

* Actually: 849 condo/apt units; 300 lodge units

PROCEDURAL MATTERS

Several steps are required in order to secure approval of the proposals mentioned on the preceeding page.

1) This Environmental Impact Report and the subsequent input it generates must be finalized by Alpine County.

2) P.D. zoning on the south side of Highway 4 must be expanded to include the entire area proposed for development.

3) A Conditional Use Permit will be required for each subsequent development upon a finding that it is in conformity with the Planned Development Master Plan.

4) Subsequent approvals by other governmental agencies will have to be obtained prior to development of some of the proposals in the project. These agencies include: U.S. Forest Service; State Department of Transportation; fire and utility districts. Private approvals or agreements are also required with Mt. Reba; P.G.&E. and the telephone company before development can proceed.

GEOLOGY

Setting*

The project overlies three geologic formations: exposed pyroclastic (volcanic rock), granite, and a shallow layer of glacial alluvium mixed with stream deposits and slope wash. The distribution of these formations is shown on the Geology Map following this page.

The major geological formation is granitic, composed predominantely of coarse-grained granodiorite and porphyritic quartz monzonite, but including granite, quartz diorite, and diorite. Approximately half of the Bear Valley planning area is alluvium consisting of unconsolidated, poorly sorted stream deposits of clay to boulder size and locally including lake and colluvial deposits.

A glacial moraine of unconsolidated, unsorted glacial debris ranging in size from clay to blocks is located in the development area southeast of Bear Lake. A formation consisting of andesite mudflows, tuffs, and associated stream sediments lies between Mt. Reba and Bear Valley and extends into the development area. A similar formation is found on the hill at the southeast corner of the Bear Valley area.

During the past hundred years, Alpine County has been subjected to minor earthquakes and secondary impacts** A fairly hard series of shocks having a magnitude of 5.5 and intensity

*Source: Calif. Division of Mines and Geology, Sacramento Sheet and subreferences

**Source: Alpine County Unit of the Central Sierra Planning Council General Plan: Seismic Safety

of VI (modified Mercalli units) was felt near Markleeville in December, 1942. However, the seismic safety element map for the central Sierra planning area indicates that all faults are located north and east of the study area at a distance greater than fifteen miles with earthquake epicenters concentrated along the northern and eastern boundaries of the County. The potential for fault displacement from seismic activity in the Bear Valley area is thus negligible.

The Seismic Safety Element of the Central Sierra Planning Organization indicates that the project site is in an area where moderate damage may be expected from earthquake secondary impacts. It lists probable maximum earthquake intensities which could be felt here of VII or VIII on the modified Mercalli scale. The effects of an earthquake of the above magnitude are described hereunder.

VII Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D,* including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments - CFR). Some cracks in masonry C.** Waves on ponds; water turbid with mud. Small slides and caving in along sand and gravel banks. Large bells ring. Concrete irrigation ditches damaged.

* Masonry D: Poor workmanship & mortar, and weak materials like adobe
** Masonry C: Good workmanship & mortar, unreinforced

VIII Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A.* Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down. Loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Cracks in wet ground on steep slopes.

Impacts

Since no major earthmoving activities are contemplated in the proposed project, no significant adverse impacts are expected to be imposed on the geologic character of the area. The project site includes seismically sensitive areas such as rock falls and wet meadows, where the impacts due to earthquake shaking would be greatest.

As described in more detail in the forthcoming section on Drainage and Flood Control, the majority of the proposed lodge, apartment, and condominium units are located within the predicted floodway of Bear Lake in the event of dam failure.**

* Masonry A: Good workmanship & mortar, reinforced, designed to resist lateral forces

** See Drainage & Flood Control Map

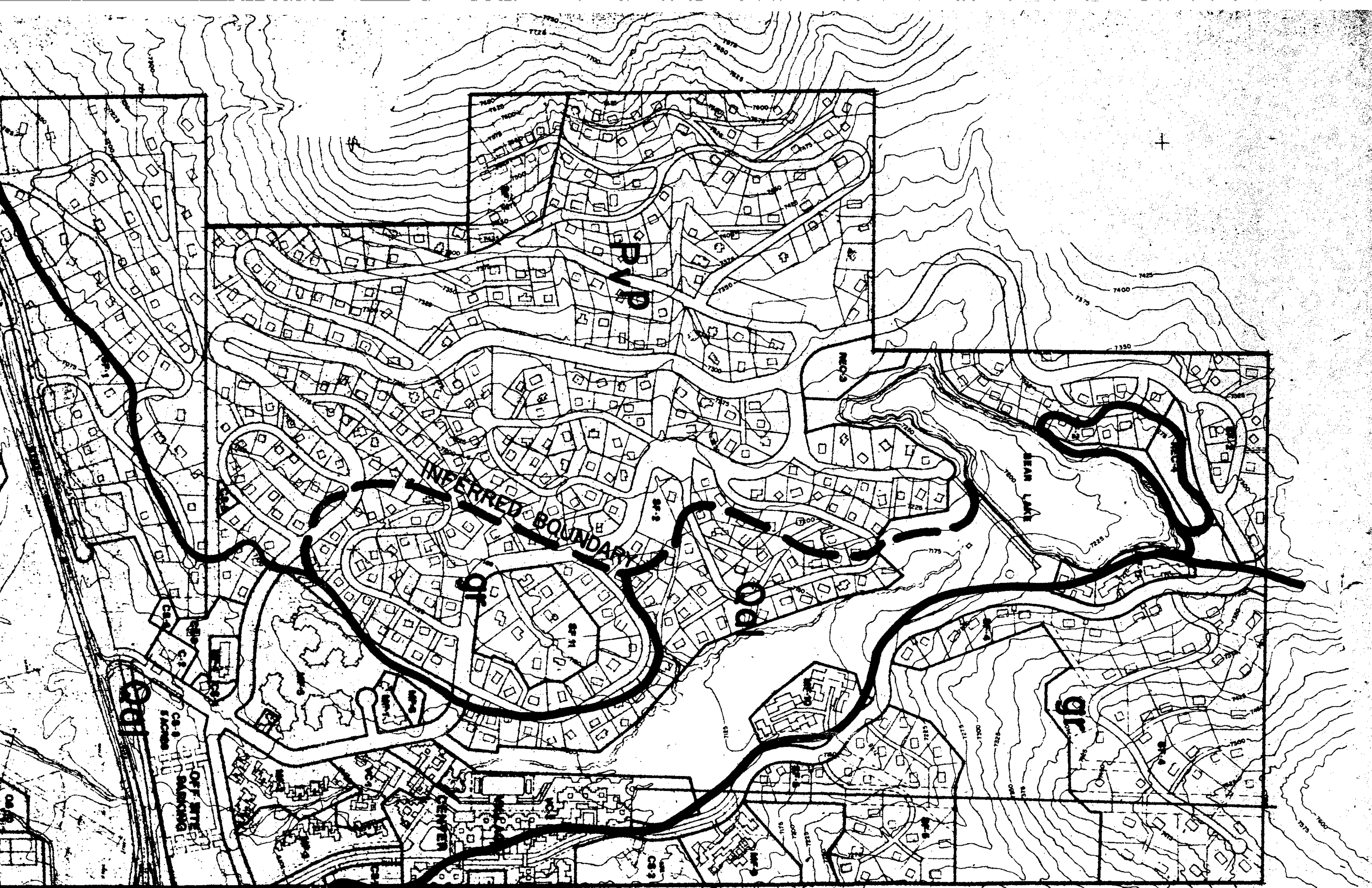
Mitigations

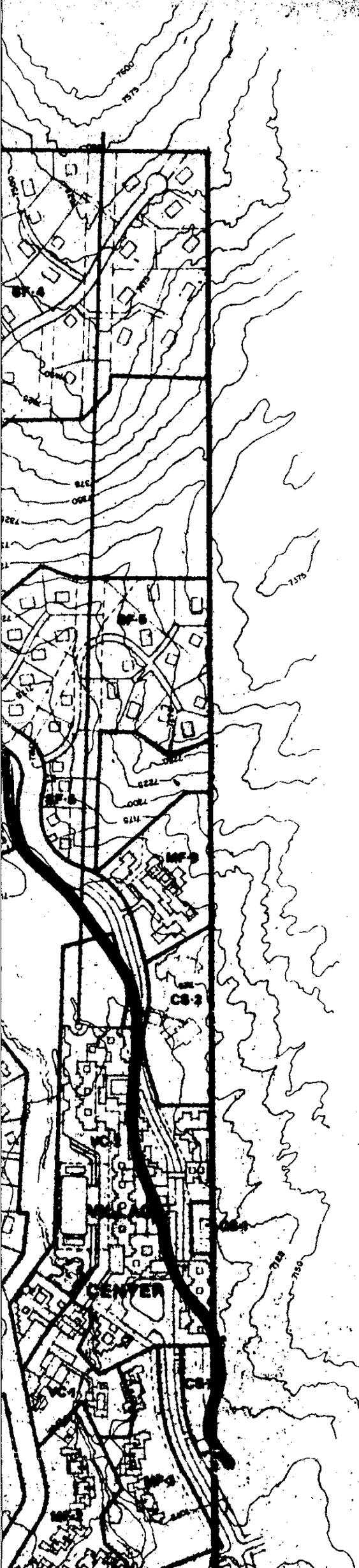
All structures will be designed to meet requirements of the Uniform Building Code with regard to earthquake safety.

The more seismically sensitive lands in the planning area would remain in open space.

It is suggested that the as-built plans of the dam be reviewed by the water district to determine if the dam would withstand seismic shaking of intensity VIII (Mercalli scale), before actual development is approved in the village area.

(This mitigation as of this writing has already taken place as the Division of Dam Safety has reviewed all state-size dams in the State of California as to their seismic safety.)

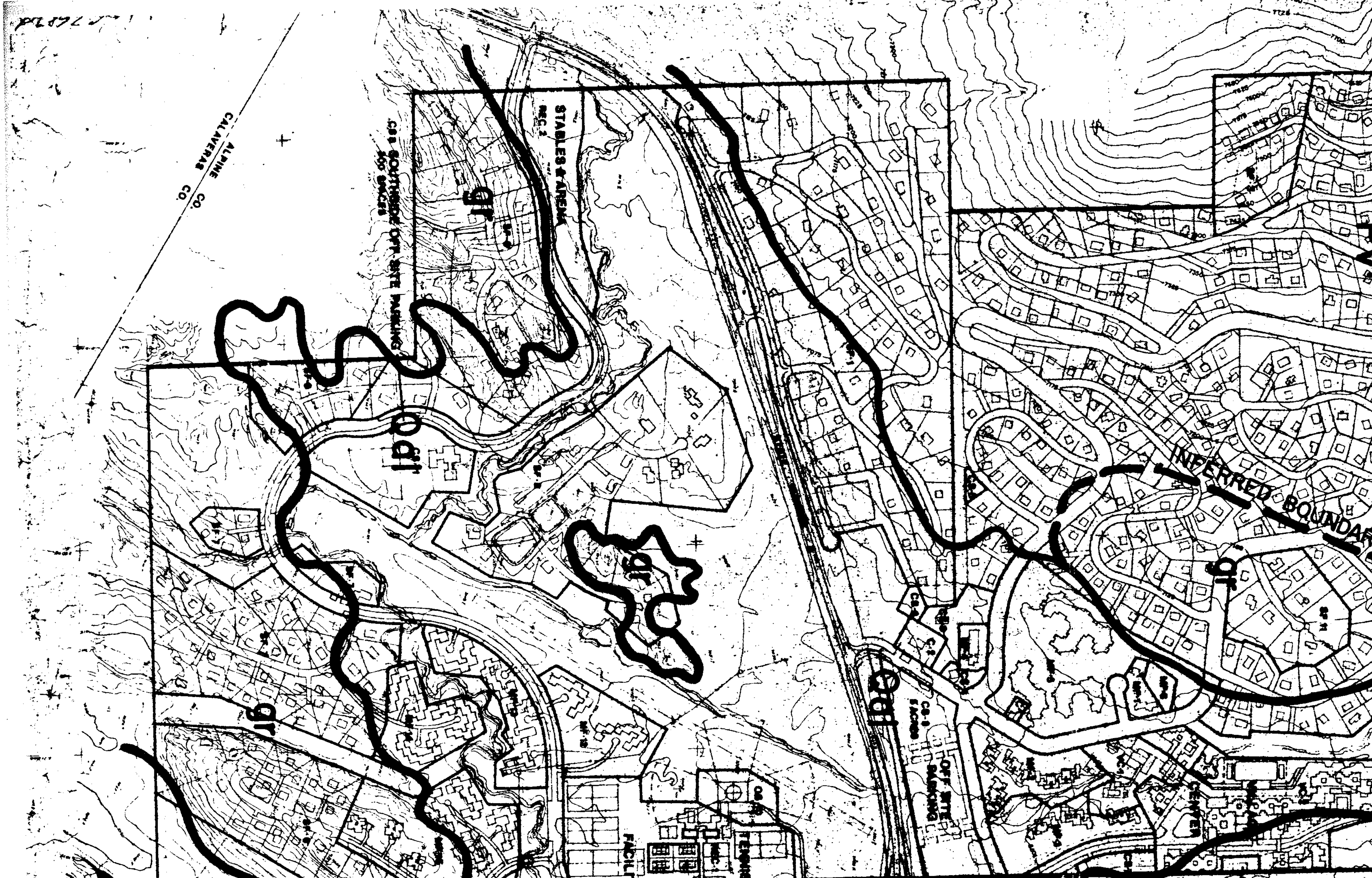

INFERRED BOUNDARY
BEAR LAKE



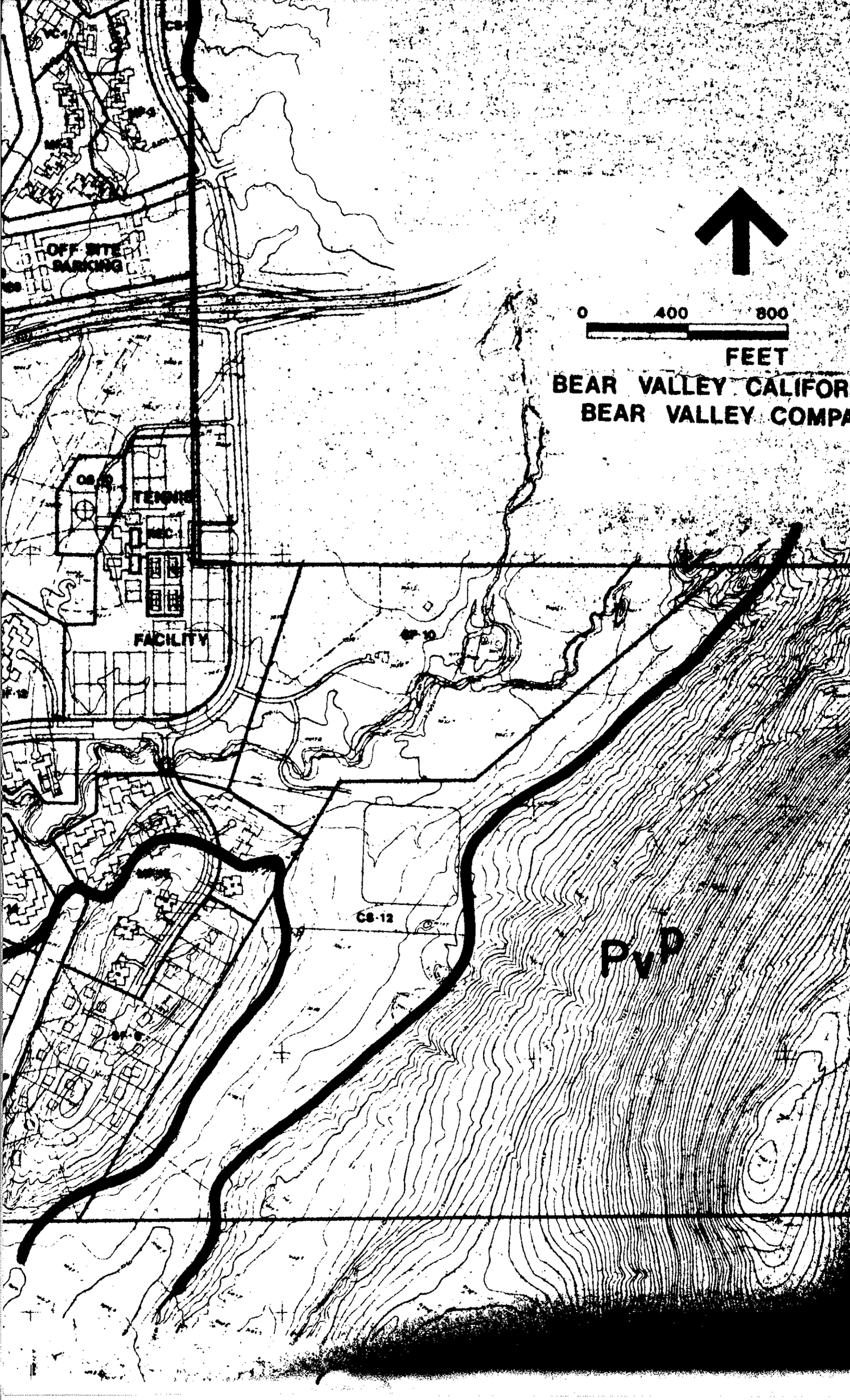
GEOLOGY

LEGEND:

gr	MESOZOIC GRANITIC ROCKS
Pv^p	PLIOCENE VOLCANIC PYROCLASTIC ROCKS
Qal	GEOLOGICALLY RECENT ALLUVIUM DEPOSITS



CALAVERAS CO.
ALPINE CO.
STABLES & ARENA
gr
Qal
INFERRED BOUNDARY
OFF SITE PARKING


OFF SITE
PARKING
FACILITY
C8-12
PvP
0
400
800
FEET
BEAR VALLEY CALIFOR
BEAR VALLEY COMPA

SOILS

Setting

In general, soils in the Bear Valley area are residual podzolic soils of good depth, which are usually erosive when vegetation cover is disturbed. They range from Class VI to Class VIII according to the U.S. Department of Agriculture Land Capability Classification. Class VI soils overlie older terraces and upland areas, with dense clay subsoils resting on moderately consolidated or consolidated materials. Class VII soils are on upland areas underlain by hard ingeous bedrock, and Class VIII soils are on upland areas underlain by consolidated sedimentary rocks.

In Bear Valley, some of the steep slopes are overlain by soils derived from volcanic materials, which are unstable and susceptible to erosion and drainage problems. Soil profiles show a surface layer of loose brown silty and sandy soils, with moderate to considerable organic content and occasional cobbles. Subsurface soils are clayey, silty sand and sandy silt with considerable gravel and cobbles. Bedrock depths are variable.

The flatlands have a combination of soils derived from volcanic and granitic materials. Surface soils horizons are moist-to-saturated, moderately organic brown silty sand. They are approximately six feet deep and are moderately compressible. They are highly erodible, poorly drained, and generally have a

poor bearing capacity. Subsoils consist of sands and gravels that are increasingly dense with depth.

Impacts

Construction of roads, buildings and recreational facilities will cause disturbance to soils within the area.

Construction equipment will cause dust which will be transmitted to adjacent areas. Many areas disturbed will cause erosion to start and siltation of local gulches and streams thereby affecting water quality during heavy storm runoff particularly if no seasonal limit is established for construction. Consolidation of some soils will occur in the immediate vicinity of roads, walkways and building pads.

Mitigations

Water will be used as a dust pallative in and around all construction activities.

All disturbed soil affected by the construction will be reseeded using native grass seed. Application for best germination and growth will be as recommended by the Department of Agriculture.

Areas with slopes exceeding 25% will be set aside for either green belts or larger parcels with each parcel created having a building site on either solid granite or flatter slopes. Some erosion will take place regardless of the care involved.

Where streambanks are disturbed, rip-rap will be placed to minimize erosion. Siltation basins will be placed at appropriate locations along drainage ways.

Consolidation of soil around trees and plants not removed by construction cannot be avoided, but should be minimized by careful placement of structures.

Seasonal limits should be placed on all construction activities involving earthwork. Suggested limits are: June 15 through October 15.

Earthwork which has not been reseeded or otherwise protected by October 15th shall be "winterized" by one or more of the following:

a) Cover exposed earth with straw

b) Construct basins for silt retention

c) Conduct runoff through forest litter via sheet flow

Prior to reseeding all smooth or compacted surfaces shall be scarified or roughened.

DRAINAGE AND FLOOD CONTROL

Setting

Bear Valley contains a tributary drainage system which feeds into the North Fork of the Stanislaus River. In the northern part of the valley, individual drainages flow into Bear Lake, a 17-acre man-made reservoir used for recreation, open space, and domestic water supply. Outflow is carried through Bear Creek southward through a narrow valley that contains the existing village center, under Highway 4, and through a meadow where it is joined by Grouse Creek flowing from the northwest. The combined streams then join Bloods Creek. Three miles south of the project boundary, Bloods Creek empties into the North Fork of the Stanislaus River.

Bear Creek exhibits flow characteristics typical of Sierra streams with the exception that seasonal releases are regulated at the dam site. Peak discharges occur in May and early June as a function of snow runoff within the basin. Flows decrease in the summer and reach a minimum during autumn when groundwater accounts for a major source of supply to the creek. Flows during the winter months vary considerably depending on temperature.

Bear Lake has a capacity of 240 AF. Inundation Potential Map, following this page, shows the inundation patterns which

would result if Bear Lake Dam were to break and Bear Creek to flood. In general, flood waters could cover the entire open valley through which Bear Creek flows, as well as the meadow south of the Highway.

Impacts

Due to the nature of the area with heavy snowfalls sudden changes in temperature can cause flooding and over topping of creek banks. Flooding can cause minor earth slides with possible damage to adjacent structures, roadways and residents. The village center would be an obstruction to free flow and could create a backwater of about two feet higher than that which would occur if the buildings were not constructed. Due to scale the map cannot show the difference with or without the buildings.

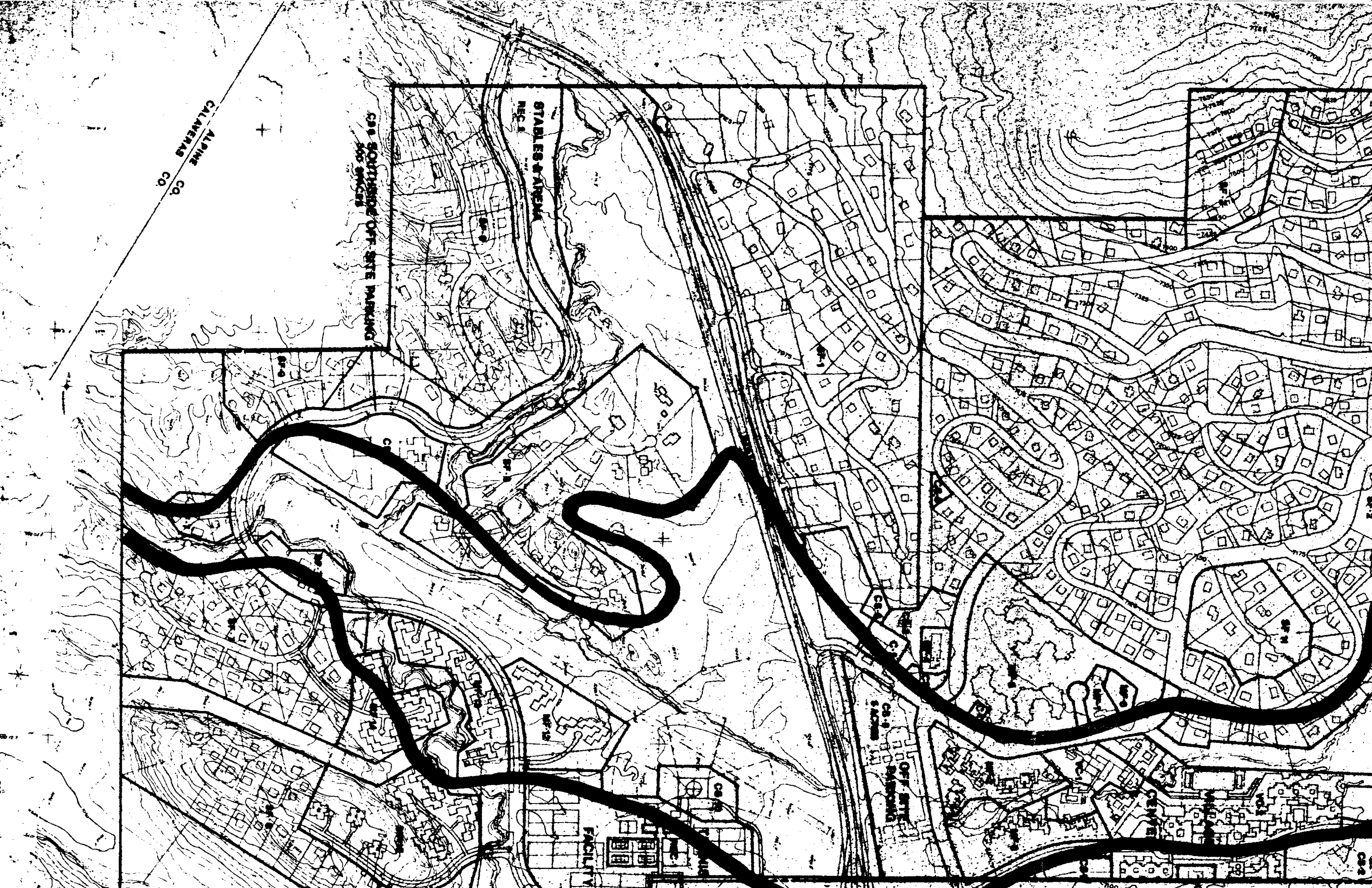
Possible loss of life and property damage could occur if Bear Lake Dam were to suddenly break and give away. The most serious damage would occur in and around the Village Center. Minor flooding would occur from State Highway 4 to the south boundary of the property. The initial wave at the Village Center could occur in about 2½ minutes and at the State Highway 2 minutes later. Three minutes later the wave would be beyond the end of the airport and be discharging out the southern edge of the area.

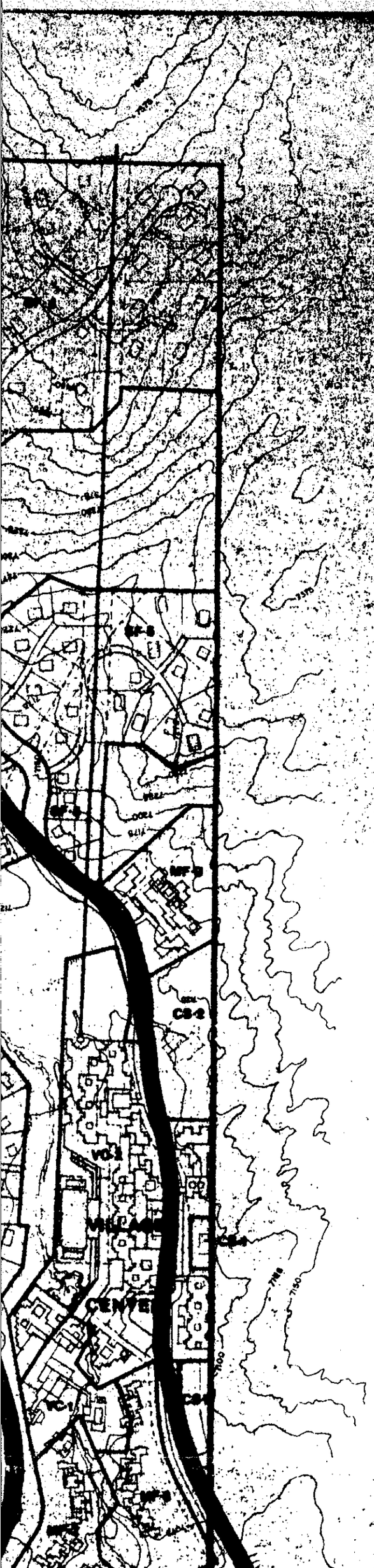
Mitigations

There is no mitigation to rapid snowmelt as nature will take its course.

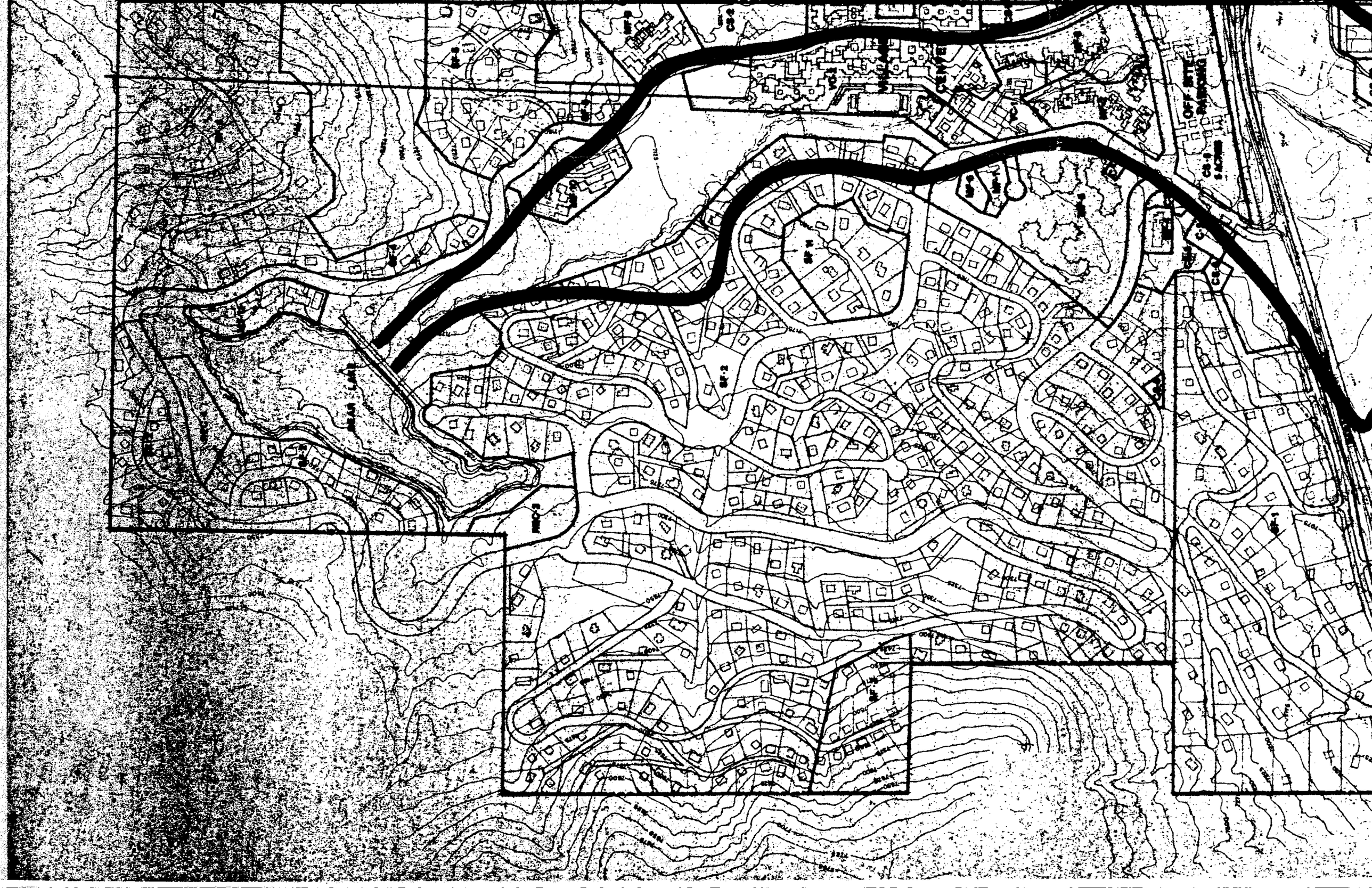
Dam failure will be closly monitored as the State of California - Division of Dam Safety has one of the best in-sepction programs in the world. Annual inspections are made by Dam Safety personnel with immediate follow-up in case of problems. The local water system operator visually inspects the dam and area daily and during springtime and spring thaw maintains the reservoir at a lower than full-safe elevation.

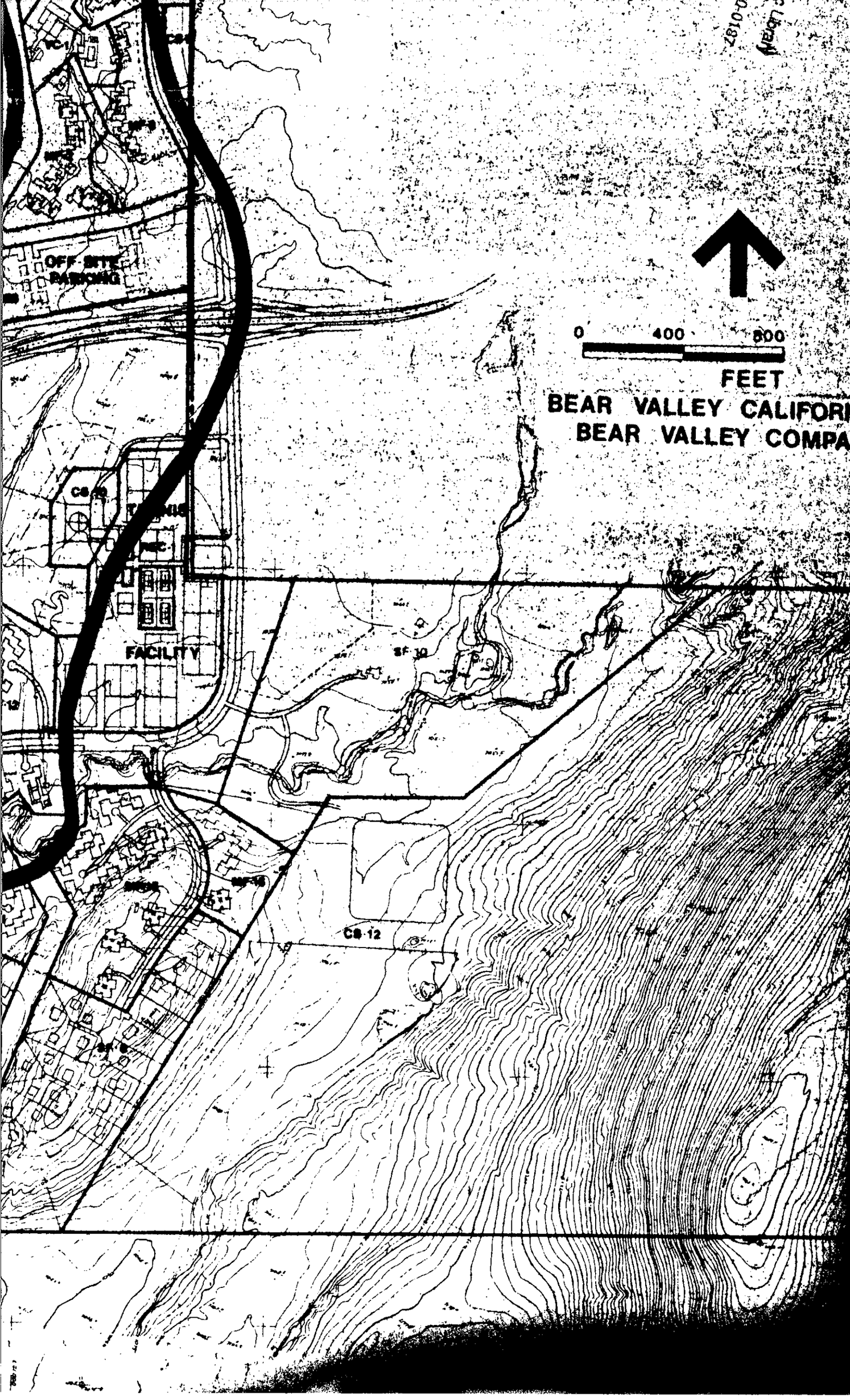
No living quarters should be allowed at ground level and commerical space should be limited to no more than 100 lineal feet of wall measured at right angle to the direction of water flow.


ALPINE CO.
CALAVERAS CO.
STABLES & ARENA
SOUTHSIDE OFF SITE PARKING
OFF SITE PARKING
FACILITY



INUNDATION POTENTIAL




OFF-SITE
PARKING
FACILITY
SF-10
CB-12
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FEET
BEAR VALLEY CALIFORI
BEAR VALLEY COMPA

VEGETATION

Setting

The distribution of vegetative communities in the Bear Valley area is shown on the map following this page. They include coniferous forest, meadows, barren areas, and riparian zones.

The coniferous forest is the predominant community in Bear Valley. Here the following conifers are dominant, comprising at least 95% of the overstory:

Mountain Hemlock	Western White Pine
Whitebark Pine	Lodgepole Pine
White Fir	Western Juniper
Red Fir	Jeffrey Pine

Grasses and shrubs are found as understory in the less dense stands of coniferous forest. They include:

Currents	Ceanothus
Gooseberries	Manzanita
Ragwort	

The meadows are a fragile community where a delicate balance exists between groundwater level, vegetative cover, and wildlife. Vegetative types found in the meadows include perennial grasses, annual grasses, sedges, rushes, broad-leafed herbs, and wildflowers.

Species found in the meadows in Bear Valley may include:

Tufted Hair Grass	Corn Lily
Bent Grass	Pickleweed
Meadow Barley	Cattails
Slender Oat	Elephant's Head
Soft Chess	Bracken
	Wooley Mules-Ears

Vegetation is limited in the barren areas due to lack of soil development. Some pockets of shallow soil exist within such areas and support stunted trees, Huckleberry Oak, Pinemat Manzanita, and a variety of grasses and herbs which are common in the surrounding vegetative communities.

The riparian community consists of vegetation confined closely to streams, lakes or their immediate vicinity. Characteristic species found here include:

Willows	Alumroot
Mountain Alder	Reedgrass
Aspen	Tufted Hair Grass

In Bear Valley, the climate has the greatest influence on growing conditions. The area is characterized by low mean temperatures with moderate to high precipitation, mostly in the form of snow. These two factors result in a very short growing season which makes restoration of vegetation after disturbance difficult, costly, and lengthy. The frost-free period in the area is estimated at 70 consecutive days per year.

Impacts

Native vegetation would be removed on approximately 28% of the project site with development. Approximately 85%-90% of the area which would be disturbed is covered by an intermediate density coniferous forest with 10-80% tree canopy closure. The project may cause the removal of up to 500 trees with diameter at breast height greater than 12". The remaining area which would be disturbed is open meadow.

The introduction of more people into the area, with development of the proposed project, would have an impact on vegetation retained within the development and vegetation in the surrounding Stanislaus National Forest.

Public use of vegetated areas could cause soil compaction which could in turn decrease infiltration of water to plant's root systems. Soil compaction and decreased availability of water could weaken plants and reduce their resistance to insects and disease. An increase in snowmobile use may be expected with the proposed development. Snowmobiles compact the snow which causes uneven melting in the spring. This is detrimental to vegetative cover and, in the more extreme cases of snowmobile over-use, scars are left in the vegetative cover underlying snowmobile trails.

Exotic vegetation may be brought into the area by new and existing residents for landscaping. This could introduce insect and disease hosts and organisms that might upset the balance of

Derivation: 80% of the multi-family & village areas could be affected or 80% x 63.6 acres = 51 acres
30% of the single family area could be affected or 30% x 155 = 47 acres.
Major roads, winter parking and tennis courts = 25 acres
This adds up to 123 acres out of 149 in the project or 27.6%.

native plants in the area. Maintenance of the new species could result in the artificial use of nutrients and water, which could create secondary impacts on surrounding vegetation.

Controlled burning, by residents of the proposed project, as a means of eliminating vegetative debris and litter could cause loss of soil stabilizing vegetation locally.

Construction of the proposed project may have a detrimental effect on vegetation retained within the development. Fills or paved areas may be placed over the root zones of trees which adjoin roads, parking lots, or structures. This practice could weaken such trees and make them more susceptible to disease and insect attack. Fills, grading, paving and building could change soil moisture conditions (i.e., a deep cut will lower surrounding moisture and a deep fill could raise moisture content), thereby altering water availability to surrounding plants. These types of activities (roads, etc.) usually increase runoff and reduce groundwater recharge, even though the ground is totally saturated during spring thaw.

Vegetation adjoining winter parking areas or roadways cleared in the winter will suffer from the impacts of snow removal, i.e., pushing, stacking, blowing and the use of sand and salt.

Mitigations

An effort should be made to limit the extent of vegetation disturbance within the proposed development. This could be accomplished, in part, with careful selection of building sites in order to preserve large conifers. Further mitigation to decrease the disturbed area could consist of concentrating more

living units into condominiums rather than planning for single-family lots spread throughout the area.

Sand and salt should be discontinued by County Service Area No. 1 in its snow program.

The impacts on vegetation associated with increased public use of the area should be mitigated in the following ways:

1) Well-marked hiking trails should be provided throughout the development and surrounding National Forest to limit the extent of soil compaction due to foot traffic. Railings should be built along the most environmentally sensitive portions of the trails, such as the meadows, to restrict wandering into these areas.

2) Snowmobile use throughout the development and the surrounding National Forest should be strictly limited to uncleared existing roads and well-marked snowmobile trails.

3) Enforcement of these trail regulations should be the responsibility of U.S.F.S. personnel and local police.

4) Information pamphlets should be developed and distributed to property owners and visitors advising them as to the environmental dangers and prohibitions via deed restrictions of leaving marked trails and walking through environmentally sensitive areas, and importing exotic plants for landscaping into Bear Valley.

5) Burning of vegetative debris should be limited to locations selected by the U.S. Forest Service and conducted only at approved times of the year.

Adverse impacts on vegetation due to construction of the proposed project should be mitigated in the following ways:

1) Groundwater recharge should be encouraged through the installation of leach trenches adjacent to developed areas (buildings, parking lots, roads). This would help mitigate the effect of loss of water availability for plants.

2) Prompt revegetation of disturbed areas should be a required condition for each phase of development. The water district has been fairly successful in revegetation of soils effected by trenching with use of a mixture of Blando Bromgrass, Wimmera Ryegrass, and Pubscent Wheatgrass which was recommended by the U.S. Forest Service.* Their practices should be used with prescriptions designed for each situation. This includes terracing, mulching, storage and respread of litter, fertilizing, seeding, planting and irrigation.

Each subsequent use permit for a development proposal should be accompanied by its own revegetation plan including, but not limited to, the foregoing elements. Grasses and forbes should receive first consideration in revegetation, while shrubs and trees should be selected for specific effects.

* See Appendix for specific mix

3) Development plans to be considered later, as the market warrants, should, if approved, be conditioned upon the following limits:

a. Cut and fill slopes should be limited to 4:1 within 50' of significant timber stands (i.e., where the density of trees 6" in diameter and over is greater than 200/acre.

b. Depth of cut in any meadow area should not exceed 3'.

c. Proximity of development (roads, parking lots, buildings) to existing trees which are left standing for ornamental effects should be no closer than the dripline.

Other mitigation measures to lessen the impact on surrounding vegetation should include the following:

1) Trees felled in clearing may be disposed of by cutting to cordwood-size for use by project residents so long as they are not infested by pine beetle.

2) County Service Area No. 1 should provide for an inspection of the forest cover at least every two years by a professional forester. This may result in periodic harvest of diseased, beetle-infested or dying trees to maintain a healthy forest stand.

3) Prohibition of importation of exotic vegetation has already been included in the design standards of the proposed development.

M
STATE HIGHWAY
OFF-SITE PARKING
CENTER
STABLES & ARENA
REC 2
CS8 SOUTHSIDE OFF-SITE
300 SPACES
CS 11
CS 10
TENNIS
REC-1
FACILITY
MF-12
MF-3
SF 11
SF-6
SF-7
Rx
CO.
SPRING MOVEMENT

VEGETATION

LEGEND:

Rx — OPEN ROCKY AREAS

RIPARIAN AREA

CONIFEROUS FOREST

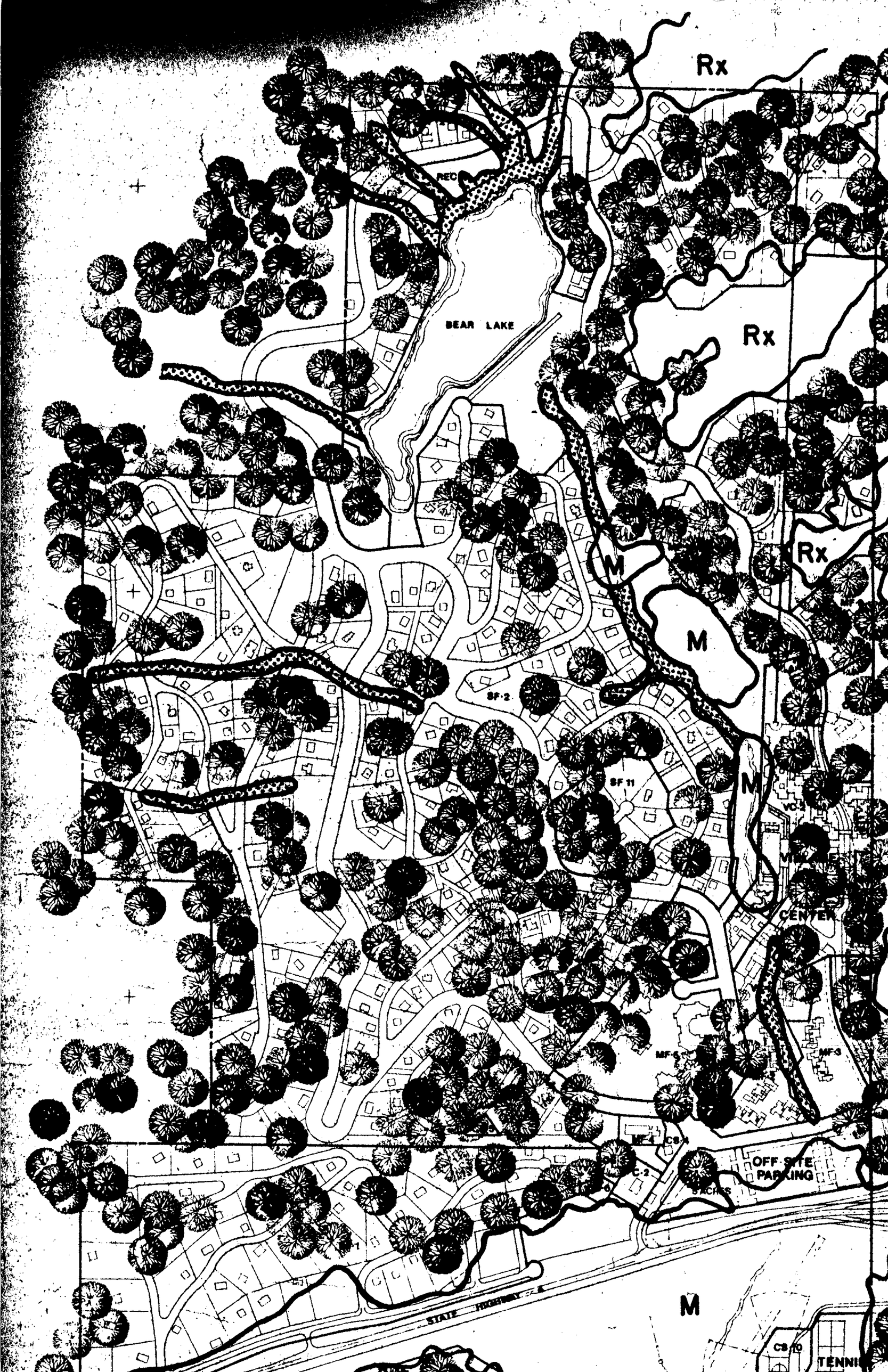
M — MEADOW

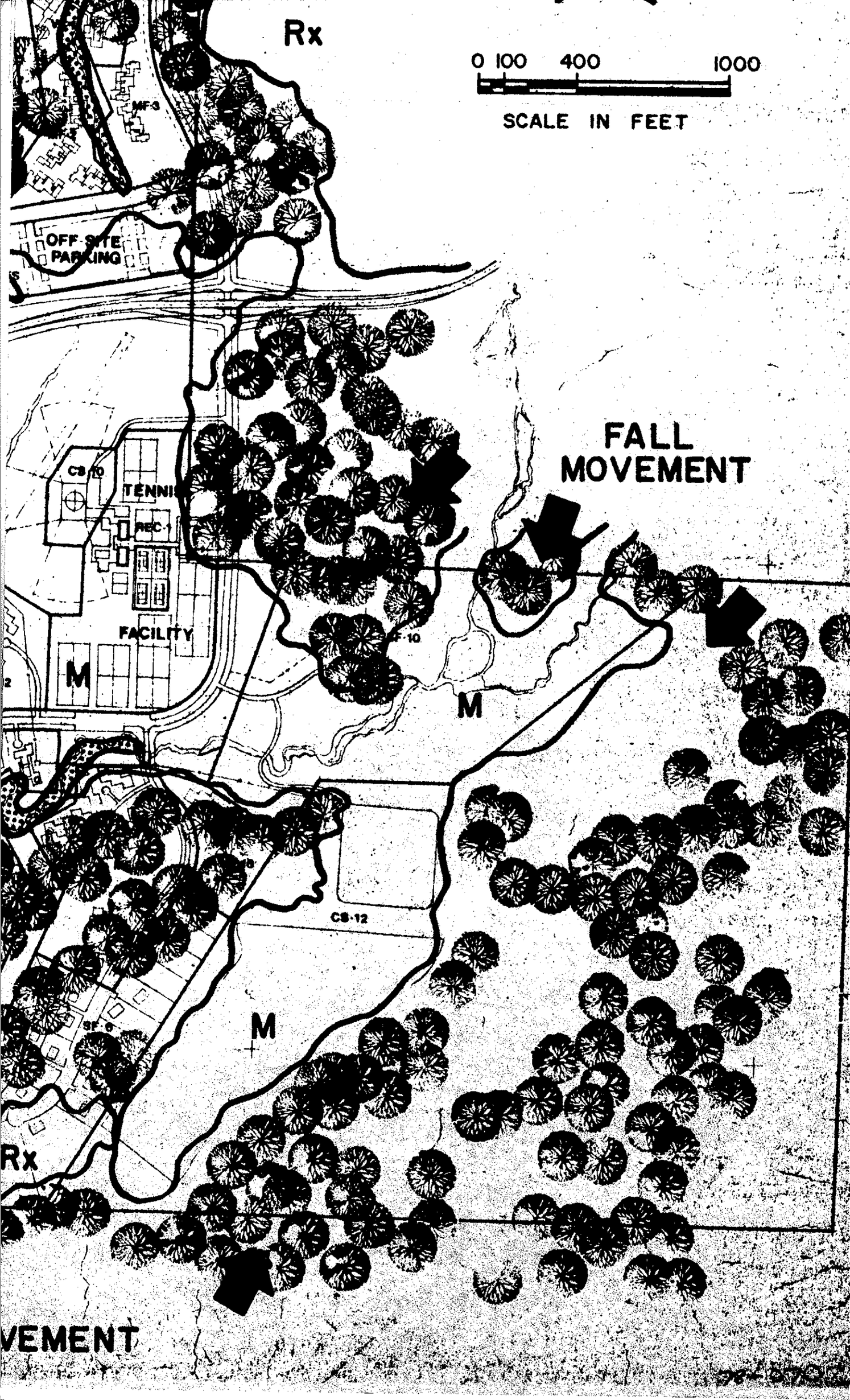
DEER MIGRATION ROUTES

N

0 100 400 1000

SCALE IN FEET


Rx
REC
BEAR LAKE
Rx
Rx
M
M
M
SF-2
SF 11
MF-6
MF-6
CS-1
C-2
OFF SITE
PARKING
M
STATE HIGHWAY
CS-1-0
TENNIS


Rx
0 100 400 1000
SCALE IN FEET
MF-3
OFF-SITE PARKING
FALL MOVEMENT
CS-10
TENNIS
REC
FACILITY
M
M
CS-12
M
Rx
VEMENT

FIRE HAZARD

Setting

The area is presently protected by the Bear Valley Volunteer Fire Department, which presently has three trucks, two with 500 gpm pumping capacity and the other on loan from the State at 1000 gpm pumping capacity. There are 10 volunteers all who reside in the Bear Valley area.

The fire station is located adjacent to the sheriff's office on Bear Valley Road just off State Highway 4. Response time to fire at the extremities of the project area are estimated at 5 minutes*in the summer and 20 to 30*in winter with over the snow fire equipment.

Fire hazard is high to severe during summer and early fall as conditions get extremely dry. Adjacent properties are entirely public lands and public trespass is common.

Impacts

Increased population will increase the potential number of fires as will the value of the losses increase.

On the other hand, the project will increase fire fighting capability in areas now unaccessible. This will be accomplished by constructing access roads and installing water systems complete with fire hydrants in accordance with PUC requirements. (PUC General Order #103).

* Source: Ted Merry - Fire Chief

Mitigations

Conditions of approval for each subdivision, commercial area or condominium project should give assurance that fire hydrants and water system will be installed to meet the requirements of General Order #103 and the local fire department. General Order #103 establishes the fire flows and the local fire department should establish by ordinance the type, location and spacing of hydrants. (See Fire Protection - Page 78)

WILDLIFE

Setting

Wildlife in the Bear Valley Area can be categorized according to habitat type which corresponds to vegetative community.

The coniferous forest habitat supports the following birds and mammals:

Pygmy Owl
Spotted Owl
Great Grey Owl
Woodpeckers
Flycatchers
Steller's Jay
Mountain Chickadee
Kinglets
Warblers

Badgers
Snowshoe Rabbit
Belding Ground Squirrel

Chipmunks
Grey Squirrel
Red Squirrel
Porcupine
Marten
Wolverine
Coyote

Black-tailed Deer
Deer
Black Bear
Mountain Lion
Bobcat

The meadow habitat supports:

Coyote
Black-tailed Deer
Black Bear (forage)
Yellow-Bellied Marmot
Long-tailed Meadow Mouse
White-footed Mouse
Deer Mouse
Mountain Pocket Gopher
Western Garter Snake
Western Rattlesnake

Many birds (summer visitants)
Pacific Tree Frogs
Lepidoptera spp.
Hymenoptera spp.
Snowshoe Rabbit
Badgers

The barren, rocky area habitat supports:

Rock Wren
Bushy-tailed Wood Rat
Cottontail
Western Fence Lizard
Sagebrush Lizard

North Alligator Lizard
Western Rattlesnake
Mountain Gopher
Pika
Yellow-bellied Marmot

and provides dens for:

Coyote
Fox
Raccoon
Marten

The riparian habitat supports:

Flycatcher	Cottontail
Gold Finches	Mice
Song Sparrow	Raccoon
Shrews	Frogs and other amphibians

Black bear and mountain lion both have low capability for withstanding disturbance to their natural habitats, but deer can tolerate some such disturbance. The small mammals which exist in the Bear Valley Area can all tolerate some disturbance to their habitat. The grey squirrel, however, has a narrowly restricted habitat and so is more vulnerable to disturbances than those which can survive in several different types of habitat. Wolverine are the medium-sized mammals that are intolerant of habitat disturbance. Marten may increase as indicated at Kirkwood. The birds that would be most affacted by human disturbances are the species that are limited exclusively to a single type of habitat. About 1/8 of the bird species in the Bear Valley Area reside in the single habitat type provided by the meadows.

The southern part of Bear Valley is known to include the migration route of the "Railroad Flat Deer Herd", composed of California mule deer. Each fall, this herd moves down from the higher elevations and passes through Bear Valley on its way to

winter browsing areas along the Stanislaus River (North Fork). The following spring, the same herd returns through the valley to higher meadows. The actual route taken by the deer is not a well-defined trail, but a general area that includes territory within the proposed development. Deer migration routes are shown on the preceeding Vegetation Map.

Bear Lake contains regularly-stocked Rainbow Trout and several other species of fish and consequently provides substantial sport fishing opportunities. The summer streams flowing through Bear Valley have Brown Trout, Eastern Brook Trout, as well as several minnow species, but these fish are limited in number and size due to lack of food and regulated stream flows.

Among rare and endangered wildlife species, the wolverine, the southern bald eagle and the American peregrin falcon are known to exist in the general vicinity of the project site, although none have actually been seen in Bear Valley. The cliffs above Bear Valley may be a habitat for nesting for American peregrine falcons.

Mountain lions, which could be considered a "unique" species, have been sighted in Bear Valley and Mt. Reba. Unique species are defined in the 1973 Rare and Threatened Species Act as not endangered, but having considerable local or national interest.

Impacts

A task force of the Tahoe National Forest evaluated the susceptibility of wildlife to environmental disturbances. Three ratings were used to show differing degrees of susceptibility to disturbance:

H = High capability to withstand the disturbance. Most species in this category showed little or no response to the disturbance.

M = The species can tolerate the disturbance, but the population trend turns downward. Most species receiving this rating responded unfavorably to the disturbance but could adjust; the exceptors were species having territorial traits.

L = Low capability to withstand disturbance. Most species in this category react; population trend is downward.

The following chart, which shows the reaction level of each wildlife category to types of disturbance, was adapted from the Tahoe study and would be indicative of impacts which might be expected in Bear Valley.

WILDLIFE CATEGORY

TYPE OF DISTURBANCE	LARGE MAMMALS	SMALL MAMMALS	MEDIUM-SIZED MAMMALS	BIRDS
Surface soil compaction, clearing and grading	L	M	L	M
Noise, population concentration	L	M	L	M
Insect and disease control; use of chemicals	H	M	M	L
Controlled burning	L	L	L	H

Most of the area which would be disturbed by the proposed development is coniferous forest habitat. Wildlife that cannot tolerate disturbance to their habitat, and that live in the coniferous forests in the general vicinity of Bear Valley are marten, wolverine, and grey squirrel. These mammals would be hardest hit by development of the proposed project. The meadow habitat would be disturbed to a lesser degree with development of the proposed project. Wildlife that cannot tolerate disturbance to their habitat, and that utilize the meadow habitats

in the general vicinity of Bear Valley are black bear, mountain lion, and many species of birds. These would be impacted to a lesser degree with development of the proposed project.

The exact effect of the proposed project on the Railroad Flat Deer herd migration has not been determined, however, residential development within the migration route is expected to disturb the herd to some extent. This meadow would be surrounded by houses, schools and condominiums with development of the proposed project.

Changes in stream channels, flow, and sedimentation could affect fish populations downstream from the project site.

In general, the overall effect of development of the proposed project would be a reduction in all animal and bird species in the immediate vicinity of the development. Hardest hit would be the large and medium-sized mammals.

Mitigations

1) Meadows and riparian zones should be avoided insofar as development of buildings, roads and parking lots are concerned. This would preserve areas of significant wildlife habitat and food production.

2) Since game is so dependent on habitat, the recommended mitigations in the Vegetation Section should be underscored (i.e., minimal cuts and fills, protection of root zones of trees, immediate revegetation of disturbed areas, etc.).

3) Under ALTERNATIVES, herein, a plan with more concentration of units, i.e., more apartments and condominiums as opposed to single-family lots is also studied. It concentrates human impacts (noise, paving, etc.) into a smaller area, thus preserving habitat, etc.

4) It is suggested that the property owners' association establish contact with the California Department of Fish and Game and request that they perform regular studies of wildlife populations in the vicinity of the development. The Department of Fish and Game should then inform residents of measures to be taken to correct undesirable trends.

5) Improvement of deer browse in the retained meadow and riparian zones should be a condition of new development.

6) Development should be limited in the area defined as deer migration routes. The establishment of the previously suggested trails and railings should be prohibited from crossing the deer migration routes.

AIR QUALITY

Setting

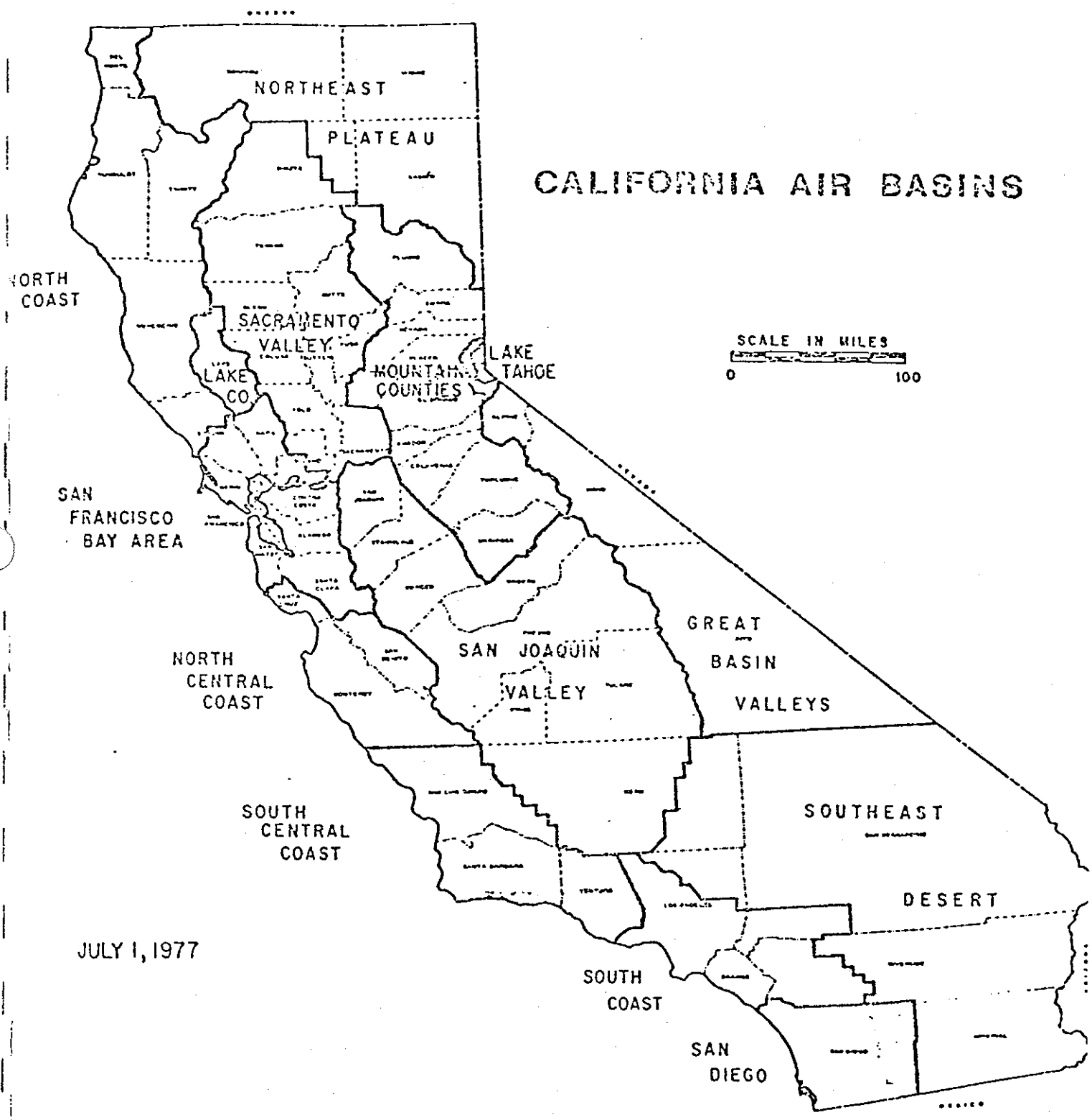
Politically, Bear Valley lies within the Great Basin Valleys Air Basin, as shown on the map following this page. The Great Basin Valleys Air Basin is part of the Great Basin, which includes the eastern portion of California (south of Tahoe), southeastern Oregon, Nevada, western Utah and the Mojave Desert. However, Bear Valley's location, on the western slope of the Sierras, makes the area's air quality more directly related to that of the California "Mountain Counties" Air Basin, which includes all the mountain counties from Mariposa north to Plumas.

Summer temperatures at Bear Valley range from a daytime average maximum of 73°F, to a nightime average minimum of 41°F. There are usually 70 frost-free days per year. Summer winds are usually light in the Bear Valley area. Air circulation patterns are strongly affected by terrain and consequently, are very complex. Inversions are normally shallow due to the good air drainage conditions to the southwest and prevailing westerly winds at this altitude (7000 ft.).

Winter temperatures at Bear Valley range from average daily highs of about 38°F. to average lows of 12°F.

In the winter, Bear Valley is in an area of moderate to heavy incidence of storms which result in moderate to heavy snowfall. Mean annual snowfall is about 445 inches. Occasionally,

FIGURE 1


CALIFORNIA AIR BASINS
NORTHEAST
PLATEAU
NORTH
COAST
SACRAMENTO
VALLEY
LAKE
CO
MOUNTAIN
COUNTIES
LAKE
TAHOE
SCALE IN MILES
0
100
SAN
FRANCISCO
BAY AREA
NORTH
CENTRAL
COAST
SAN JOAQUIN
VALLEY
GREAT
BASIN
VALLEYS
SOUTH
CENTRAL
COAST
SOUTHEAST
DESERT
SOUTH
COAST
SAN
DIEGO
JULY 1, 1977

a warm winter storm will cross the area from the southwest with temperatures at this altitude greater than freezing, and the precipitation will fall as rain. Annual record mean precipitation is about 48".

The favorable air drainage conditions toward the southwest from Bear Valley, the infrequent nature of calms in the area, and the distance from metropolitan areas, makes the air pollution potential at Bear Valley low. However, the results of increasing tourism in the area contributes further to vehicular pollutant emissions.

Regulatory agencies with jurisdiction over the area's air quality are the State Air Resources Board, and the Alpine County Air Pollution Control Board (a function served in this case by the County Board of Supervisors). The State and Federal governments have established ambient air quality standards which these agencies use in monitoring air quality. The California and Federal Air Quality standards are summarized in the table following this page.

No air quality measurements have been taken in the immediate vicinity of Bear Valley. The U.S. Forest Service will perform air quality studies in the immediate future, however, to determine if the expansion of the ski potential (hence vehicular trips, parking, etc.) is warranted at Mt. Reba. Their studies are expected to show that air quality is generally good in the are regardless of the skiers. At Kirkwood Meadows, approximately 16 miles north

TABLE V.38. AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA

Pollutant	Averaging Time	California Standards Concentration	Federal Standards Primary	Federal Standards Secondary
Photochemical Oxidants (Corrected for NO_2)	1 hour	0.10 ppm	0.08 ppm	Same as Primary Std.
Carbon Monoxide	12 hours 8 hours 1 hour	10 ppm - 40 ppm	- 9 ppm 35 ppm	Same as Primary Standards
Nitrogen Dioxide	Annual Average 1 hour	- 0.25 ppm	0.05 ppm -	Same as Primary Std.
Sulfur Dioxide	Annual Average 24 hours 3 hours 1 hour	- 0.04 ppm - 0.5 ppm	0.03 ppm 0.14 ppm - -	0.02 ppm 0.10 ppm 0.5 ppm -
Suspended Particulate Matter	Annual Geometric Mean 24 hours	60 mg/m^3 100 mg/m^3	75 mg/m^3 260 mg/m^3	60 mg/m^3 150 mg/m^3
Lead (Particulate)	30 day average	1.5 mg/m^3	-	-
Hydrogen Sulfide	1 hour	0.03 ppm	-	-
Hydrocarbons (corrected for Methane)	3 hours (6-9 a.m.)	-	0.24 ppm	Same as Primary Standard
Visibility Reducing Particles	1 Observation	Visibility to less than 10 miles when the relative humidity is less than 70%.	-	-

of Bear Valley, the following data was recorded in preparation for the "Kirkwood Meadows Ski Development, Air Quality Report."

"Particulates. High volume sampler measurements of particulates were made at both of the Kirkwood Meadow meteorological sites. There was little particulate matter in the air during the winter. The summertime levels ranged from 16 micrograms per cubic meter to 98.9 micrograms per cubic meter. The high value is close to the California Standard of 100 micrograms per cubic meter for a 24-hour averaging time. This value and other high levels were associated with locally raised dust caused by construction activity."

No measurements were made of carbon monoxide, hydrocarbons, nitrogen dioxide, sulfur or lead concentrations at Kirkwood Meadows.

Impacts

Activities associated with construction of the proposed project could degrade air quality locally. Dust, created in earthmoving activities and the removal of vegetation, would increase suspended particulate matter. The operation of construction and earthmoving equipment would increase vehicular emissions on the project site.

Secondary impacts on air quality with development of the proposed project are related to the influx of residents and tourists which the project would create. Projected emissions

from motor vehicles in the study area are estimated from vehicle miles traveled (VMT) projections.

During the summer, at full occupancy, residents of the proposed development are anticipated to generate approximately 40,500 vehicle miles travel per day.* According to tables A.3.B. and A.3.15. from Report Number ARB/EP-76001 of the California Air Resources Board, the emission rates for composite light duty passenger vehicles in 1977 was:

4.3 grams per mile of hydrocarbons

26.2 grams per mile of carbon monoxide

2.6 grams per mile of oxides of nitrogen

.13 grams per mile of SO_2 and SO_x

The increase in emissions from motor vehicles in the summertime, with completion of the proposed development, is therefore anticipated to be:

.19 tons/day of hydrocarbons

1.17 tons/day of carbon monoxide

* Basis:

Single-family units - 7 trips/day x 231 units	= 1617 trips/day
Condominiums - 5 trips/day x 649 units	= 3245 trips/day
Lodge - 4 trips/day x 500 units	= 2000 trips/day
TOTAL	6862 trips/day
20% westbound on Hwy. 4	= 1372 trips/day
20% eastbound on Hwy. 4	= 1372 trips/day
60% internal, shopping, recreational, other	= 4116 trips/day

Westbound, average trip length above 3,000' elevation = 22 miles x 1372 trips/day = 30,184 VMT/day

Eastbound, average trip length = 3 miles x 1372 trips/day = 4116 VMT/day

Internal, average trip length = 1.5 miles x 4116 trips/day = 6174 VMT/day

TOTAL VMT/DAY = 40,474

.12 tons/day of oxides of nitrogen

.006 tons/day of SO_2 and SO_x

During the winter, vehicle emissions would be generated by regular passenger vehicles and over-the-snow vehicles.

At full occupancy, residents of the proposed development are anticipated to generate approximately 29,300 vehicle miles traveled per day* by regular passenger vehicles. The increase in emissions from regular motor vehicles in the wintertime, with completion of the proposed development, is therefore anticipated to be:

.14 tons/day of hydrocarbons

.85 tons/day of carbon monoxide

.08 tons/day of oxides of nitrogen

.004 tons/day of SO_2 and SO_x

*Basis:

Single-family units - 4 trips/day x 231 units	=	924 trips/day
Condominiums - 3 trips/day x 649 units	=	1947 trips/day
Lodge - 3 trips/day x 500 units	=	1500 trips/day
TOTAL		4371 trips/day
50% Mt. Reba	=	2185 trips/day
20% westbound on Hwy 4	=	874 trips/day
30% internal, shopping, visiting, other	=	1311 trips/day

Mt. Reba average trip length = 4 mi x 2185 trips/day = 8740 VMT/day

Westbound on Hwy. 4, average trip length above 3000' elevation = 22 miles x 874 trips/day = 19,228 VMT/day

Internal, average trip length = 1.0 miles x 1311 trips/day = 1311 VMT/day

TOTAL VMT/DAY = 29,279

Residents of zones 1, 2, and 3 of the proposed development, as defined in the Transportation Section, are anticipated to generate approximately 1060 vehicle miles traveled per day* by snowmobiles.

Assuming snowmobiles generate approximately 8% of the emissions per vehicle mile as regular vehicles, the emission rates would be:

.344 grams per mile of hydrocarbons

2.096 grams per mile of carbon monoxide

.208 grams per mile of oxides of nitrogen

.010 grams per mile of SO_2 and SO_x

The increase in emissions from snowmobile use with completion of the proposed development is therefore anticipated to be:

.0004 tons/day of hydrocarbons

.002 tons/day of carbon monoxide

.0002 tons/day of oxides of nitrogen

< .0001 tons/day of SO_2 and SO_x

* Basis:

Single-family units - 4 trips/day x 94 units	=	376 trips/day
Condominiums - 3 trips/day x 110 units	=	330 trips/day
TOTAL TRIPS PER DAY		706
Average trip length 1.5 miles x 706 trips/day	=	1059 VMT/day

At the high altitudes of Bear Valley, automobile efficiency is reduced, resulting in an increase in emissions. Tons per day of pollutants, as projected, may be slightly higher than that which would actually be expected due to this loss in efficiency.

A degradation in local air quality is also expected with the increase in wood fires which can be expected with development of the proposed project.

Carbon monoxide modeling for the project site reveals projected roadside, local, and regional concentrations of carbon monoxide resulting from development of the proposed project. These projections are based upon emissions from winter traffic flows and fireplace burning. Computation sheets and project impact summary forms are in the Appendix of this report. As can be seen from the summary form, the highest 8-hour averaging time concentration occurs on a local basis. Concentration of carbon monoxide has been projected at 1.68 ppm.* This falls well below the Federal Standard of 9 ppm. The highest 1-hour averaging time concentration occurs on a roadside basis. This concentration has been projected at 5.94 ppm.** This falls well below the State and Federal Standards of 40 ppm and 35 ppm respectively.

* $\frac{1955\ \mu g/m^3 \times .02404}{28} = 1.68$ ppm

** $\frac{6918\ \mu g/m^3 \times .02404}{28} = 5.94$ ppm

Mitigations

The increase in suspended particulate matter anticipated with construction should be minimized by the use of water trucks in construction sites for dust suppression.

The continued implementation of emission standards for internal combustion engines should help mitigate any adverse effects on air quality which may result from development of the proposed project.

Strategies to reduce automobile emissions by reducing the number of trips by private automobiles should be encouraged in this area. This would help to mitigate any cumulative adverse effects on air quality in this area from the proposed development. Strategies should include implementation of a bikeway plan and the creation of bike paths within the proposed development. These paths could be used as cross-country ski trails in the winter, while uncleared roads could be designated for snowmobile use.

A shuttlebus system could be implemented throughout the development. In the summer, it would primarily provide transportation to the village center and the recreational areas from the residential portions of the development. In the wintertime, it would provide access to the parking lots, village center, and ski lift along all cleared roads. A shuttlebus system such as this could be operated and maintained by the County Services Area. If fees were charged for use of the shuttlebus, to help mitigate the costs of operation, these should be low enough to encourage widespread use.

More efficient wood burning stoves should be encouraged over the use of fireplaces, particularly in the condominium developments.

WATER QUALITY

Setting

Various studies of the water supply and distribution systems have been conducted in Bear Valley. In the course of the investigations, the consultants have found that Bear Valley has a relatively clean watershed upstream of its springs and reservoirs and is sparsely inhabited.

Bacteriological records at that time met drinking water standards. Based on current EPA regulations Bear Lake exceeds the secondary standards for both Iron and Manganese. Secondary Standards may be objectionable but are not generally hazardous to health. There is some local contamination due to the chemical composition of indigenous soils and bedrock and from livestock. Some areas of the development are served by septic tanks. Bear Valley Water District Ordinances require all new homes to be connected to the sewer system and all existing homes to be connected by 1980. All of the area is now capable of being served by the sewage treatment plant.

The quality of water related to suspended solids in Alpine County is excellent as a result of low erosion activity and that the surface water quality is excellent, having less than 110 mg/l of dissolved solids. This compares favorably with the State Health Department and Environmental Protection Agency standards for drinking water under which the maximum concentration for total dissolved solids is 500 mg/l. Ironically

in 1971 the springs had the highest concentration of 72 mg/l while the lake and streams had 46 mg/l. The limited water quality data for Bear Valley show that composite constituents sampled, are well below the established standards for drinking water. This is not to be taken that water can be consumed.

Impacts

New construction can cause erosion and siltation to accelerate thereby decreasing the water quality.

Areas denuded of soil cover could be a source of dust and eventually being washed to local streams and gulches.

Runoff from parking areas, streets and roof drains will carry pollutants to the stream and will cause a decrease in water quality.

The mere presence of people to the basin can decrease water quality depending upon their activities.

Mitigations

Construction activities will be required to use water as a dust palative and maintain moisture in the ground to minimize blowing dust.

Following any construction all disturbed areas to be planted with native grasses and drainage facilities installed to minimize erosion and potential siltation.

Where possible roofs should be constructed using natural woods eliminating contact between weather and oil or tarred roofing products. Drains should be used, where possible, to eliminate ground splatter and erosion. Concrete or native rock energy dissapators could be used along all drip lines to minimize erosion.

Sand traps and leaching beds should be constructed to accept runoff from each parking area. Sand traps should be able to accept and store 20 cubic feet of sand without overflowing into leach fields. Fields should be a minimum of 25 feet long and 2 feet wide.

NOISE

Setting

Traffic is the largest contributer to noise levels in Bear Valley. The section herein on Air Quality states that the average daily traffic (A.D.T.) on State Highway 4 is 1600 vehicles west of Bear Valley and 1950 vehicles at the Mt. Reba turnoff. Peak hourly traffic was reported as 190 and 160 respectively for these locations.

Assuming a 50 mph speed and a peak hour flow along Highway 4 at Bear Valley of 180 vehicles, sound level readings of 73 dBA* 100' from the roadway** can be expected.

Traffic volumes within the existing development are estimated at about 1500 vehicles per day in the vicinity of the service station and would, under summer conditions, produce about 65 dB(A)at a distance of 100' from the roadway. Sound level measurements taken 50' from the lodge entry road on April 20, 1978 in mid-afternoon yeilded 48 L_{10}dB. This was during an abnormally low use day.

Alpine County has adopted a "Noise Element" as a part of its General Plan. The following are excerpts from this plan.

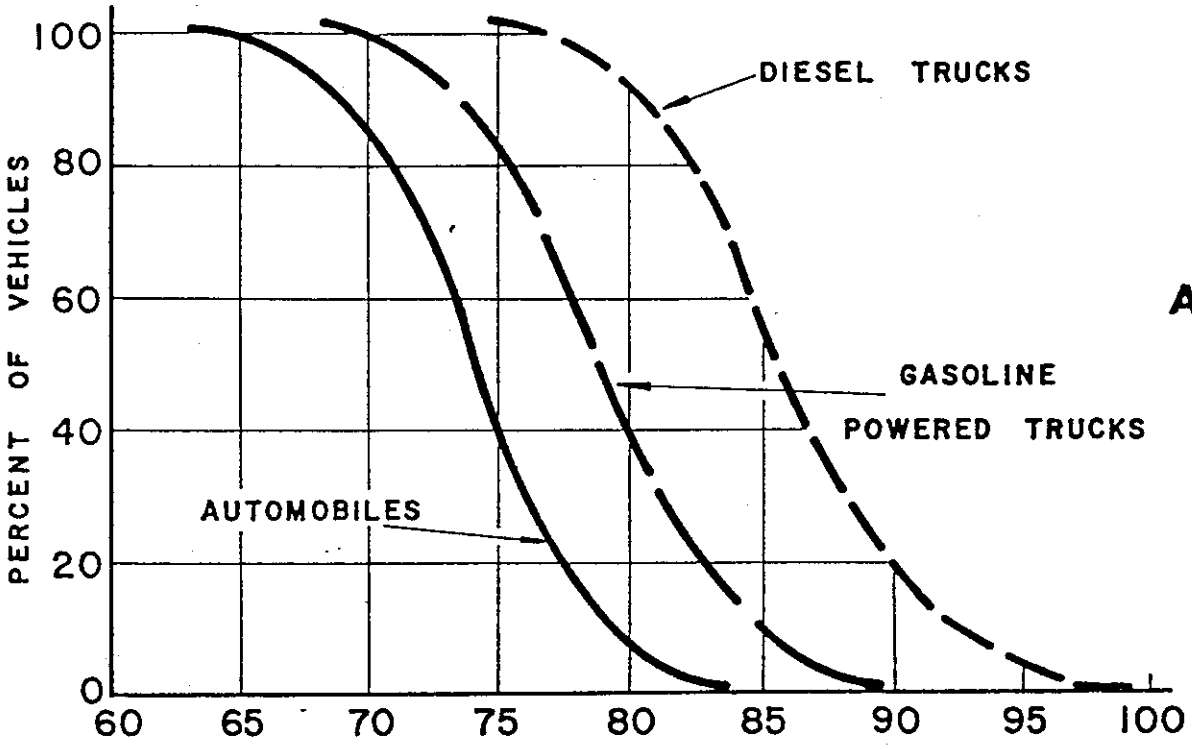
* Sound intensity expressed in decibels and weighed to conform with the human ear.

** See chart following this page

CUMULATIVE DISTRIBUTION OF HIGHWAY VEHICLES VERSUS NOISE LEVEL

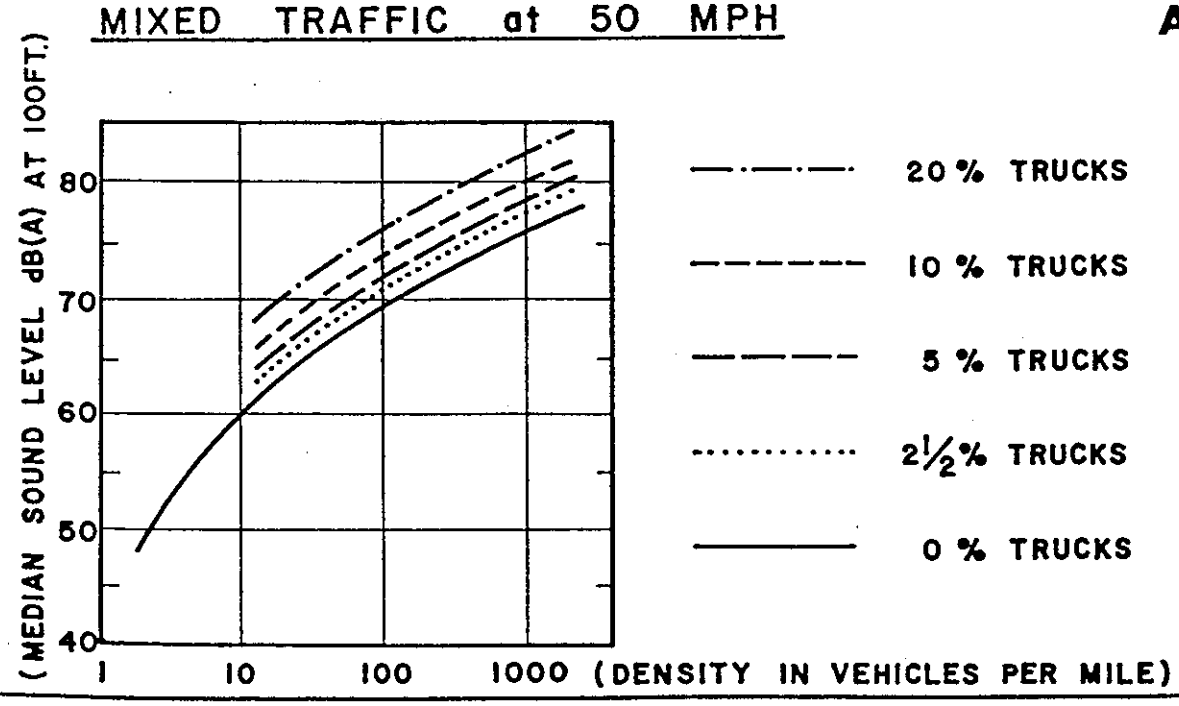
EXHIBITS A-2, 3

A-2



MEDIAN NOISE LEVEL ESTIMATES OF MIXED TRAFFIC at 50 MPH

A-3



"The intensity of sound, or noise, as detectable by the human ear, is measured in "decibel" units. For purposes of this element, the A-weighted decible unit, DB(A), as registered on commercial sound level meters, is used in relation to surface noises."

"1. Highway Design Standards. The following is a summary of Federal standards for use in the design of roads and highways which are applicable with minor variations in California, and which are proposed element guides. (Ref: U.S. DOT PPM 90-2, Feb. 8, 1973, Appendix B-4)."

Land Use Category	Design Noise Level - L_{10}
A. Unique and unusual tracts of land in which serenity and quiet are of extraordinary significance and preservation of those qualities is essential if the area is to continue to serve its intended purpose.	60 dBA (Exterior)
B. Residential areas, schools, churches, libraries, hospitals, and so forth.	70 dBA (Exterior)
C. Other developed land not included in (A) and (B) and generally constituted by urbanized business or industrialized areas.	75 dBA (Exterior)
D. Special condition sites, areas, or activities. The design noise level should be established, based on the merit of the specific case and an analysis of the acceptable level.	(Exterior or Interior)

"2. Land Use Classification Standards. The following standards are proposed as generally desirable ambient exterior noise level guides to be used together with other basic plan elements and in the future planning and location of noise-sensitive land uses and developments in relation to noise generating uses and facilities."

Land Use Classification		Desired Ambient Level, dBA
Residential, rural-suburban:	10 PM to 7 AM	40-45
	7 AM to 10 PM	45-50
Residential, suburban:	10 PM to 7 AM	45-50
	7 AM to 10 PM	50-55
Residential, low density urban:	10 PM to 7 AM	50-55
	7 AM to 10 PM	55-60
Residential, med/high density:	10 PM to 7 AM	55-60
	7 AM to 10 PM	60-65
Commercial zones, districts:	10 PM to 7 AM	65
	7 AM to 10 PM	70
Industrial zones, districts:	24 hours	75

"The above standards are intended to be applied with careful attention to the particular City or County area conditions, such as size and nature of development and expansion area, mixture of uses and spacing of mixed uses, present ambient levels, etc."

"The following are summarized noise level standards established by the Department of Housing and Urban Development for residential mortgaging estimates, construction projects and new housing."

General External Exposures, dBA	*NEF ZONES, Airport Environs
1. Unacceptable:	
a. Exceeds 80, 60 min. per 24 hours	Greater than 40*
b. Exceeds 75, 8 hours per 24 hours	

* Noise Exposure Forecast

2. Discretionary, Normally Unacceptable:

a. Exceeds 65, 8 hours per 24 hours	Between 30* & 40*
b. Loud repetetive sounds on site	

3. Discretionary, Normally Acceptable:

a. Does not exceed 65 more than 8 hours per 24 hours	Less than 30*

4. Acceptable:

a. Does not exceed 45 more than 30 minutes per 24 hours	Less than 30*

"Because the foregoing HUD standards also apply to FHA financing of residential housing, they must be given particular attention and be related closely to the preceeding land use classification standards if and when a local jurisdiction considers application of non-transportation noise regulations."

The foregoing discussion applies primarily to summer conditions. In the winter, when snow is on the ground, the chief noise source is the snowmobile used for over-the-snow transportation. In the village area, however, the auto is still the largest source of noise.

Impacts

Traffic volumes anticipated when the proposed development is built out (about 20 years) have been estimated at 6,500 vehicles per day**on Highway 4. Assuming a peak hour of 12%, or 780 vehicles, noise levels would increase to 77 dBA at a distance of 100' from the roadway as shown by the table referred to earlier. This level is greater than that recommended in the Noise Element of the Alpine County General Plan for the proposed land use.

* Noise Exposure Forecast
** Assumes 5% growth and complete buildout of Bear Valley

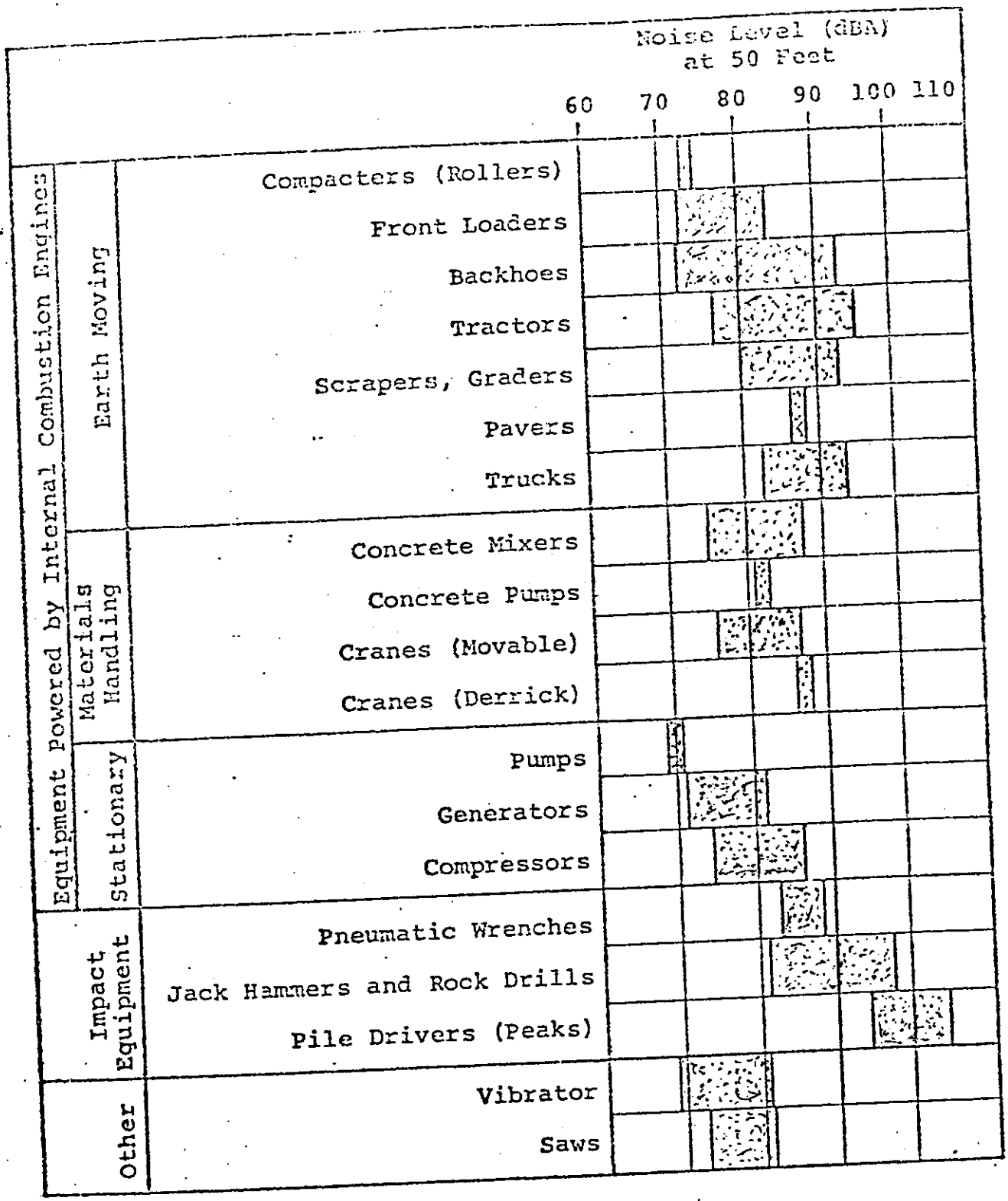
The project would have an impact on itself due to traffic generated noise in the vicinity of the village. Here, average daily traffic is expected to reach 4000-5000 vehicles or 600 vehicles during the peak hour (12% of ADT). With reduced speeds, this traffic would produce noise levels of 68 dBA along the road from the highway to the village. This level is greater than that recommended in the Noise Element of the Alpine County General Plan for the proposed land use.

Traffic beyond the village, in the existing and proposed new tracts, would disperse rapidly and the associate noise levels would be within allowable limits set forth in the General Plan.

For a period of about twenty years, development of one section or another of Bear Valley would take place. This would require the presence of construction equipment which produces noise. Noise levels of various types of construction equipment are shown on the table following this page.

During the winter, when most of the transportation associated with the site is over-the-snow, an increase in noise from snowmobiles would be expected with the proposed development. An increase in snowmobile use for recreational purposes in the vicinity of the proposed development would be expected with development of the proposed project. This would increase noise levels in the surrounding areas.

CONSTRUCTION EQUIPMENT NOISE LEVELS



Source: Bolt, Beranek, and Newman, 1971

Mitigations

While the Noise Ordinance proposed in the County General Plan may be effective in other parts of the County, and even in Bear Valley in the summer, it is not expected to be effective against snowmobile noise during the winter in Bear Valley. It is therefore suggested that educational or even legal methods be initiated to prevent the use of snowmobiles which are not properly equipped with mufflers. Snowmobile use for recreational purposes in the surrounding National Forest should be strictly limited to well-marked trails to limit the extent of increased noise levels.

Speed limits of 25 mph should be maintained throughout the development to assist in maintaining low noise levels.

AESTHETICS

Setting

Bear Valley and its rock-faced upper slopes, as seen by motorists traveling on Highway 4, would be classified as follows according to the system set forth in "National Forest Landscape Management, Volume 2", a publication by the U.S. Forest Service.* This Forest Service publication is one of the best in the field for determination of land management for aesthetically sensitive areas.

Analysis of the landscape as seen from Highway 4 would place the meadows in Variety Class C, the partially forested slopes in Variety Class B, and the rocky skyline areas in Variety Class B. The table hereunder shows Variety Class elements of the U.S.F.S. classification system referred to above.

	CLASS A Distinctive	CLASS B Common	CLASS C Minimal
Landform	Over 60 percent slopes which are dissected, uneven, sharp exposed ridges or large dominant features.	30-60 percent slopes which are moderately dissected or rolling.	0-30 percent slopes which have little variety. No dissection and no dominant features.
Rock Form	Features stand out on landform. Ususual or outstanding, avalanche chutes, talus slopes, outcrops, etc., in size, shape, and location.	Features obvious but do not stand out. Common but not outstanding avalanche chutes, talus slopes, boulders and rock outcrops.	Small to nonexistent features. No avalanche chutes, talus slopes, boulders and rock outcrops.

* See Appendix

	CLASS A Distinctive	CLASS B Common	CLASS C Minimal
Vegetation	High degree of patterns in vegetation. Large old-growth timber. Unusual or outstanding diversity in plant species.	Continuous vegetative cover with interspersed patterns. Mature but not outstanding old-growth. Common diversity in plant species.	Continuous vegetati cover with little o no pattern. No understory, over story or ground cover.
Water Forms, Lakes	50 acres or larger. Those smaller than 50 acres with one or more of the following: (1) Unusual or outstanding shoreline configuration, (2) reflects major features, (3) islands, (4) Class A shoreline vegetation or rock forms.	5 to 50 acres. Some shoreline irregularity. Minor reflections only. Class B shoreline vegetation.	Less than 5 acres. No irregularity or reflection.
Water Forms, Streams	Drainage with numerous or unusual changing flow characteristics, falls, rapids, pools and meanders or large volume.	Drainage, with common meandering and flow characteristics.	Intermittent strea or small perennial streams with littl or no fluctuation flow or falls, rapids, or meandering.

According to "National Forest Landscape Management, Volume 2" the "Variety Class" must be coupled with the "Sensitivity Level" of persons who are traveling through an area in order to determine a "Management Objective" or suitable use for the land in question. The Bear Valley Area which would be developed can be measured by Forest Service Sensitivity Standards as shown on the next page.

SUMMARY TABLE FOR ALL SENSITIVITY LEVELS:

	SENSITIVITY LEVEL		
USE	1	2	3
Primary Travel Routes, Use Areas, and Water Bodies	At least 1/4 of users have MAJOR concern for scenic qualities	Less than 1/4 of users have MAJOR concern for scenic qualities	
Secondary Travel Routes, Use Areas, and Water Bodies	At least 3/4 of users have MAJOR concern for scenic qualities	At least 1/4 and not more than 3/4 of users have MAJOR concern	Less than 1/4 of users have MAJOR concern for scenic qualities.

Areas visible from Highway 4 would fall within Sensitivity Level 1 since Highway 4 has been designated a "scenic highway" in that area. These Sensitivity Level 1 areas would include the meadow on the south side of the highway, the foreground meadow on the north side of the highway, and the sparsely vegetated slopes surrounding Bear Valley north of the highway. Areas which would not be visible from Highway 4 would fall within Sensitivity Level 2. These Sensitivity Level 2 areas include the more densely forested portions of Bear Valley, and areas shielded from the highway by forested areas.

Knowing the Variety Class of the landscape and the Sensitivity Level of the observers, "Management Objectives" can be determined for the landscape according to the following table from the U.S.F.S. publication.

SENSITIVITY LEVEL*

Variety Class	fg1	mg1	bg1	fg2	mg2	bg2	3
Class A	R	R	R	PR	PR	PR	PR
Class B	R	PR	PR	PR	M	M	M MM
Class C	PR	PR	M	M	M	MM	MM

The foreground meadows and middleground slopes showing Sensitivity Level 1 with Variety Class C and B respectively would thus be suitable for partial retention management. Here, alteration activities should remain visually subordinant to the characteristic landscape. Activities may repeat form, line, color, or texture common to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, pattern, etc. should remain subordinant to the visual strength of the characteristic landscape.

The middleground forests and the areas they shield and background forested slopes showing Sensitivity Level 2 with Variety Class B would be suitable for modification management. Here, activities may visually dominate the original characteristic landscape. However, activities of vegetation and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such scale that its visual characteristics are compatible with the natural surroundings.

* In this chart:

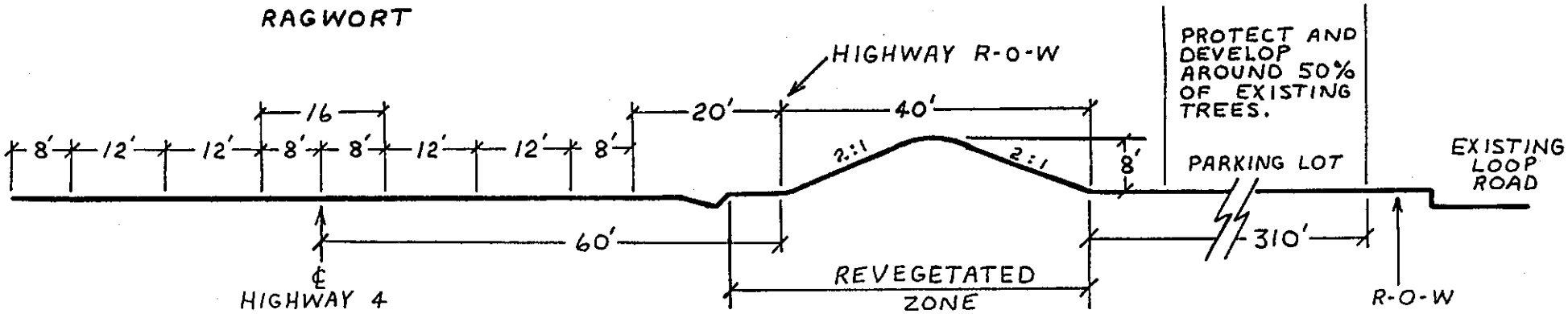
fg	= foreground	R	= retention
mg	= middle ground	PR	= partial retention
bg	= background	M	= modification
		MM	= maximum modification

CROSS SECTION OF SUGGESTED VEGETATION BERM.

WITH HWY. 4 WIDENED TO 4 LANES

NOTE: VEGETATION TYPES TO INCLUDE -

CURRANTS CEANOTHUS
GOOSEBERRIES MANZANITA
RAGWORT



Impacts

The parking area adjacent to Highway 4, as proposed, would not meet the Management Objectives for the landscape as previously defined, nor would it meet the County's previously established 200' setback along this route. The parking areas would remove trees that now screen the Creekside condominiums on from Highway 4.

Development in the areas which should be managed for partial retention could introduce buildings which would not conform with the landscape. Colors used on proposed structures within both the partial retention and modification management areas may clash with existing natural color.

The project may cause removal of up to 500 trees with diameters, at breast height, greater than 12". Grading for roadways, particularly on the higher slopes, may leave scars that would be visible for a number of years after construction.

The overall visual effect of the project would be to change the area south of the highway from a meadow and forest scene, to one which includes the intrusion of some buildings and roadway cuts.

Mitigations

Retention of the meadow south of the highway as proposed in the development plan, would help to mitigate the impact on visual quality due to construction of structures in the following land use zones: SF-8, 9; MF-12; CS-10 and REC-1.

Consideration should be given to reducing the number of tennis courts and concentrating more dwelling units into condominiums rather than single-family dwellings.* This would limit the extent of the impact while providing the same number of dwelling units.

New buildings should borrow from naturally established form, line, color, or texture so completely and at such a scale that their visual characteristics are those of natural occurrences within the surrounding area or character type. Architectural standards** have been adopted to reach this goal and an architectural committee has been set up to enforce the standards.

Tree removal should be kept to a minimum and specific development plans for commercial and condominium areas should show the location, dripline, and apparent physical condition of each tree on the site with a diameter greater than 12". Cut and fill slopes and disturbed areas should be revegetated according to guidelines set forth in the Vegetation section.

A vegetated berm for sound deadening and visual screening should be designed by a landscape architect for use along Highway 4 to screen the proposed parking lot. An example of such a berm is shown in cross-section on the sheet following this page.

All electric power and telephone service should be underground.

* See the section on Alternatives herein
** See Appendix

HISTORY

Setting

The area now known as Alpine County was for centuries the domain of the Washoe Indians, a semi-nomadic tribe who visited the higher elevations around Bear Valley to hunt and fish in the summers. Grinding holes used to crush acorns can be found in exposed granite formations around Bear Valley, and there are still Washoe decendants living in Alpine County.

The first white men to pass through Bear Valley were probably Jedediah Smith and his companions, who pioneered the passage through the Sierra Nevada in 1872 at the point now called Ebbetts Pass. Kit Carson was in the area as early as 1839 and accompanied John C. Fremont's 1844 expedition over the Sierra Nevada crest from a point near Markleeville. In 1850, after the California Gold Rush had opened the High Sierra to prospectors, Major John Ebbetts, for whom the pass was later named, visited the area for the first time. In 1853, he returned to survey the pass for the Atlantic and Pacific Railroad Company. With further discoveries of rich gold and silver veins in the late 1850's and early 1860's along with the attraction of the Calaveras Big Trees, Alpine County boomed. Its population peaked at 11,600 in 1864.

One newcomer to Bear Valley, then known as Grizzly Bear Valley, was Harvey S. Blood, who in 1864 was authorized to collect tolls from users of the Big Tree - Carson Valley Turnpike,

now State Highway 4. Bloods Ridge, Bloods Meadow, Bloods Creek, and Mt. Reba were all named after this local personality and his daughter Reba.

Lumbering became an important industry in the area in the 1860's and 1870's in response to the demand for firewood to drive mine machinery and timbers for mine tunnels. The boom came to an end, however, with the demonetization of silver in 1873, and the population steadily dwindled until by the 1920's it averaged only around 300. One of these was Monty Wolf, legendary thief, hermit and trapper who settled in Bear Valley in the 20's.

In 1952 a central California ranching family W.S. Orvis and Sons purchased Bloods Meadow and the rest of the private land in Bear Valley for use as summer pasture for their cattle. It was purchased from the Bishop estate which had originally purchased Bloods Meadow as a dam and lake site. This lake, like Lake Alpine would have been drained each year as the water was released downstream to the hydro-electric generator.

In subsequent years the Orvis family obtained an additional 400 acres of adjoining land from the Stanislaus National Forest through a land exchange, bringing their total holdings to about 870 acres. This is the current extent of the Bear Valley boundary.

The Bear Valley Development Company was organized in the early 1960's by Bruce and Jim Orvis, along with other members of the Orvis family and close friends and business acquaintances. Since 1965, when the first homesites were offered for sale in

the valley, the pace of growth has been relatively slow up to its present state.

The community at present consists of approximately 200 single-family homes, 148 condominium and apartment units and 75 lodging rooms in two lodges. There is commercial space of roughly 25,750 square feet, including 10,000 square feet adjacent to the main lodge, restaurants in both lodges, a transportation center and a service center. Community facilities include an elementary school for grades 1-8, a newly completed sewage treatment plant, fire station, post office, substations for PG&E and PT&T, and a sheriff's office. Recreation facilities include horseback riding, pack trips, tennis, swimming, fishing, boating, biking, skiing, cross-country skiing, hunting, 4-wheeling, photography, bird-watching, etc.

This existing development and other development as yet unbuilt, was approved by the Alpine County Planning Commission in 1967. At that time the land north of Highway 4 was changed from A-6 (agricultural) zone to R-1 (residential) and subsequently to planned development (PD) zone, with development to be controlled by the Bear Valley Master Plan. The sewerage treatment facility and tennis courts, south of Highway 4 were rezoned to PD also. Under that zoning plan, the Use Permit (No. 8) was issued for the master plan, and subsequent permits were issued for sepcific projects (See Table 1, Record of Approved and Existing Housing units). 518 single-family residential lots were subdivided and

sold, 1048 condominium and apartment units and 76 lodging units were approved for construction, of which 148 apartment/condo units and 76 lodging units were actually built.

Table 2 is a chronology of County actions which affected development at Bear Valley.

TABLE 1: RECORD OF APPROVED & EXISTING HOUSING UNITS

Project	Acres	No. Units Approved	Date of Approval	Units Built or Lots Subdivided
Alpine Village	6.3	80	1967	none(a)
Club Mediteranee	3.36	330 rms.(g)	1968	none(a)
Creekside 1 & 2	8.0	180	1971,72	112(b)
Condo Bear	0.7	27(g)	1972	16(c)
Employee Apts.	0.7	31(g)	1972	20(d)
Pinetree	10.4	300(g)	1973	none(e)
East Side Condos	n/a	100	(see note f)	none
Total Multi-Family		1048		148
Old Bear Valley Subdivision	52.8	59 lots	1965	59 lots
Bear Valley Sub.	200.0	389 lots	1965	389 lots
East Side Homesites	n/a	70 lots	(see note f)	none
Total Single-Family		518 lots		448 lots
The Lodge	2.5	62 rms.	1967	62 rms.
Red Dog Lodge	.1	14 rms.	1967	14 rms.
Total Lodging		76 rms.		76 rms.

Notes

(a) These two projects will not be built; they have been supplanted by the proposed Village Center, although acerages and numbers of units are not the same.

(b) Another 20 units are projected for Creekside 2, bringing the total to 132 when finished, not 180 as approved.

(c) Another 12 units are projected for Condo Bear, bringing the projected total to 28. These additional units will be built on an adjacent .5 acre parcel.

(d) These units were built on a different parcel from the o.7 acre parcel originally approved. The project is considered complete.

(e) This project will ultimately contain 200 units rather than the 300 approved.

(f) At its October 27, 1977 meeting, the Alpine County Planning Commission reaffirmed its earlier approval of these densities.

(g) At its September 29, 1977 meeting, the Alpine County Planning Commission reaffirmed its earlier approvals of these projects.

Source: Records of Alpine County Planning Commission.

TABLE 2

CHRONOLOGY OF COUNTY ACTIONS AFFECTING BEAR VALLEY DEVELOPMENT

1964 Alpine County published its "Master Plan Report", recognizing the importance of recreational resources to the county.

1964, 1965, 1966, 1967 Recorded Final Maps of Tracts 1,2,3 & 4.

1967 Bear Valley Company submitted and received approval on April 27, 1967 from the Alpine County Planning Commission for its "Master Plan, Bear Valley, Alpine County". PD-1-A and PD-1-B zoning designations were approved for phases A (a 27-acre commercial center), B (12.6 acres for Alping Village Condominiums), and c (6.3 acres in a second Alpine Village parcel). County Use Permit No. 8 was issued covering the entire master plan.

1968 Bear Valley Company submitted an application for the addition of a service center (parcel D) to its Bear Valley PD zone plan. Approval of the Alpine County Planning Commission was received on June 27, 1968.

1969 Alpine County published a revised "General Plan", which endorsed the planning efforts at Bear Valley and Mt. Reba.

1969 Bear Valley Company submitted a request for an amendment to its PD-1 zone relating to parcel B condominiums. This was approved by the Alpine County Planning Commission on May 29, 1969.

1971 On the basis of Bear Valley Company's report, "Study for Bear Valley Lodge Shops", the Alpine County Planning Commission approved an addition to the PD-1 zoning plan for parcel A.

1973 Alpine County adopted revisions in its General Plan, particularly relating to the desirability of comprehensive planned unit developments.

1974 Environmental Impact Report was prepared for Bear Valley Subdivision Tract 5, Pinetree Village condominiums, employee housing, a corporation yard, and the Bear Valley Tennis Clubhouse. Revised May, 1974.

1975 An environmental analysis report was prepared for the expansion of Mt. Reba Ski Area into Grouse Valley Bowl, April, 1975.

1975 Bear Valley Company published its "General Development Plan" for the comprehensive development of the entire 870-acre parcel.

ARCHAEOLOGY

An archaeological survey will be conducted on the project site when the ground is cleared of snow. Archaeologists will coordinate with U.S. Forest Service personnel, who will be working on an Environmental Impact Statement for the proposed expansion of Mt. Reba. Archaeologists working on each project will coordinate efforts regarding resource materials, information on findings, and determination of impacts and mitigation measures. The archaeological report on the proposed project site will probably be forthcoming in July. As soon as it is completed, copies will be delivered to the County and the State Department of Historical Preservation. It is expected that these reports will arrive in sufficient time for the preparation of responses to the Alpine County Planning Commission and inclusion of applicable mitigative measures in their final E.I.R.

POWER

Setting

Electrical power is presently being served by Pacific Gas & Electric Co. Capacity of the present facilities is 6 megawatts with all facilities east of Cabbage Patch (State Maintenance Station 5 miles west of Bear Valley) to and including Lake Alpine use approximately 2.4 megawatts of the available capacity at present. The company does not keep records of each area therefore a detailed search would be required and is beyond the scope of this report.

Ebbetts Pass Gas Company supplies L.P. gas to the area. There is no natural gas supply.

Impacts

Each home or apartment in this project is expected to use an average of 50 KWH per day for an average load of 12 megawatts (including all existing development at Bear Valley), for the total of 2052 living units.

Mitigations

All new homes are now required to comply with the new insulation standards required by the Uniform Building Code. This could reduce heating requirements by about 50% for 25% of the total household use.

Minimum flow fixtures previously required for "Sewage Disposal" will reduce water heating by 50% or 7 1/2% of total household use.

TRANSPORTATION

Setting

Access to the Bear Valley area is provided by State Highway 4. Automobiles, including vans, trucks, campers, and motor homes and buses are the primary modes of transportation to the area.

Bear Valley has two distinct internal transportation modes. In the summer, vehicles use the paved streets in the existing tract to travel to and from residences, recreational, and commercial facilities. In the winter, however, this is not the case. Due to the extreme depth of snowfall, community travel is over-the-snow. Homeowners' cars are parked in a central lot (transportation center) and they travel to and from their homes on foot via cross-country skis, or by snowmobile. A one-way loop road is kept open serving the fire house*, sheriff's sub-station, lodge and elementary school.

In the summer, the primary daytime destination for residents of Bear Valley is the Lake Alpine Recreation Area, and surrounding U.S.F.S. trailheads. Access to these destinations is via Highway 4 by private vehicle.

In the winter, the primary daytime destination for residents of Bear Valley is Mt. Reba Ski Area. Access to the ski area is via Highway 4 by private vehicle or bus operated by Mt. Reba between Bear Valley and the ski area, or over the snow by snow-mobile or cross-country skiing.

* Even fire protection is handled over-the-snow in the winter by a special vehicle.

Highway 4 exhibited the following traffic volume characteristics last year as monitored by the Traffic Department of the State Department of Transportation (District 10) Stockton.

	Annual Average Daily Traffic	ADT Peak Month	Peak Hour
Hwy. 4 at Big Meadows	800	1600	190
Hwy. 4 at Mt. Reba	600	1950	160

Month-by-month ADT on Highway 4 at the highway maintenance station at Big Meadows (approximately 5.5 miles west of Bear Valley) is shown below:

Jan	1976	=	745	July	1976	=	1253
Feb	1976	=	1014	August	1976	=	1188
Mar	1976	=	945	Sept	1976	=	1246
Apr	1976	=	518	Oct	1976	=	728
May	1976	=	288	Nov	1976	=	525
June	1976	=	1021	Dec	1976	=	474

As shown above, July was the peak month for summer traffic and February the peak for winter traffic. According to Caltrans, the winter traffic has been growing at a rapid rate along Highway 4. This is primarily due to the development of ski facilities at Mt. Reba.

Capacity of Highway 4 near Bear Valley under summer conditions is 1100 vehicles per hour with a Class C* level of service. Capacity under snow conditions is difficult to estimate, but with

* Source: Traffic Engineering Theory & Practice, Pignataro, Louis J., 1973
Basis: Class C is defined as stable flow, but most drivers are restricted in their freedom to select their own speed, chang lanes, or pass.
Capacity = Level C maximum volume x adjustment for lane width and lateral clearance x truck factor
C = 1400 x .96 x .83 = 1150 vehicles/hour

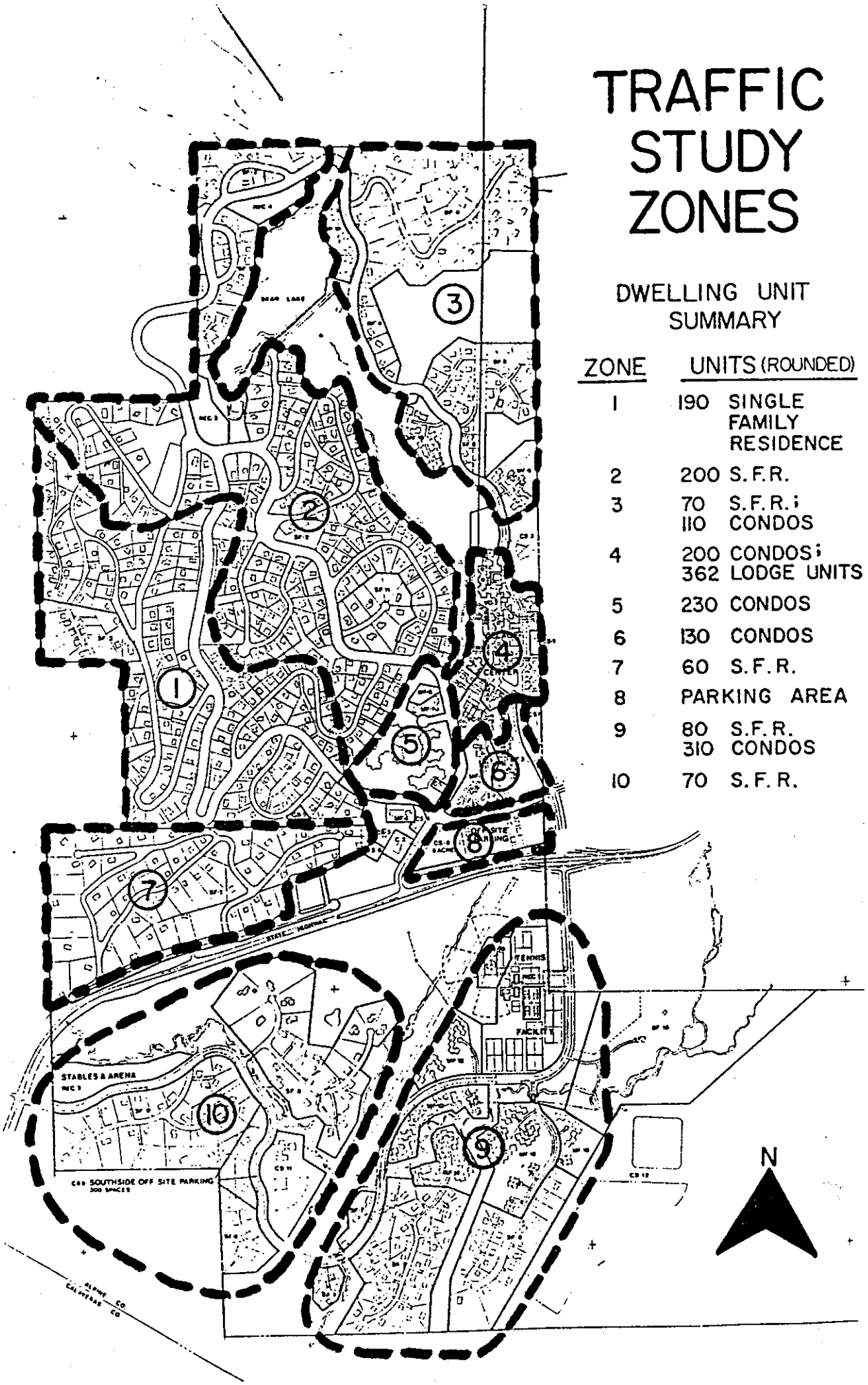
ample width plowed (30') and during non-blizzard times the roadway capacity would be between 700 and 1000 vehicles per hour in one direction. The reason for specifying capacity in one direction is that winter traffic in the area of the project is highly directional because so much of it (80%) is oriented to the Mt. Reba Ski Area. Traffic files up Highway 4 in the morning from the San Francisco Bay Area, Stockton, cabin sites, and motels in Calaveras County, and Bear Valley to the parking lot at Mt. Reba. Most of the spaces in the parking lot are full by 10 a.m. When the ski lifts close at 4 p.m. vehicles start leaving the Mt. Reba parking lot (the capacity of the lot is 1300 cars), and the flow is reversed. By 5:30, the bulk of the ski traffic is out of the area. During the skier exodus, the capacity of Highway 4 (in the westbound direction) is reached for a period of one and one-half hours.

Summer peaks are only about one-fourth of roadway capacity.

Impacts

Additional development at Bear Valley would add additional traffic to existing streets within the development as well as Highway 4. To predict the impact at full development, Bear Valley was divided into study zones (see Traffic Study Zone Map following this page) and certain assumptions were made as follows:

TRAFFIC STUDY ZONES



DWELLING UNIT SUMMARY

ZONE	UNITS (ROUNDED)
1	190 SINGLE FAMILY RESIDENCE
2	200 S.F.R.
3	70 S.F.R.; 110 CONDOS
4	200 CONDOS; 362 LODGE UNITS
5	230 CONDOS
6	130 CONDOS
7	60 S.F.R.
8	PARKING AREA
9	80 S.F.R. 310 CONDOS
10	70 S.F.R.

1) Trips per day by type of dwelling unit (summer):

   single-family dwelling = 7

   condominium unit = 5

   lodge (hotel) unit = 4

2) Desired destinations of traffic with a Bear Valley origin (summer):

   Westbound on Highway 4 20%

   Eastbound on Highway 4 20%

   Shopping or village area 25%

   Internal Recreation facilities 25%

   Visiting or miscellaneous internal 10%

3) Trips per day per type of dwelling unit (winter):

   single-family dwelling = 4

   condominium = 4

   lodge (hotel) unit = 3

4) Desired destinations of Bear Valley traffic with a Bear Valley origin (winter):

   Mt. Reba 50%

   Westbound on Hwy. 4 20%

   Shopping or village area 25%

   Visiting or miscellaneous internal 5%

5) The number of skiers per car (by observation) is 3

6) Winter would see all of zones 1, 2 and 3 using the parking lot next to Highway 4 as their place of trip origin.

7) Origin of trips for all other zones would be within the zone.

8) The peak hour is 15% of average daily traffic.

9) The area would be built-out in 20 years, hence the traffic flows shown are peak hour flows for the year 1998.

10) Summer traffic on Highway 4 would increase at 5% per year (compounded).

11) Winter traffic on Highway 4 would be strictly a function of traffic generation by Bear Valley and the Mt. Reba Ski Area.

12) One or more ski lifts will be constructed from Bear Valley to Mt. Reba. Mt. Reba will expand parking from 1300 (present) to 2000 vehicles.

The maps on the facing pages show the peak hour traffic generated by the project pursuant to the foregoing assumptions.

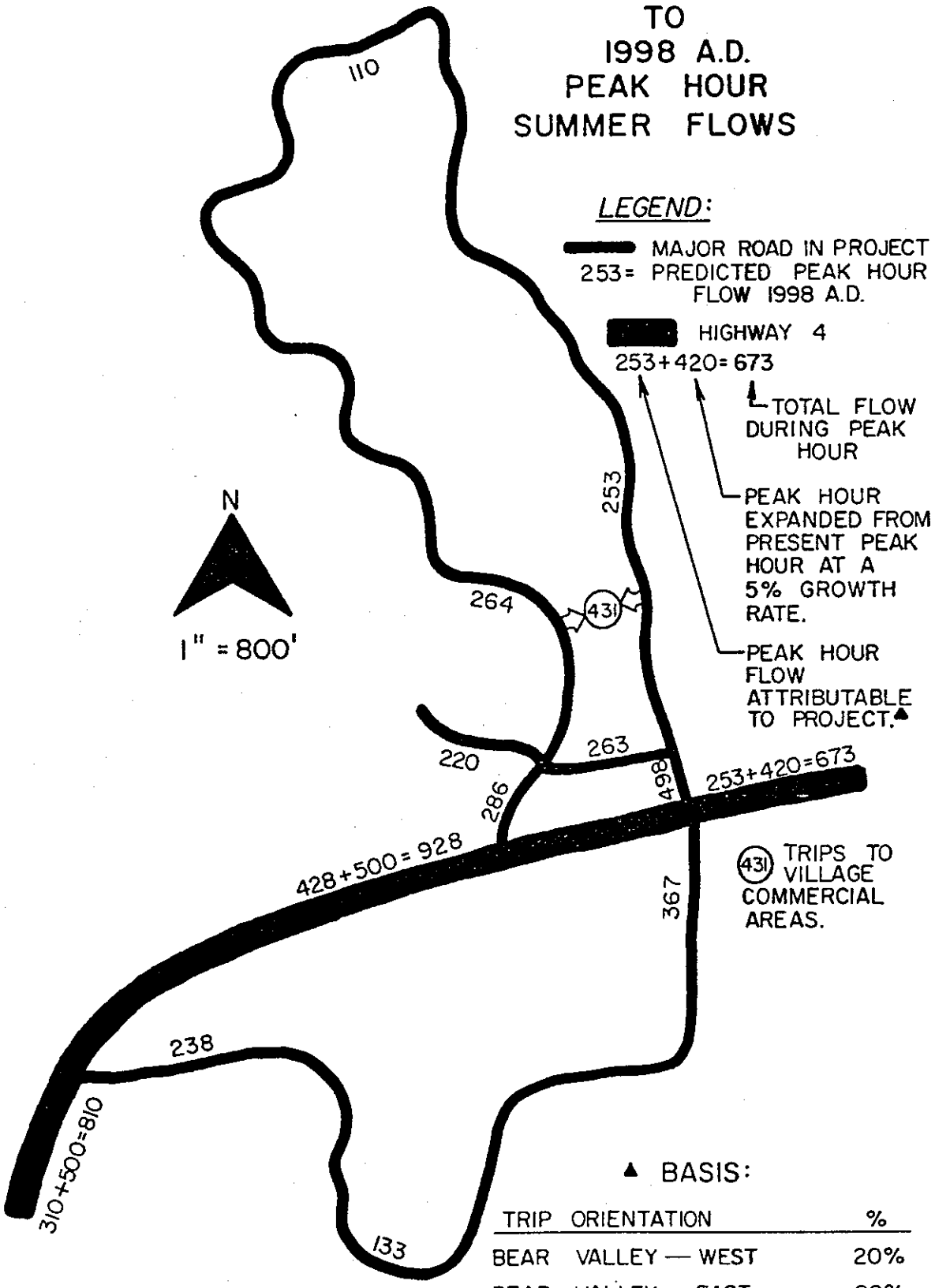
The impacts may be summarized as follows:

Winter:

1) Highway 4 would, in theory, be operating at capacity for 3 hours in the morning and for 3 hours in the evening between Bear Valley and Mt. Reba due to ski traffic.

2) If this stretch of road were widened to 4 lanes, the impacts would last for 1 1/2 hours each.

BEAR VALLEY TRAFFIC PROJECTIONS TO 1998 A.D. PEAK HOUR SUMMER FLOWS



LEGEND:

MAJOR ROAD IN PROJECT

253= PREDICTED PEAK HOUR FLOW 1998 A.D.

HIGHWAY 4

253+420=673

- TOTAL FLOW DURING PEAK HOUR
- PEAK HOUR EXPANDED FROM PRESENT PEAK HOUR AT A 5% GROWTH RATE.
- PEAK HOUR FLOW ATTRIBUTABLE TO PROJECT.▲

(431) TRIPS TO VILLAGE COMMERCIAL AREAS.

▲ BASIS:

TRIP ORIENTATION	%
BEAR VALLEY — WEST	20%
BEAR VALLEY — EAST	20%
BEAR VALLEY — INTERNAL:	60%
SHOP	25%
REC'N	25%
OTHER	10%

BEAR VALLEY TRAFFIC PROJECTIONS

TO 1998 A.D.

PEAK HOUR WINTER FLOWS
WITHOUT SKI LIFT

FROM MT. REBA TO THE VILLAGE

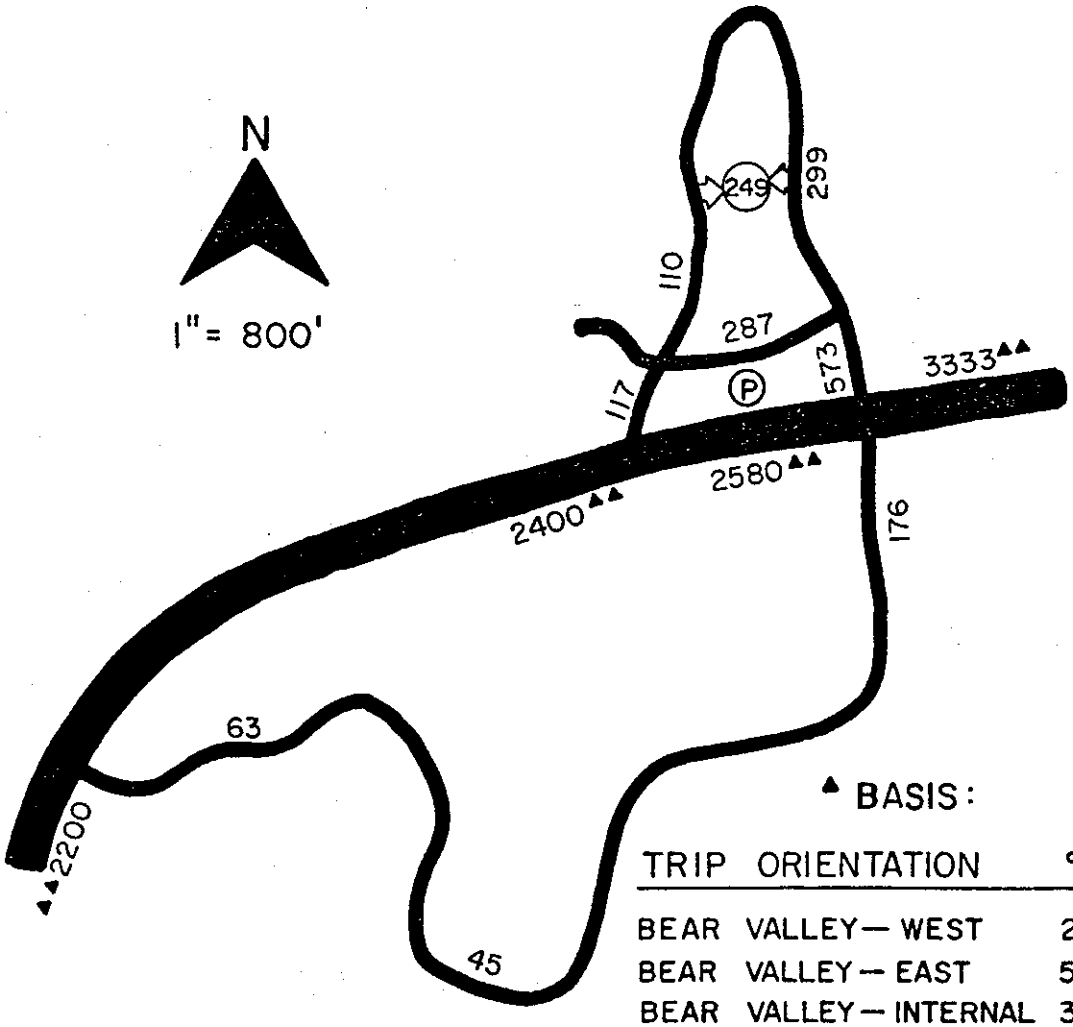
LEGEND:

299 ← PEAK HOUR FLOW▲
LOCAL ROAD

HIGHWAY 4
2580 ← PEAK HOUR FLOW▲▲

(249) TRIPS TOTAL TO SHOPPING DURING PEAK HOUR

(P) ASSUMED LOCATION OF ALL PARKING FACILITIES FOR STUDY ZONES 1,2,3



▲ BASIS:

TRIP ORIENTATION	%
BEAR VALLEY — WEST	20%
BEAR VALLEY — EAST	50%
BEAR VALLEY — INTERNAL	30%

▲▲ EXCEEDS CAPACITY OF ROAD

3) West of Bear Valley, peak hour project traffic would be minimal (239) on Highway 4, but Mt. Reba ski traffic would still require 1 1/2 hours morning and afternoon to dissipate.

4) A signal light would be warranted at the intersection of the main project entrance and Highway 4.

5) There would not be enough space in the 6 acre area set aside for parking (next to Highway 4) to accommodate autos used by occupants of the dwellings in study areas 1, 2 and 3. If the following formula was used:

2 parking spaces for each single-family dwelling
1 1/2 " " " " condominium
1 " " " " lodge (hotel) unit

then, 1076 spaces would be required at this lot. At 400 sq. ft. per space, ten acres would be required to handle the requisite parking.

If a parking structure were built on the site, it could provide space for 1076 cars, but it would cost in excess of five million dollars.* The cost per space to finance the structure (not counting maintenance and operating costs) would be over $700/year.** Currently the residents pay about $60 per parking space in snow removal costs each year. It is likely then that an impact of development would have to be the selection of ten acres for parking as opposed to six acres shown on the development plan***A sketch showing suggested parking areas to make up this requirement is shown on the following page.

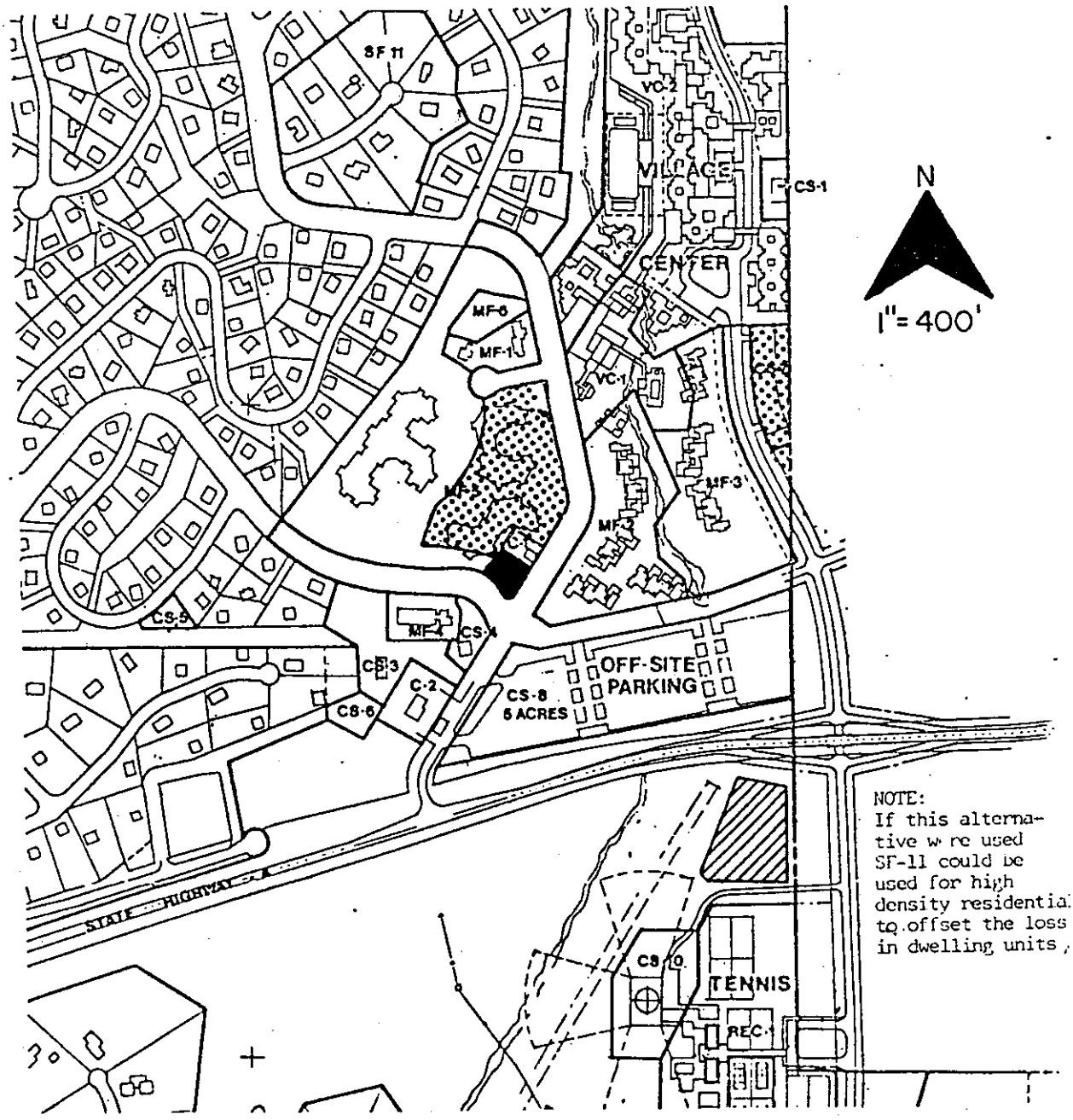
* Source: Gene Weatherby, R.C.E.
** Figuring 10% interest, 10 year payoff period and no points
*** See Appendix for costs of other options

ALTERNATIVE PARKING PLAN

SURFACE PARKING

LEGEND:

- ADDITIONAL PARKING AREA
- OPTIONAL PARKING AREA
- TRANSPORTATION CENTER



NOTE:
If this alternative were used SF-11 could be used for high density residential to offset the loss in dwelling units.

Summer:

1) Project traffic is expected to be 86% of the traffic predicted on Highway 4 west of Bear Valley and 60% of Highway 4 traffic east of the site.
2) At full development, there would not be enough cross traffic at the new main entrance to Bear Valley to warrant installation of a signal on Highway 4 (winter traffic would warrant one, however).
3) Adding predicted project traffic and estimated future Highway 4 traffic does not result in a need for four-lane construction on Highway 4 (winter traffic does). A provision for protected left-turns would be advisable however, at the new main entrance to Bear Valley.
4) Internal (Bear Valley) roads should operate satisfactorily without four lanes or traffic signals.

Mitigations

Provision should be made in the new development to allow for widening of Highway 4 to four lanes and for necessary lateral clearances, drainage and snow storage.*

When traffic warrants, or before the final units of the tract are approved, the developer should contribute to the cost of a signalized intersection at Highway 4 and the new main entrance.

* The present right-of-way of 120' should be sufficient for the above purposes.

Space should be set aside for 10 acres of winter parking (for residents) or a parking structure should be contemplated. Development and payment could be achieved via user fees and County Service Area as the need arises. The proposed 6 acre parking lot next to Highway 4 is in a sensitive area insofar as aesthetics are concerned. Further, if a parking building were to be constructed on the site, even greater care should be taken to minimize the impact on the visual quality of the area.

Parking lot development in this area should be coupled with landscaped low berms to screen the vehicles and yet allow for snow storage (see section on Aesthetics herein).

The completion of housing accommodation at Bear Valley will help to mitigate the effect of day skier traffic on Highway 4 west of the site by keeping skiers in the area overnight. The exact impact of housing in Bear Valley on the reduction in traffic on Highway 4 is estimated by the preparers of the EIR as follows:

1) 50% of the occupants of the housing ski at Bear Valley
2) The valley at buildout will house approximately 8000 persons - 4000 skiers from Bear Valley will ski during the day at Mt. Reba
3) At 3 persons per auto, the 4000 skiers would represent 1333 potential autos using Highway 4 east and west of Bear Valley to and from the ski area
4) These autos would not use Highway 4 west of the site, however, because their occupants are housed in Bear Valley.

The completion of a ski lift to Mt. Reba from the village area in Bear Valley will mitigate the effect of Bear Valley traffic on Highway 4 east of the site.* From the preceeding paragraph, it is obvious that the installation of such lift (or lifts) could reduce traffic on Highway 4 east of the site by up to 1300 vehicles each way each day.

Mt. Reba and Bear Valley should plan events to spread out the winter exodus time particularly on Sunday night. Night skiing and extended checkout hours might be discussed in this context.

* See discussion of various alternative ski lifts to the Bear Valley to Mt. Reba in the section on Recreation

MEDICAL FACILITIES

Setting

The nearest state approved hospital to the Bear Valley area is in San Andreas some 60 miles west along Highway 4 to Angels Camp and Highway 12 to San Andreas. The hospital presently has capacity to serve the area with emergency and long-term patient care. The hospital has excellent diagnostic equipment.

Doctors are few in the area with only 6 listed in the phone directory to serve a population of some 18,000 permanent residents in Calaveras County and surrounding territory.

The nearest ambulance service is from Arnold which is about 25 miles west on State Highway 4.

Impact

There is a need for medical facilities in the area at present and this project will cause the need to increase.

Mitigations

The fees charged for medical services will mitigate the impacts.

SCHOOLS

Setting

Bear Valley lies within the jurisdictional boundaries of the Alpine County Unified School District. The Bear Valley Elementary School presently has an enrollment of 30 K-8 students, two teaches, and one teacher's aide. The maximum capacity of the school is 64*students.

High school students from Bear Valley attend Bret Harte High School in Calaveras County. An interdistrict agreement has been made between the Alpine County Unified School District and the Bret Harte High School District to accommodate students from Bear Valley. The Alpine County budget includes the category "other tuition" which allots approximately $2500 per high school student per year to be paid to Bret Harte High School District for each Alpine County student. Students living in Bear Valley are bused to school via a cooperative Alpine County-Bret Harte school bus system. At present, 10 high school students living in Bear Valley attend Bret Harte High School. The present enrollment of Bret Harte High School is 550 students, and it has a capacity of 750-800 students.

* The building, however, was designed to house approximately 100 students with some interior modifications.

Impacts

The proposed development is expected to produce approximately 65 K-8 students and 21 high school students.* The total number of students in Bear Valley with development of the proposed project is therefore anticipated to be 95 K-8 and 31 high school students. The capacity of the existing K-8 school in Bear Valley would be exceeded with this impact.

Bret Harte High School District has indicated that it would be able to accommodate this increase in enrollment.

Mitigations

5.9 acres has been reserved within the development for construction of a high school.**Since the Bret Harte High School District has indicated that it would have the capacity to serve additional students from Bear Valley generated by the proposed development, it is suggested that this "reserve" be reviewed after the development is about 80% built out to determine whether or not its retention is still necessary.

* Basis: 230 single-family units proposed

849 multi-family units proposed

1079 units proposed, 14% permanent residents
= 147 permanent resident units x 3.0 persons/unit
= 441 permanent residents.

20% of permanent residents are students	=	88 students
75% of students are K-8	=	66 students
Therefore, high school	=	22 students

** The Alpine County School District owns 7 acres lying east of the proposed tennis courts adjoining the project area.

Since the total number of high school students in Bear Valley at build-out is anticipated to be about 32, if a school was desired in the community, it could share a building with the elementary school.

Revenues from property owners in the proposed development would help to mitigate the cost of providing additional educational facilities and services to residents of the proposed development. The Alpine County Unified School District tax rate in this area presently is $.82 per $100 assessed value. The assessed value of the proposed development is estimated at $18,656,000.* Therefore, approximately $153,000 per year would be available to the school district from property owners in the proposed development. If the Jarvis-Gann initiative was passed, revenues available to the school district would be cut by up to 30%. It is anticipated that there would still be more than enough revenues available from property owners in the proposed development to provide the necessary educational services.**

* Basis: see figures in Police Protection section
** Basis: see Economic Impacts

FIRE PROTECTION

Setting

As stated previously the fire protection body is the Bear Valley Volunteer Fire Department consisting of fifteen (15) volunteers.

Expenditures for support of the department are paid for out of County General Tax Revenues. Fiscal year 77-78 has a budget of $15,668 which includes $2,075 for services and supplies and $13,593 for Fixed Assets.

The department covers the entire surrounding area including coverage into the eastern portion of Calaveras County thru a reciprocal agreement between Calaveras and Alpine Counties.

Impacts

Additional strucutral improvements will be made and will need protection.

Response time to the outer regions will increase beyond 30 minutes.

Structures higher than 2 1/2 to 3 story will create special fire fighting equipment needs. Full time fire coverage will be required.

Mitigations

Taxes paid by the additional structures will create additional funds to purchase additional equipment and establish winter

only fire houses located at or near Rec-3 (See General Development Plan) and SF-7. These outlying stations could be manned by either full-time or volunteer residents using snow-cats with 2000 gallon capacity tankers for quick response time to the outer regions. The main fire house could supply backup during winter months and full-time coverage during the summer.

Structures exceeding 2 1/2 to 3 stories would not be constructed until a ladder truck is purchased by the Department or alternate means of fire extinguishing are provided.

POLICE PROTECTION

Setting

Police protection in Bear Valley is presently provided by the Alpine County Sheriff's Department. The California Highway Patrol offers backup services insofar as traffic is concerned.

A Sheriff's sub-station is located within the existing development, just north of Highway 4 on the main access road. Two full-time deputies and one dispatcher staff the station at this time. Complete 24-hour protection services are, however, not provided at this time. The deputies rely fairly heavily on volunteer "reserves" in the community, especially for search and rescue operations.

Impacts

The proposed development is anticipated to accommodate approximately 430 permanent residents, and an average of 6000 seasonal residents at any one time.

It is anticipated by the deputies that three more officers would be necessary to provide 24-hour protection service for the maximum number of seasonal and permanent residents, while one deputy and some volunteer "reserves" would accommodate the demand for increased protection from the permanent residents alone.

At $16,000 per year salary, an additional $48,000 per year would be necessary to pay the additional officers needed for increased protection in Bear Valley.

An increase in equipment, vehicles, and building space would be necessary to meet the demands for increased police protection with the proposed development. It is anticipated that two more radios at $1600 each, two new 4-wheel drive vehicles at $11,000 each, and two new snowmobiles at $2300 each would be necessary. A "holding area" would need to be added to the building for persons under arrest at a cost (for 800 S.F.) of $32,000.

Mitigations

It is believed that taxes paid by the property owners within the proposed development would be more than sufficient to mitigate the increased cost of police protection. Approximately 16% of the Alpine County General Fund is allotted for police protection. The tax rate for the County is $3.58 per $100 assessed value. Assuming an assessed value at total build-out of $18,656,000* revenues for police protection generated from the proposed development would total approximately $107,000 if the present ratio (16%) were used. Since this is more than enough to handle police protection, the additional money could be used for other County purposes. If the Jarvis-Gann initiative was passed, revenues

* Basis:

231 single-family units x $80,000/unit	= $ 18,500,000
649 condominiums x $52,000/unit	= 33,750,000
500 lodge units x $36,000/unit	= 18,000,000
125,000 sf commercial floor space x $35.00/S.F.	= 4,375,000
TOTAL APPRAISED VALUE	$ 74,625,000
Assessed value = 25% of appraised value	= $ 18,656,000

available to the County for police protection would be cut by up to 30%. It is anticipated that there would still be more than enough revenues available from property owners in the proposed development to provide the necessary police protection services.**

* See Summary of Public Agency Impacts

WATER SUPPLY

Setting

Water is supplied by the Lake Alpine Water Company which taps three springs in the upper part of the valley, developing 50 gpm. Water is stored in four storage tanks and in Bear Lake and is supplied to local users after passing through a 200 gpm peak flow treatment plant. These four tanks have a total storage capacity of 440,000 gallons, not including storage at the old Bear Valley Subdivision. Bear Lake has a storage capacity of 240 acre-feet which must be used or the water rights may be lost to a downstream user. The State Department of Health has approved Bear Lake for the dual purpose of providing recreation with body contact and as a domestic water supply source.

The present supply is adequate to deliver water to some 900 connections (3600 people) with some additions to the treatment plant such as an additional filter and pump.

The continued development depends upon developing an adequate source of water. Additional sources could be any or a combination of:

TOTAL WATER NEEDS = 400 ACRE-FEET PER YEAR
(319,500 gpd plus 40 AF/yr for miscellaneous)

1.	Present Water Available from Springs	=	81 AF/yr. (50gpm)
2.	Present Water Available from Bear Lake	=	240 AF/yr.
3.	Runoff from Bear Lake Drainage Basin	=	2460 AF/yr. (60"/yr)
4.	Available Capacity Lost from Present Springs	=	65 AF/yr. (40gpm)
5.	Well in Meadow	=	162 AF/yr. (100gpm)
6.	Upstream Stanislaus	=	600 AF/yr.

(Reserved in CCWD plan for Alpine County per Dave Wiler Tudor Engineering)

Impacts

An additional water supply must be developed prior to proceeding beyond the potential 900 connections or the water consumption rate must be reduced.

Mitigations

A. Prior to proceeding beyond the present capacity the owners of the water system, prior to making a committment to serve, will:

1. Develop a source of water to guarantee a minimum development of 400 AF/year.
2. Construct a storage system capable of delivering 505,000 gpd for 30 days during peak month of January or increase the source of supply.
3. Install a distribution system capable of delivering 1230 gpm to the overall area for peak consumption. This does not include provisions for fire flows. (See PUC General Order No. 103)

B. Reduction of water consumed could reduce the overall needs to the 1360 future connections to 199 AF/yr. plus 40 AF for miscellaneous uses. This represents a savings of 161 AF/yr. This can be accomplished by installing 3 liter per flush toilets, 1 liter per minute showers and all valves in the home would be self-closing.

Mitigation B would have the effect that no new sources would be required other than development of the lost water in

the springs. Additional treatment and pumping capacity at the treatment plant would be required to meet peak flows.

SEWAGE DISPOSAL

Setting

The agency responsible for collection, treatment and disposal of sewage in the Bear Valley area is Bear Valley Water District. The District was formed in 1968 pursuant to the California Water Code Sections 34,000 et. seq. The board of directors are property owners and are elected at large within the district. Each voting landowner has one vote for each $100 of assessed value on land only.

The growth of the district has been rapid and is outlined as follows:

1. District formed in 1968.
2. Constructed collection system and storage ponds serving portions of the commercial areas and high-density residences in 1968. Financed pursuant to Improvement Bond Act of 1915.
3. Constructed collection system serving 61 parcels of Bear Valley Tract 1 in and around Monte Wolf Road and Quaking Aspen road utilizing the Improvement Bond Act of 1915. Constructed in 1971.
4. Constructed sewage collection serving remainder of developed land north of State Highway 4 including the old Bear Valley Subdivision during 1972&3. This project was financed utilizing the Municipal

Improvement Act of 1913 which puts no burden of repaying on anyone except the landowner of the parcel for which a bond is issued.

5. In 1974 the District constructed its 500,000 gpd treatment using General Obligation binds in the amount of $620,800. These bonds are secured by a tax rate based on assessed value of land only. The 1977-1978 tax rate is $5.82 for each $100 of assessed balue.
6. Constructed sewage collection system serving the 18 lots of Bear Valley Tract No. 5 using the Improvement Bond act of 1913.
7. Pursuant to an agreement between the United States Forest Service and the District a collection system was installed in camp ground areas and transported to the Bear Valley Treatment Plant. This system was constructed in 1975 and 1976.
8. On April 4, 1978 LAFCO approved annexing the Lake Alpine area to the present district. Local hearings must now be held to complete the annexation process.

Currently the district has the ability to collect and treat 500,000 gallons per day of sewage. This is divided as follows:

1.	Bear Valley Area	395,000 gpd
2.	Mt. Reba	65,000 gpd
3.	Lake Alpine Basin	40,000 gpd
	TOTAL	500,000 gpd

For the Bear Valley area 395,000 gpd is sufficient for 1598 living units and commercial space of about 150,000 sq. feet. This is sufficient to allow for full development of all private land on the north side of State Highway 4 in accordance with the subject master plan.

At present no allowance for sewer capacity has been made for the proposed 454 living units and other facilities lying on the south side of State Highway 4.

Impacts

Collection systems and additional treatment and disposal fields must be constructed to serve the south side development.

Present homeowners will continue to pay the high sewer rates of $5.75 per month plus the tax rate unless the north side developes to its capacity.

Additional lands (35 Acres) must be made available for treatment, waste water storage and disposal.

Mitigations

Additional area for treatment and disposal systems must be located and approved for use prior to approval for any development on the south side of the highway or = All development from approval of this plan onward minimum water use facilities must be used. Minimum water use facilities are = 3 quart per flush toilets, 1 gallon per minute shower units,

automatic shut off valves at all sinks, and other items as they become available. If this is done the total flow from all development in Bear Valley would not exceed 170,000 gpd on the north side and 40,000 gpd on the south side. This is compared to 286,000 gpd on the north side only at ultimate development.

The mitigation for the collection system is that each individual parcel will have to be sewered and the cost will be paid by the developer.

High cost cannot be mitigated without sufficient development to approach design capacity.

SOLID WASTE DISPOSAL

Setting

Solid waste generated in Bear Valley is presently handled by a landfill in Calaveras County. An agreement with the Calaveras County Department of Public Works allows these Alpine County residents to utilize the landfill. Alpine County is charged according to projected waste generated by residents utilizing the landfill. For the fiscal year '77-'78, Alpine County was charged $6,252 for solid waste disposal in Calaveras County. This represents about 2.5% of Calaveras County's operating budget for solid waste disposal.

The landfill is situated on a 113 acre parcel near Vallecito in south-central Calaveras County. The operating portion of the site is 13 acres in size and has a capacity of 903,000 cubic yards. This site has been estimated to reach capacity in 1996, however, recent increases in the rate of growth in this area may shorten the lifetime of the landfill.

Impacts

The proposed development is anticipated to produce approximately 9000 cubic yards of solid waste per year.* This is

Basis: 123 permanent residences x 11.44 cu.yds/unit = 1407 cu.yd/yr.
757 seasonal residences x 1/2 x 11.44 cu.yds/unit = 4330 cu.yd/y
500 lodge units x 1/3 x 11.44 cu.yds/yr/unit = 1888 cu.yd/yr
125,000 sq. ft. commercial floor space x 11.44 cu.yds/1000' floor space = 1430 cu.yds/yr

TOTAL 9035 cu. yds/yr.

approximately three times the amount of waste which was generated in Bear Valley from March 1977 to February 1978. Alpine County would therefore be charged approximately three times the present charges, plus increases due to operating expense increases, for solid waste disposal in Calaveras County generated by the proposed development. The increase in solid waste generated by the proposed development may shorten the lifetime of the landfill. It is impossible to predict the degree of this impact since an overall increase in the rate of growth throughout the area served by this landfill is expected to shorten the predicted lifetime of the landfill.

Mitigations

Taxes which would be paid by property owners in the proposed development would mitigate the increased cost for solid waste disposal. Approximately 1.6% of the Alpine County General Fund is presently allotted for garbage disposal. The tax rate for the general fund is $3.58 per $100 assessed value. Assuming an assessed value of $18,656,000* at total build out of the proposed project, approximately $10,700 would be available for increased garbage disposal services. However, if the Jarvis-Gann initiative was passed, revenues available to the County for solid waste disposal would be cut by up to 30%.**

* See Economic Impacts

An effort should be made by property owners and businesses to limit the amount of solid waste generated. Compacting and recycling programs should be implemented on a community-wide basis. Funding could be accomplished by fees charged to residents and businesses as part of their garbage collection fees.

Depending upon the outcome of air quality studies to be performed by the U.S. Forest Service in connection with an Environmental Impact Statement, they will be preparing for the expansion of the Mount Reba Ski area, solid waste (mostly paper) from Bear Valley might be burned (by contract) in the incinerator at Mount Reba.

LIBRARY

Setting

The Bear Valley Branch Public Library is located in a room in the Bear Valley Elementary School building. It presently has the capacity to serve the 175 permanent residents of Bear Valley, although shelf space and reading area is very limited. One librarian staffs the library.

Impacts

The increase in population with the proposed development would increase the demand for library services. It is not believed that the present facility could accommodate the increased demand for library services.

Mitigations

Taxes paid by property owners in the proposed development would help to mitigate the cost of increased library services. The developer should provide a "reserve" lot for a future library to be constructed near the village center.

PARKS AND RECREATION

Setting

Historically, recreation in the Bear Valley area has concentrated on winter sports. Alpine skiing is a main emphasis, with cross-country skiing increasing in popularity in recent years. Snowmobiling, tobogganing and snow play are also popular throughout the area.

Mt. Reba Ski Area, located just north of Bear Valley, provides most of the alpine skiing opportunities. Recent development of Grouse Valley Bowl has expanded skiing facilities at that area, particularly for the intermediate skiers. Mt. Reba currently handles up to 4000 skiers per day and the ski terrain in this area is capable of handling 10,000 skiers per day. During the 1977-78 skiing season, Mt. Reba had over 200,000 skier days. During the peak month, February, Mt. Reba had 50,000 skier days. In 1976-77, there were 75,000 skier days and in 1975-76 there were 106,000.* Origin of skiers is predominantly from the bay area, with one third coming from Santa Clara County.

The meadow on the south side of Highway 4, within the proposed development area, is one of the best cross-country ski areas for beginning skiers, and serves as access to more difficult trails within the Stanislaus National Forest. Trails in the Lake Alpine Recreation Area, just east of Bear Valley, are also

* In 1974-5 (a non-drought year) there were 165,000 skier days

popular for cross-country skiers. Other trailheads in the vicinity of the proposed development provide access for skiers to various parts of the U.S. Forest Service believes that the most suitable base for cross-country skiing in this area would be within Bear Valley. A cross-country ski school and equipment rental shop presently exists in Bear Valley.

Snowmobiling, tobogganing and snow play are most popular in the Lake Alpine Recreation Area and in Bear Valley.

Summer activities in the Bear Valley area are varied. The undeveloped state of much of the landscape in Bear Valley and in the adjoining Stanislaus National Forest provides opportunities for hiking, backpacking, rock climbing and hunting.

At Bear Valley there is sailing, swimming, and fishing at Bear Lake. In addition, there are six tennis courts, a swimming pool, and a stable. In the past, there have been camp programs at the stables. Each summer a music camp is held, with two weeks of workshops and one week of concerts given by distinguished musicians. In the past, special activities have included an international bike race, antique auto show, and professional archery tournament.

Lake Alpine Recreation Area, just east of Bear Valley, provides recreational opportunities for camping, fishing, hunting, boating, swimming, hiking, horseback riding, and picnicking. The Forest Service has several campgrounds at Lake Alpine totalling 167 camping units.

Impacts

Development of the proposed project would attract greater numbers of people to the region, thereby increasing the demand for recreational facilities.

The increased demand for summer recreational facilities due to the proposed development would be felt both within Bear Valley and throughout the surrounding National Forest. Pressures on lightly used and wilderness areas within the National Forest would increase. Day use of the Alpine Lake Recreational Area would increase.

It is estimated that during the winter ski season up to 4000 skiers per day from the existing and proposed development would use the Mt. Reba Ski Area.* This could necessitate expanded parking facilities, cafeteria space, and additional lifts at Mt. Reba.

The increase in winter use of the Bear Valley area with the proposed development would also increase the demand for cross-country skiing, snowmobiling, tobogganing, and snow play areas. There has been a trend in the past few years to commercialize these types of winter recreational use. Development of the proposed project may encourage commercialization. This could have an adverse effect on the preservation of open space within the development. At present, parking for these types of winter recreational uses is limited, and with development of the proposed project, it could be eliminated. Winter use of the Stanislaus National Forest surrounding Bear Valley would increase due to the increased demand for recreational facilities.

* The capacity of the Mt. Reba Ski Area is estimated by the U.S. Forest Service at 10,000 skiers.

Mitigations

Expanded summer recreational facilities included in the proposed development would help mitigate the demand for increased summer recreational facilities in the general area. The proposed facilities include an equestrian center, 26 additional tennis courts, and lakeshore picnic facilities at Bear Lake.

The administration at Mt. Reba proposes to construct one or more ski lifts into Bear Valley to transport Bear Valley skiers to the Mt. Reba Ski Area. These proposed lifts would (if approved by the Bear Valley Company and authorized under this master plan and subsequently approved by the U.S. Forest Service) reduce skier traffic on Highway 4 by as much as 2660 vehicles per day* between Bear Valley and Mt. Reba. The type of lift contemplated at present is a twin chair type having a maximum practical capacity of 1200 skiers per hour. From this, it is evident that two lifts would transport all of the estimated 4000 skiers from Bear Valley at full development up to Mt. Reba in (4000÷ 2400) one hour and forty minutes.

The Forest Service is considering a parking lot on their property adjoining Bear Valley village area as an alternative to expansion of parking facilities in the vicinity of Mt. Reba Ski Lodge.** If this were done, it would appear that at least three lifts would be required to transport skiers to the Mt. Reba Ski Area.

* 1330 autos each way daily

** Parking lot size to provide for full use of the remaining ski potential of Mt. Reba (10,000-4,000 = 6,000 skiers) at 3 persons per car would be 2000 spaces. Since there are already 1300 spaces at Mt. Reba, some 700 additional spaces would be required.

Several possibilities exist for the location of these transportation lifts from Bear Valley to Mt. Reba. Locations under study are shown on the map following this page. They were worked out by Mt. Reba and the U.S. Forest Service for consideration in connection with the Bear Valley project. Highlights of each lift proposal follows.

Alternative A: Base on National Forest land adjacent to County road west of Bear Lake.

1. Requires over-snow access or plowed road and shuttlebus from Bear Valley.
2. Access to lower terminal from top is somewhat difficult except for ski terrain to the west.

Alternative B: Direct straight lift from village center w/midramp for skiers skiing down to return to top.

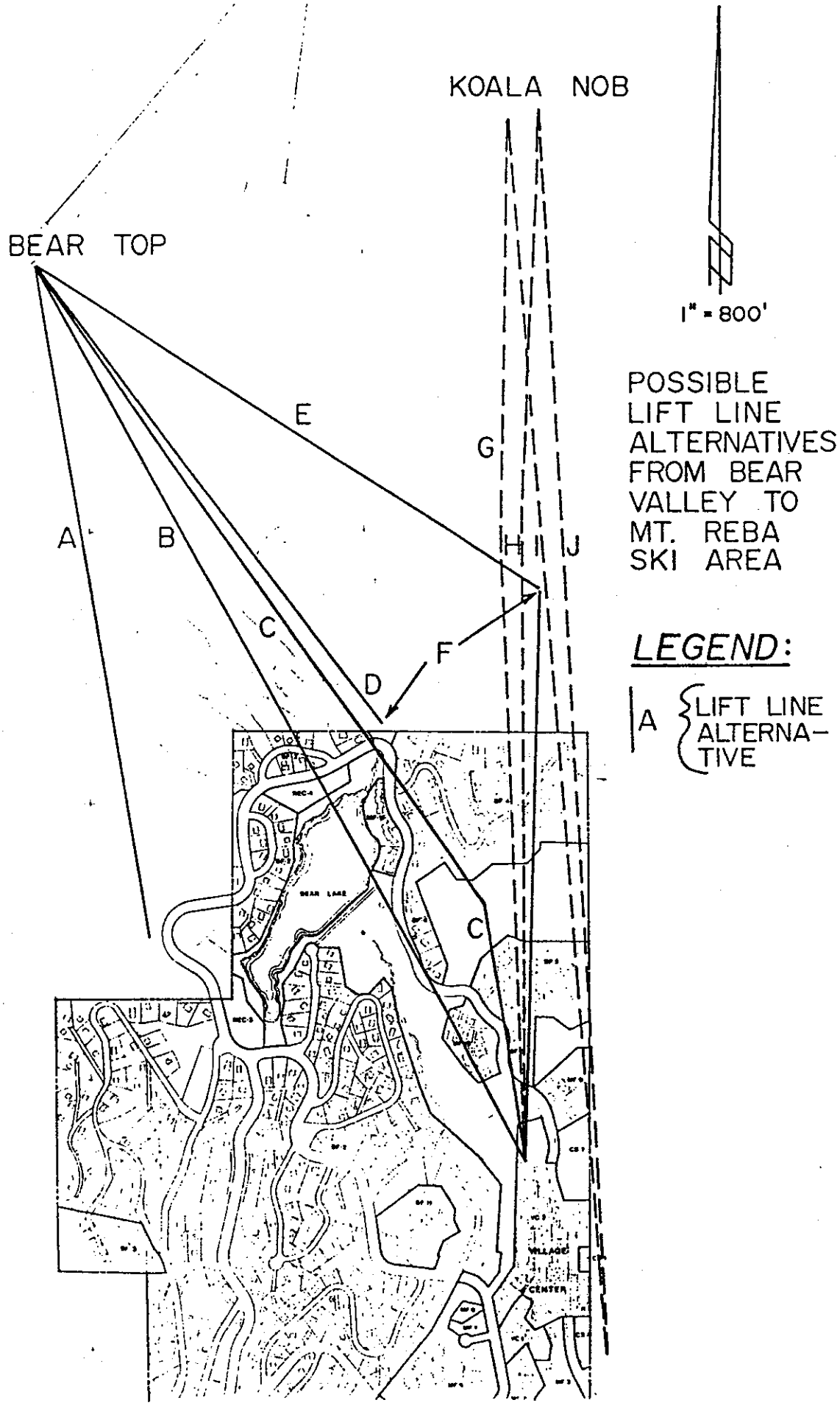
1. Would cross some existing developed lots.
2. Would cross Bear Lake and require some large towers if it is feasible from an engineering standpoint. Aesthetics of Bear Lake would be adversely affected.

Alternative C: Lift from village center to Bear top w/angle and midramp

1. Midramp would serve downhill skiers from Bear top.
2. Feasibility depends on available technology.

Alternative D: Lift from base area on National Forest land north of Bear Lake.

1. Good flat for base.
2. Good location for skiers from Bear top
3. Requires shuttle from village center.


KOALA NOB
BEAR TOP
1" = 800'
POSSIBLE LIFT LINE ALTERNATIVES FROM BEAR VALLEY TO MT. REBA SKI AREA
LEGEND:
A LIFT LINE ALTERNATIVE
A
B
C
D
E
F
G
H
J
BEAR LAKE
VILLAGE CENTER

Alternative E: Lift from village center w/angle across cliff area to Bear top.

1. Feasibility depends on available technology.

Alternative F: Two lift system (first left of E, and ski to D)

1. More time required to move people.
2. Limited use during light snow cover.
3. D serves ski terrain.

Alternative G, H, I, and J: From village center to top of Koala area (6 alternatives)

There are three base locations and two upper terminal locations.

Bases - 1. North end of village center - Pvt. land
2. National Forest land east of PG&E station
3. National Forest land near Highway 4 w/base for public day use parking on National Forest land.

Upper Terminals:

1. Top of Koala knob.
2. Saddle southwest of Koala terminal (top of Feather Duster).

Key Concerns:

1. Length of lifts with base near Highway 4 would require about 40 minutes of transport time.
2. Public access to lifts in Bear Valley village could be limited due to use pressures of Bear Valley residents.
3. Public parking area would be required near Highway 4 and visual impacts from Highway 4 would occur.

Note: It is suggested that when the Master Plan is approved, it would be broad enough to show all of the alternatives above as mitigations with the possible exception of "A" and "B" which would appear to be more impact than mitigation.

The Forest Service and the developer should each establish cross-country skiing, snowmobiling, tobogganing and snow play trails and areas. In order to avoid a conflict in use, these trails and areas should be separated spacially. It is suggested that the developer, Forest Service and State Highway Department select one or two parking areas along Highway 4 for snow play, snowmobiling and cross-country skiing. Responsibility for operational aspects are suggested as follows:

- Donation of land for the above uses-developer, U.S.F.S.
- Development and maintenance of the parking lots-State
- Snow plowing of the parking lots-State
- Marking of use boundaries (i.e., snow play, cross-country trails, etc.)-developer, U.S.F.S.

If commercialization of these recreational uses was pursued by the developer, adequate parking and related operations responsibilities should be provided by private parties.

Developments such as parking pads or sanitary facilities associated with these uses in the meadow area and along access routes to Stanislaus National Forest should be fairly restricted so as not to materially change the visual quality of the meadow.

The increase in summer recreational demands in the area could be mitigated in the following ways. The previously mentioned recreational facilities provided in the proposed development would mitigate the demand for increased facilities within Bear Valley. The impact of increased use of the surrounding Stanislaus National

Forest could be mitigated by requiring use permits, developing further trail systems and use areas, and providing literature on the dangers of insensitive use of our natural environment. Expanded picnic areas at Alpine Lake Recreation Area would help to mitigate the effect of increased day use of that area. User fees might be collected to help mitigate the cost of these Forest Service improvements.

The proposed development plan will include sufficient parking within Bear Valley to accommodate all residents, condominium and lodge occupants as well as those who might be attracted to local commercial facilities.

SNOW REMOVAL SERVICES

Setting

Snow removal is presently provided in the commercial area of Bear Valley by an independent operator under contract from the County. A second operator contracts for the compaction of ski trails within the residential area. Cost of these services is borne by the Bear Valley property owners through County Service Area No. 1.

Impacts

Development of the proposed project would increase the demand for snow removal services. It would be necessary to expand the system of clearing the parking lots and roads in the village area. The main road to be constructed through the development south of Highway 4 is proposed to be plowed for all winter access.

Mitigations

Taxes paid by property owners in the proposed development would mitigate the demand for increased snow removal services. It would be necessary to annex the area south of Highway 4 to CSA No. 1 in order to tax that property for snow removal. The areas north and south of the highway could become zones 1 and 2 respectively of CSA No. 1. Thus, residents on the north side of

Highway 4 would not see any of their tax money spent to clear the main road through the new development south of Highway 4.

SUMMARY OF PUBLIC AGENCY IMPACTS

SUMMARY OF REVENUES AND REVENUE ESTIMATE PROJECTIONS WITH AND WITHOUT THE PROJECT

Alpine County	Now (1978)	Alpine Co. in 20 Yrs Without Further Dev. At Bear Valley	Alpine Co. in 20 Yrs With Further Dev. At Bear Valley
Property taxes	$ 213,000(1)	$ 357,000 (2)	$ 547,000 (7)
Sales taxes	30,000	56,000 (3)	488,000 (8)
Hotel/motel tax	15,000	28,000 (4)	192,000 (9)
Other taxes, licenses, permits, fines, forfeits, penalties; use of money & property; charges for services, etc.	156,000	293,000 (5)	293,000 (5)
Aid from other agencies	1,002,000	1,603,000 (6)	1,603,000 (6)
TOTALS	$1,416,000	2,044,000	3,123,000
County Service Area No. 1			
Property taxes	$ 5,000 (1)	12,000 (2)	34,000 (10)
Other	10,000 (11)	19,000 (5)	19,000 (5)
TOTALS	$ 15,000	31,000	53,000

(1) Estimated tax revenue based on the effect of Jarvis-Gann (40% of current revenue.)

(2) Expands non-Bear Valley property tax revenue (146,000) at 3.2%/yr. and Bear Valley tax revenue (67,000) at 1%/yr.

(3) Expands present sales tax revenues by 3.2%/yr. growth.

(4) Expands present hotel/motel tax revenues by 3.2%/yr. growth.

(5) Expands present funds by 3.2%/yr. growth.

(6) Expands present other government aid by 1.6%/yr growth.

(7) Expands non-Bear Valley property tax revenue at 3.2%/yr. growth and uses 1978 value of new (project) development as a basis for tax revenue (at 40% of present level).

(8) 0.9% of $61,000,000 in sales predicted for Bear Valley at full development (see Economic Impacts).

(9) Basis: 360 lodge units and 240 condominium units in the rental pool at full development; 50% year'round occupancy; $30.00/day average rate and 5% tax = $164,000. This figure must be added to the County figure without Bear Valley development.

(10) Basis: 1998 assessed value (see section on Police Protection) of $18,600,000 and a $0.12 tax rate (40% of present rate) = $22,000. To this must be added the $12,000 from the existing development.

(11) From County Budget (excludes carry over).

ESTIMATED ANNUAL COUNTY EXPENSES*

Brought about in twenty years by the proposed project (expansion of development in Bear Valley)

GENERAL: These are assumed to be 10% greater than the revenues shown for the budget in 20 years without Bear Valley development. (Basis: comparison of permanent population expected to be in Alpine County in 20 years vs the expected increase in permanent population due to the project.

EXTRA ADDED EXPENSES:

Police Protection (see section on Police Protection)	
Salaries & benefits	$ 48,000
Annualized equipment costs (2 yr life)	13,000
Annualized capital costs (20 year life)	4,000
M&O shared with fire station	-0-
SUB-TOTAL	$ 65,000
Added Fire Protection	
Salaries and benefits	$ 90,000
Annualized equipment costs (5 yr life)	40,000
Annualized capital costs	30,000
M&O on station	20,000
SUB-TOTAL	$ 180,000
Road Maintenance	
New public road mileage: 4.5 miles	
Maintenance cost per mile/yr = $500/mile	
Annualized replacement cost/yr = $ 6,000/mile	
Total cost of M&O & replacement for new roads = 4.5 x $6,500 = $29,000 (rounded)	$ 29,000
Snow Removal	
New road estimated to be plowed is 1.8 miles	
Cost now is $30,000 per mile	
HENCE, cost of snow removal on new roads =	$ 54,000
Library	
Salaries and benefits	$ 40,000
M&O on 3,500 S.F. building	20,000
Annualized equipment cost (5 year life)	10,000
Annualized capital cost (20 year life)	15,000
SUB-TOTAL	$ 85,000
TOTAL EXTRA COSTS	$ 468,000
EXCESS OF REVENUES OVER EXTRA COSTS	$ 611,000

ECONOMIC IMPACTS

Setting

Bear Valley lies within the Central Sierra Economic Development District (CSEDD), made up of Alpine, Tuolumne, Calaveras and Amador Counties. The primary economic bases of the 4-county CSEDD area are tourism/recreation, mining, forest production, and construction. CSEDD considers that tourism and recreation hold the greatest promise for economic stimulus and growth, as the other economic bases have traditionally been limited by lack of available capital and high costs of production and distribution from the area.

With regard to Bear Valley, estimates place per capita daily expenditures of visitors to the area at approximately $42.00 in winter and $33.00 in summer. Using the 1977-1978 skier-day figure of 200,000, this means that over 8.4 million dollars was brought to the area by the skiing industry alone. Assuming only 50% of the winter visitors to Bear Valley are alpine skiers, indicates that another 8.4 million dollars was spent by non-skiers visiting the area. Summer tourism in the Bear Valley area is estimated at 200,000 visitor-days. This means that 6.6 million dollars is spent by summer tourists. The total of expenditures by visitors in this area is therefore estimated at approximately 23.0 million dollars per year.

Permanent residents of Bear Valley are estimated to spend approximately $231,000 per year* for goods and services. Since goods and services are limited at Bear Valley, this figure is low, assuming permanent residents do at least 2/3 of their shopping in nearby larger towns.

As shown by the figures above, expenditures by permanent year-round residents represent less than 1% of the total expenditures in this area.

Employment in the Bear Valley area is primarily seasonal in nature, due to the predominance of the tourism industry. The Mt. Reba Ski Area is the major employer supporting an average of 125 employees during the peak winter season. Approximate employment most of the year in Bear Valley is 50 people, including lodges, shops, restaurants, community, and municipal services.

Alpine County is presently collecting $.08 per $100 assessed value for the 1915 Bond Redemption Fund. The County levied this tax when it became necessary, due to tax delinquencies, to take over repayment of the general obligation bond which was established by the original developer of Bear Valley to cover the costs of sewage collection in the core area of the development. Tax code areas 51-001 and 51-005, which include the existing Bear Valley development, are paying $5.82 per $100 assessed land value (not including improvements) to pay off the Bear Valley Water District Bond which was established to pay for construction of the sewage treatment plant serving that area.

* Basis: 1/3 x 14,000 = $4,620 per year per household x 50 households

Impacts

Development of the proposed project would strengthen and expand the tourism and recreation economic base of the area. The proposed increase in lodging, condominium, and single-family units is anticipated to raise the winter visitor spending to approximately 37 million dollars per year in this area, and the summer visitor spending to approximately 24 million dollars per year.* The total visitor spending in the area is therefore anticipated to be 61 million dollars per year at build-out of the proposed project.

The increase in permanent residents in Bear Valley with the proposed development would raise spending by permanent residents to approximately 1.6 million dollars per year.** This assumes that with the increase in commercial facilities, permanent residents would be spending about 2/3 of their income in the Bear Valley area.

* Basis: Winter - 8000 visitors x 110 days = 880,000 visitor-days
880,000 visitor-days x $42 = 37 million dollars

Summer - 8000 visitors x 90 days = 720,000 visitor-days
720,000 visitor-days x $33 = 24 million dollars

** Basis: 2/3 x $14,000 per household x 173 households = $1,600,000

Development of the proposed project would provide more seasonal and year-round employment in the Bear Valley area. Mt. Reba Ski Area anticipates a need for approximately 150 more seasonal employees with expansion due to the proposed development. Bear Valley would probably employ an additional 75 seasonal employees with development of the proposed project. Approximately 150 new year-round jobs may be created, including lodges, shops, restaurants, community, and municipal services.

Development of the proposed project would more than double the tax base for Alpine County. Revenues which would be paid by property owners in the proposed development would exceed that which would be necessary to provide services, since the majority of owners would be seasonal residents. Excess revenues would therefore be available to help pay off the previously mentioned bonds and provide increased services throughout Alpine County. If the Jarvis-Gann initiative was passed, revenues available to Alpine County would be cut by up to 30%. The impact on Alpine County from the reduction in revenues would be, in part, relieved by the increased tax base provided by the proposed development. Property in the new development would be assessed at present valuation, while existing properties would be assessed at 1975 values.

SOCIAL IMPACTS

Setting

Alpine County has fewer residents than any other county in California and a much lower density of people per square mile (1.1) than the state as a whole (127.7).* The county's population of 484 in the 1970* census and an estimated current population of 1000 in 1978** is concentrated in the towns along the primary highways through the county. The population increase appears to have resulted from net in-migration, since county birth and death rates are almost equal. In-migration appears to be mainly of families, as is suggested in the age distribution of population shown below.

Percentage Population by Age Group*

Years of Age	Alpine	CSEDD	California
0-4	5.3%	6.2%	8.2%
5-13	19.6%	15.3%	19.5%
14-18	7.3%	9.7%	9.2%
19-21	2.0%	3.8%	45.5%
22-54	57.8%	38.3%	45.5%
55-64	6.2%	12.9%	8.6%
65+	1.8%	13.8%	1.0%

*Source: United States Department of Commerce, Bureau of the Census and the California Department of Finance

** Source: Outlook '77 by the Pacific Gas & Electric Company

Alpine County is the only one of the four CSEDD counties to have any significant minority population. Approximately 23% of its residents are American Indian and 4.5% are Oriental. Its total ethnic minority percentage is almost 28%, compared with 6.1% for the CSEDD area. Expansion of population in Bear Valley would not have an impact on ethnic minorities, however, because almost all of the Indian and Oriental population lives in Markleeville on the other side of the Sierra range and quite remote from the project.

Alpine County's present and projected rates of population growth are the highest in the four-county General Sierra Economic Development District (CSEDD). Expansion of the recreation industry in the county may be responsible for this growth. The nature of this industry causes intense seasonal fluctuations in the resident population. It is estimated that the population swells from around 400 or 500 year-round residents to somewhere near 15,000 during the winter skiing period and in the peak summer months.

As previously stated, the present permanent population in Bear Valley is estimated to be 175. Here in-migration appears to be mainly young single people rather than families as is the trend in Alpine County as a whole. This may be due, in part, to the seasonal nature of much of the employment which cannot support families.

Impacts

Development of the proposed project is anticipated to bring approximately 431 new permanent residents to Bear Valley. Their composition with regard to age and marital status is anticipated to be similar to that presently existing in Bear Valley due to the continuing seasonal economic base. The influx of presumably young single people would alter the statistics for Alpine County as a whole, thus changing county-wide demographic character.

Mitigations

None proposed.

THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The Alpine County General Plan shows the entire project site to be within a Special Planning Area. According to the General Plan, "This classification is applied to a variety of land uses which either have been, are being, or are proposed to be developed in conformity with planned development or other carefully prepared and closely supervised plans because of natural environmental or other factors requiring such planning and controls. Appropriate uses in such areas are those expected in comprehensive planned development projects. Consistent zoning: PD." The proposed development is a comprehensive planned development, thus it conforms with the long-term use for this area selected by Alpine County.

Skiing, one of the most rapidly growing sports in the west, is by nature confined to those few locations in the state having suitable climate, sun orientation and slope. Mt. Reba is one such area. The provision of overnight accommodations in or near places with ski potential helps increase skier use while reducing travel distance to and from the slopes.

GROWTH INDUCING IMPACTS

Development of the proposed project would contribute significantly to population and economic growth in the area. As previously discussed, the project would bring approximately 431 permanent residents to Bear Valley, bringing the total permanent population of the area to around 600. Seasonal use of the area at total build-out is estimated, as previously discussed, at 1.6 million visitor-days. Economic growth would be fostered by this increase in population and visitor use with the purchasing of goods and services, and payment of property taxes. The increase in permanent residents would in turn induce an increase in public services such as police protection, fire protection, schools and libraries. These are described in more detail in previous sections of this report.

Development of the proposed project may induce growth in surrounding areas. At present, the property is surrounded by Stanislaus National Forest, however, it would be possible for parcels adjoining the proposed development to become private holdings by a trade-off system. In this manner, the Forest Service would "trade" public lands in the Bear Valley area for privately-owned more desirable parcels elsewhere. If such a trade were negotiated, adjoining parcels would most likely be developed for recreational and commercial use similar to that proposed for Bear Valley.

Heavy commercial facilities (auto repair, propane companies, etc.) and employee housing will be developed in communities along Highway 4 west of the site. This effect will probably be noticeable as far away as Arnold.

SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

1) Construction of roads, buildings, and recreational facilities would cause disturbance to soils on the site.
2) Some soils would be consolidated and compacted in the immediate vicinity of roads, walkways, and buildings.
3) Snowmelt overtopping creek banks in the area could cause minor earth slides which could cause damage to adjacent structures, roadways, and residents.
4) If the Bear Lake Dam was to fail, additional loss of life and property damage would occur.
5) Native vegetation would be removed on approximately 27% of the project site.
6) Approximately 500 trees with diameter at breast height greater than 12" may be removed.
7) The coniferous forest wildlife habitat of the marten, wolverine, and grey squirrel would be disrupted beyond their tolerance within the project.
8) Parts of the meadow wildlife habitat would be disturbed.
9) The migration route of the Railroad Flat Deer Herd would be disrupted.
10) In general, a reduction in all animal and bird species in the immediate vicinity of the development would result.

11) Dust created in earthmoving activities would increase suspended particulate matter, thus diminishing air quality locally for the duration of construction.

12) Erosion and siltation could accelerate, thereby decreasing water quality.

13) Runoff from parking areas and streets could add pollutants to local drainages.

14) Noise levels could increase to 77 dBA at a distance of 100' from Highway 4.

15) Noise levels could increase to 68 dBA within the development.

16) Noise from construction equipment on the site would increase levels for the duration of construction.

17) An increase in snowmobile use in the winter would increase noise levels in the vicinity of the project site.

18) The visual quality of the area would be degraded with the introduction of buildings, roads, and recreational facilities which would not conform with the landscape.

19) Archaeological sites may be impacted. This will be shown in the forthcoming archaeological report.

20) Sewage collection systems and additional treatment and disposal facilities would need to be constructed to serve the south side of the development.

21) Approximately 12.0 megawatts of electricity would be required.

22) During the winter, the increase in traffic would result in Highway 4 operating at capacity for 3 hours in the morning and 3 hours in the evening.

23) A signalized intersection would be warranted at the main project entrance and Highway 4.

24) Additional water supply would have to be developed.

25) There would be an increased demand for fire protection services.

26) There would be an increased demand for police protection services which would necessitate hiring more deputies and expanding equipment and facilities.

27) There would be an increased demand for medical services and facilities.

28) There would be an increased demand for recreational facilities in the surrounding area.

29) There would be an impact on the local elementary and high school districts of 65 and 21 more students respectively.

30) Approximately 9000 cubic yards of solid waste would be generated each year.

31) There would be an increased demand for library services.

32) There would be an increased demand for snow removal services.

ALTERNATIVES TO THE PROPOSED ACTION

1) Do Nothing

This alternative was studied and rejected for several reasons as follows:

a) Taxes levied on the project land would not be offset by income and the property would ultimately be sold at auction due to non-payment of taxes.

b) Taxes are already delinquent on about 45% of the existing lots in Bear Valley. A "do nothing" alternative would not assist the county in making up revenue to eliminate losses of this type.

c) The chances are that the remaining project acreage under a "do nothing" approach would be split up and sold to various owners thus making it more difficult to adhere to a comprehensive plan for the valley.

d) If Mt. Reba were to expand to its full skier potential without extensive overnight accommodation available in Bear Valley, the parking lot capacity serving Mt. Reba would have to be expanded to over 3000 spaces. This would result in greatly increased congestion and traffic delays on Highway 4 throughout the ski season.

e) The sewage treatment system which is now constructed was designed to serve the full anticipated development north of Highway 4. Thus the "do nothing" alternative would leave the existing owners with the burden of paying off most of the $620,800 bonded debt.

The environmental impacts of the "do nothing" alternative would be significantly less than the impacts created by moving ahead with the project. The economic impacts, however, would be substantial and adverse to existing owners and to the county under the "do nothing" alternative.

2) Significantly Reduce the Density of the Proposed Development

This alternative would have beneficial effects on the problems of finding sufficient land for parking. It would result in less vegetation removal and less effect on wildlife and the mitigation of deer. It would have a detrimental effect on the flow of payments for the sewer bonds because fewer property owners would be carrying the load. It would, similar to the "do nothing" alternative, significantly increase congestion and delay on Highway 4 if Mt. Reba were developed to its full potential.

3) Change the Proposed "Mix" of Single-Family Homes, Condominiums, and Lodge Units in Favor of More Condominiums and Lodges While Holding the Overall Density the Same

This option would result in the following effects:

a) It would result in less roadway to construct and maintain thus reducing impacts on vegetation and wildlife.

b) It would result in shorter utility runs thus reducing costs for water, power, sewer and telephone maintenance.

c) It would result in fewer visual impacts (see particularly SF 6 & 8).

d) It could result in less impact on deer migration.

e) It may or may not be as profitable.

f) It may or may not produce the expected assessed value figures used in the body of this E.I.R.

The overall impact of this option would be less than that posed by the proposed project, and it should be examined further prior to the final E.I.R.

4) Retain the Area South of Highway 4 as an Agricultural Area and Continue With Development Under the Existing Plan for Bear Valley North of the Highway

This alternative would have the following effects:

a) It would increase the need for day skier parking by 227 spaces* if Mt. Reba were to expand to its full potential. This would lead to increased congestion on Highway 4.

b) There would be little or no conflict with deer herd migration.

c) On-site recreation facilities (south of the highway) would not be expanded.

d) More area would be available for cross-country skiing.

e) The area south of the highway would not assist in paying off the bonded debt for the sewer facility.

f) Ultimately because taxes would be greater than revenues and because a sewer line runs through the property, it

* Derivation:
454 dwelling units x 3 persons/unit = 1362 persons.
Using 50% as skiers and 3 persons per car means that 227 parking spaces would be required.

could be split up and developed in more of a piecemeal manner. Thus, the option for development pursuant to an orderly plan would be more difficult. The overall effect would be lower environmental impacts, but more adverse impacts on traffic and economics.

5) Develop a Plan With Much Higher Densities Than the One Proposed

This would result in the following:

a) The capcity of the sewer plant to handle the effluent generated would be exceeded.

b) The capacity of the water system to serve the area might also be exceeded.

c) Environmental impacts would be greater: more vegetation would be removed; more animal habitat would be depleted.

ORGANIZATIONS AND PERSONS CONSULTED

Alpine County Board of Supervisors

Alpine County Sheriff's Department - Bear Valley Substation

Alpine County Unified School District - Bear Valley School

Bret Harte High School District

Robert Koch, Calaveras County Department of Public Works

Kieth Dunbar, Calaveras County Water District

Don Stikkers, U.S.F.S.

Wes Lewis, U.S.F.S.

State of California - Air Resources Board

Perry Walther, Bear Valley Company

Bob Broyer, Bear Valley Company

Bruce Orvis

Maury Rasmussen, Mt. Reba, Inc.

Berridge Associates, Inc.

Bear Valley Property Owners' Association

Ted Merry, Fire Chief & Manager, Bear Valley Water District

Mike Bettger, Administrator, Mark Twain Hospital

APPENDIX

Vegetation Mix

Analysis of Surface Parking Fiscal Impact

Carbon Monoxide Modeling

Air Quality Impact Computation Sheets

VEGETATION MIX

NORTHRUP, KING & CO.
FRESNO, CALIFORNIA 93716

NOTICE: Northrup, King & Co. warrants that seeds sold have been labeled as required under State and Federal Seed laws and that they conform to the label description. No liability hereunder shall be asserted unless the buyer or user reports to the warrantor within a reasonable period after discovery (not to exceed 30 days), any conditions that might lead to a complaint. OUR LIABILITY ON THIS WARRANTY IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF.

MIXTURE: Special Purpose Mixture

LOT NO.: F6429

COMMODITY	PURITY	GERMINATION	HARD SEED	Total Germination & Hard Seed	DATE TESTED
Bromegrass, Blando	36.86 %	93 %	%	%	6/75
Ryegrass, Wimmera	29.56 %	51 %	%	%	6/75
Wheatgrass, Pubescent	25.67 %	89 %	%	%	6/75
	%	%	%	%	
	%	%	%	%	
	%	%	%	%	
	%	%	%	%	

CROP SEED .10 %
INERT MATTER 4.77 %
WEEDS .04 %

NOXIOUS WEEDS NONE

NET WEIGHT 30 POUNDS

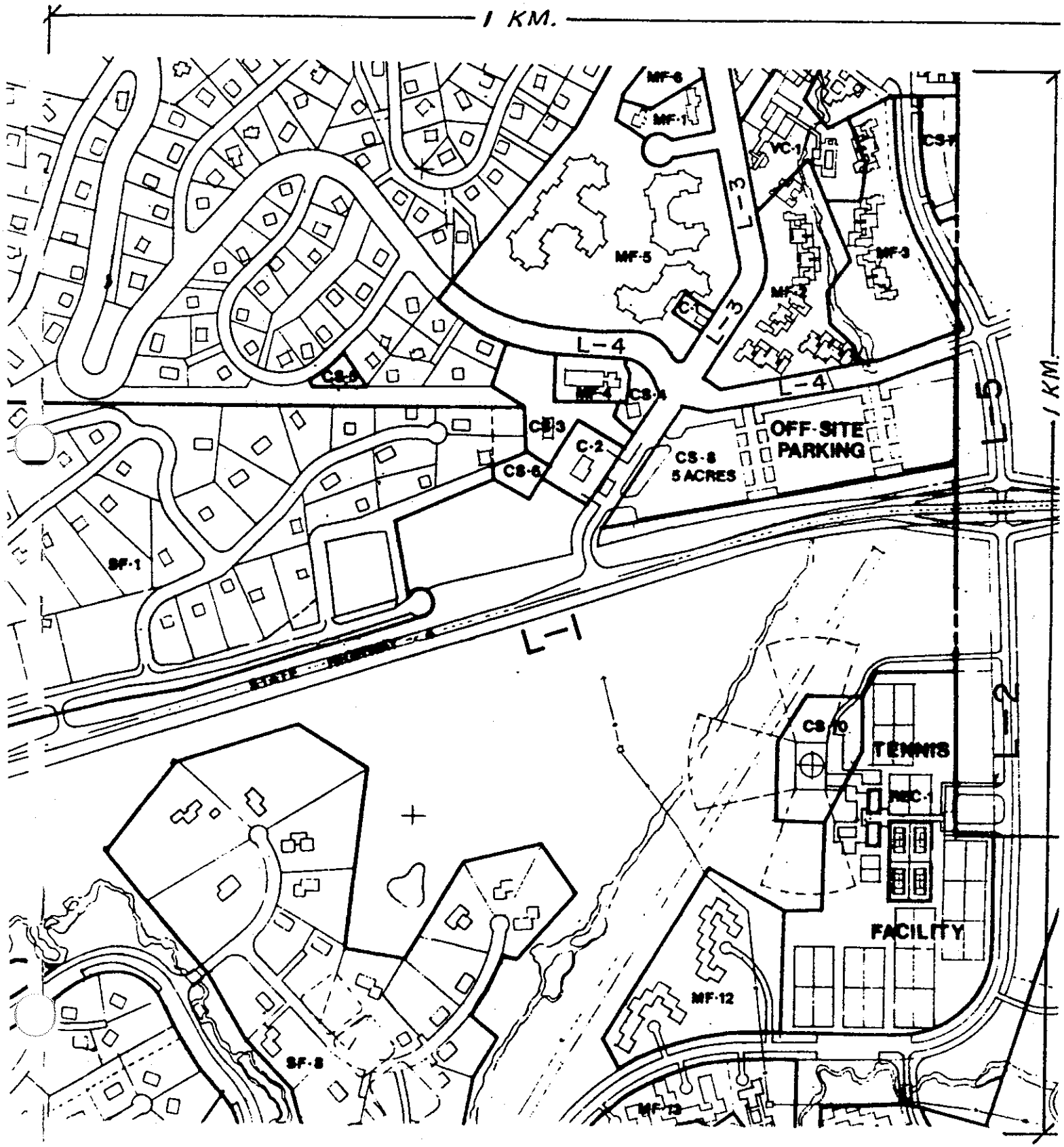
ANALYSIS OF SURFACE PARKING FISCAL IMPACT

The estimate of costs associated with the use of additional land area for parking (as opposed to the use of a parking structure) is derived as follows:

1) Acres of parking required: 10
2) Acres associated with a parking building: 6
3) Excess land area required for surface parking: 4
4) It is assumed that the land in question would otherwise have been used for commercial purposes and would have been valued at $1.50 per square foot.
5) It is further assumed that 50% of the land would have been covered by a building which would have been valued at $40.00 per square foot.
6) Thus the value of land and building (s) would have been (6 x $1.50 x 43560 + 3 x $40.00 x 43560) $5,619,000.
7) The property tax revenue of such a building would at 1% be $56,200 per year.
8) The sales tax revenue off such a building figuring $75.00/sq.ft. per year in retail sales would be $98,000 annually.
9) The loss in net profits at 5% of the gross retail sales would be $490,000 annually.
10) Summary: Tax Loss - $154,000
Profit Loss - $490,000

LOCAL PROJECT IMPACT AREA

L-1 THROUGH L-5 : LOCAL PROJECT LINE SOURCES



Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 2

Line source impact computation sheet
(numbers in circles indicate previous entries)

Line source code number L-1 (reference the project site plan)

Line source emission computation for the year of full project utilizatio

Average daily traffic[1]:1) 17,200 vehicles. Link length:2) .62 mile

Peak hour traffic:3) 2390 vehicles; time of peak hour:4) 4-5 pm.

Maximum consecutive 8-hour traffic:5) 10,320 vehicles; time:6) 2-5 pm.

Traffic, 6-9 am:7) -. Capacity:8) 1100 vehicles/hour(one way).

Average link speed:9) 45 mph. Year of utilization:10) 1977.

Emission factors for subject pollutant (grams per vehicle mile) and for the appropriate year from Table 1 and Figure 2.

Factor at average link speed: 11) 4.1 g/mi. Factor at 10 mph:12) 15.5 g/m

Calculation of maximum pollutant emission rates for the line source link

1-hour emission rate ((3) x (12) x 0.173).....13) 6718 µg/m-sec

8-hour emission rate ((5) x (11) x 0.022).....14) 1101 µg/m-sec

24-hour emission rate ((1) x (11) x 0.007).....15) 584 µg/m-sec

Total daily emission ((1) x (2) x (11).....16) 51,200 g/day

17) Peak hour volume capacity ratio for the slow direction only:

((3) x 0.6/(8).....17) 1.4

[1]Unless otherwise indicated, traffic will be counted both ways on the link and values will be given for the peak day of the year if known. traffic values are total numbers for the given time interval and not per hour numbers unless otherwise indicated.

Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 2

Line source impact computation sheet
(numbers in circles indicate previous entries)

Line source code number 1 (reference the project site plan)

Line source emission computation for the year of full project utilizatio

Average daily traffic[1]:1) 1173 vehicles. Link length:2) .57 mile

Peak hour traffic:3) 176 vehicles; time of peak hour:4) 4 pm.

Maximum consecutive 8-hour traffic:5) [illegible] vehicles; time:6) 9am-5 pm.

Traffic, 6-9 am:7) ———. Capacity:8) [illegible] vehicles/hour(one way).

Average link speed:9) 30 mph. Year of utilization:10) [illegible].

Emission factors for subject pollutant (grams per vehicle mile) and for the appropriate year from Table 1 and Figure 2.

Factor at average link speed: 11) _____ g/mi. Factor at 10 mph:12) 15.5 g/m

Calculation of maximum pollutant emission rates for the line source link

1-hour emission rate (③ x ⑫ x 0.173).....13) 472 µg/m-sec

8-hour emission rate (⑤ x ⑪ x 0.022).....14) 105 µg/m-sec

24-hour emission rate (① x ⑪ x 0.007).....15) 55.1 µg/m-sec

Total daily emission (① x ② x ⑪).....16) 4540 g/day

17) Peak hour volume capacity ratio for the slow direction only:

(③ x 0.6/⑧).....17) .12

---

[1]Unless otherwise indicated, traffic will be counted both ways on the link and values will be given for the peak day of the year if known. traffic values are total numbers for the given time interval and not per hour numbers unless otherwise indicated.

Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 2

Line source impact computation sheet
(numbers in circles indicate previous entries)

Line source code number _____ (reference the project site plan)

Line source emission computation for the year of full project utilizatio

Average daily traffic[1]:1) [illegible] vehicles. Link length:2) .28 mile

Peak hour traffic:3) 117 vehicles; time of peak hour:4) 4 pm.

Maximum consecutive 8-hour traffic:5) 4[illegible] vehicles; time:6) 9am-5 pm.

Traffic, 6-9 am:7) _____. Capacity:8) _____ vehicles/hour(one way).

Average link speed:9) [illegible] mph. Year of utilization:10) [illegible].

Emission factors for subject pollutant (grams per vehicle mile) and for the appropriate year from Table 1 and Figure 2.

Factor at average link speed: 11) [illegible] g/mi. Factor at 10 mph:12) 15.5 g/m

Calculation of maximum pollutant emission rates for the line source link

1-hour emission rate (③ x ⑫ x 0.173).....13) 314 µg/m-sec

8-hour emission rate (⑤ x ⑪ x 0.022).....14) 69.9 µg/m-sec

24-hour emission rate (① x ⑪ x 0.007).....15) 37 µg/m-sec

Total daily emission (① x ② x ⑪).....16) 1483 g/day

17) Peak hour volume capacity ratio for the slow direction only:

(③ x 0.6/⑧).....17) .08

---

[1]Unless otherwise indicated, traffic will be counted both ways on the link and values will be given for the peak day of the year if known. traffic values are total numbers for the given time interval and not per hour numbers unless otherwise indicated.

Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 2

Line source impact computation sheet
(numbers in circles indicate previous entries)

Line source code number _____ (reference the project site plan)

Line source emission computation for the year of full project utilizatio:

Average daily traffic[1]:1) 1913 vehicles. Link length:2) .30 mile

Peak hour traffic:3) 237 vehicles; time of peak hour:4) _____ pm.

Maximum consecutive 8-hour traffic:5) 1142 vehicles; time:6) 2-5 pm.

Traffic, 6-9 am:7) _____. Capacity:8) _____ vehicles/hour(one way).

Average link speed:9) _____ mph. Year of utilization:10) 1[illegible].

Emission factors for subject pollutant (grams per vehicle mile) and for the appropriate year from Table 1 and Figure 2.

Factor at average link speed: 11) 4 g/mi. Factor at 10 mph:12) 15.5 g/m

Calculation of maximum pollutant emission rates for the line source link

1-hour emission rate (③ x ⑫ x 0.173).....13) 770 µg/m-sec

8-hour emission rate (⑤ x ⑪ x 0.022).....14) 171 µg/m-sec

24-hour emission rate (① x ⑪ x 0.007).....15) 90.7 µg/m-sec

Total daily emission (① x ② x ⑪).....16) 3877 g/day

17) Peak hour volume capacity ratio for the slow direction only:

(③ x 0.6/⑧).....17) .19

---

[1]Unless otherwise indicated, traffic will be counted both ways on the link and values will be given for the peak day of the year if known. traffic values are total numbers for the given time interval and not per hour numbers unless otherwise indicated.

Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 2

Line source impact computation sheet
(numbers in circles indicate previous entries)

Line source code number _____ (reference the project site plan)

Line source emission computation for the year of full project utilizatio

Average daily traffic[1]:1) 3320 vehicles. Link length:2) .13 mile

Peak hour traffic:3) 373 vehicles; time of peak hour:4) 5 pm.

Maximum consecutive 8-hour traffic:5) 2912 vehicles; time:6) 2 pm.

Traffic, 6-9 am:7) _____. Capacity:8) _____ vehicles/hour(one way).

Average link speed:9) 5 mph. Year of utilization:10) _____.

Emission factors for subject pollutant (grams per vehicle mile) and for the appropriate year from Table 1 and Figure 2.

Factor at average link speed: 11) 6.1 g/mi. Factor at 10 mph:12) 15.5 g/m

Calculation of maximum pollutant emission rates for the line source link

1-hour emission rate (③ x ⑫ x 0.173).....13) 1536 µg/m-sec

8-hour emission rate (⑤ x ⑪ x 0.022).....14) 2.7 µg/m-sec

24-hour emission rate (① x ⑪ x 0.007).....15) 141 µg/m-sec

Total daily emission (① x ② x ⑪).....16) 5264 g/day

17) Peak hour volume capacity ratio for the slow direction only:

(③ x 0.6/⑧).....17) .28

---

[1]Unless otherwise indicated, traffic will be counted both ways on the link and values will be given for the peak day of the year if known. Traffic values are total numbers for the given time interval and not per hour numbers unless otherwise indicated.

Project: _____

Pollutant: _____

COMPUTATION SHEET NO. 3

Area source impact computation sheet
(numbers in circles indicate previous entries)

LPIA code number _____ (reference the project site plan)

Computation of project area-wide emissions

Total LPIA trip generation.....1) [illegible] vehicle trip ends per day.

For the year of project completion enter near idle emission factor for subject pollutant from Table 2.....2) 4.5 g/min.

Enter the LPIA near idle emissions for the subject pollutant assuming 3 minutes idling/trip end (3x(1)x(2)).....3) _____ g/day.

Enter the LPIA emissions at speed for the subject pollutant (sum of total daily emissions from all LPLS links from computation sheets No. 2).....4) 47,136 g/day.

Enter any other LPIA emissions for the subject pollutant (from airport runways and sources not otherwise accounted for. Use procedures given in reference 1).....5) [illegible] g/day. *

Enter total LPIA emissions from all sources ((3)+(4)+(5))/8.64E+4).....6) 6.3 g/sec.

Enter the local ambient annual average concentration for the subject pollutant ((6) multiplied by factor from Figure 3 (50).....7) 415 µg/m³.

Convert annual average concentrations to annual maximum concentrations at other appropriate averaging times using Figure 4 and Table 3. Enter concentrations below.

Averaging times:	1-hour	3-hour	8-hour	24-hour
Concentration: (µg/m³)	8) [illegible]	9) [illegible]	10) [illegible]	11) [illegible]

Enter value of SGD used for this analysis: 12) [illegible]

* [illegible]: See next page for termination of figure.

FIREPLACE BURNING

Assume

1) 15 lbs/day burned/fireplace* x 1 ton/2000 lbs = .0075 tons/day

2) 85 lbs/ton CO x 1 ton/2000 lbs =.0425 tons/ton CO

3) .0075 T/day/fireplace x .0425 T/T CO = .00031875 T/D CO

4) .00031875 T/D CO/fireplace x 1366 fireplaces** = .43 T/D CO

5) .43 T/D CO x 2000 lbs/T x 453.6 grams/lb = 390,096 grams/day CO

* This is twice the amount stated by the Placer County Air Pollution Control District for Residential Refuse Burning.

** Assume all existing and proposed residences and condominium units have one fireplace.

Project: _____

_____

Pollutant: _____

COMPUTATION SHEET NO. 4

Regional impact computation sheet
(numbers in circles indicate previous entries)

Enter total project emissions for the subject pollutant (sum of LPIA emissions from computation sheet No. 3 including point source emissions).....1) 720 166 g/day.

Enter the regional scale concentration for the 1-hour averaging time
((1) x 4.25E-7).....2) _____ $\mu g/m^3$.*

Compute the regional scale concentration at other averaging times (multiply (2) by the following averaging time factors: 3-hr=0.8; 8-hr=0.7; 24-hr=0.6). Enter results below:

Averaging times:	3-hour	8-hour	24-hour
Concentration ($\mu g/m^3$):*	3) _____	4) _____	5) _____

* Since concentration calculations assume the daily average emission rate, results for shorter term averaging times may be underestimated. If the diurnal variability of project emission rate is known, an adjustment may be made by multiplying the results by the appropriate ratio of emission rates. If, for example, the daily average emission is at the rate of 10 grams per second and the average emission rate in the peak 8-hour period is 100 grams per second, the result in entry (4) would be multiplied by 10.

When a large project contains several LPIA's which are widely separated, separate regional impact calculations for the individual LPIA's might be appropriate.

PROJECT IMPACT SUMMARY FORM NO. 1*
(Line and area sources)

Contaminant	Air quality standard averaging time	Air quality standard ($\mu g/m^3$)	Calculated air quality impacts ($\mu g/m^3$)							
			Regional	Local Area 1	Local Area 2	Roadside L-1	Roadside Road L-2	Roadside Road L-3	Roadside Road L-4	Roadside Road L-5
Carbon monoxide	1-hour	40,000	.1	?		6118	472	314	770	1536
	8-hour	10,000		?		1191	105	69.9	171	342
Non methane hydrocarbons	3-hour (6-9a.m.)	160								
Nitrogen dioxide	1-hour	500								
	1-year	100								
Sulfur dioxide	1-hour	1,306								
	24-hour	104								
	1-year	80								
Suspended particulate	24-hour	100								
	1-year	66								

Non-methane hydrocarbon entries can be used locally and regionally to estimate the potential for oxidant formation.

Please note: This form provides for three area source computations and four roadside computations. The specific area sources and roads for which the computations are made should be identified on an accompanying site plan or other mapping of the project area. Additional copies of this form may be used if necessary.

* Line and area source impact is indicated on this form as the maximum concentration of air quality standard related contaminants expected to occur during a single year as the result of project emissions. Impact calculations are based on simplified, manual dispersion calculations and statistical techniques with conservative input values. Impact is analyzed on a regional and local basis for project emissions alone and on a roadside basis for total project and non-project emissions. An impact is given for each of the averaging times appropriate to a given standard. By itself, this information is considered sufficient as a first approximation of the extent to which air quality will be degraded by the project alone. Determination of the significance of the impact should be made by an air pollution control agency or qualified consultant with a consideration of projected background concentrations resulting from non-project emissions.

COUNTY OF ALPINE

FINAL

ENVIRONMENTAL IMPACT REPORT

FOR

BEAR VALLEY MASTER PLAN

Submitted

October 26, 1978
&
Revised
December 28, 1978

OWNER

BEAR VALLEY POLICY COMMITTEE
% Perry Walther
P.O. Box 1135
Bear Valley, California 95223
(209) 753-2327

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TABLE OF CONTENTS

LETTERS OF COMMENTS AND RESPONSES

TABLE OF CONTENTS CONT'

Other Documents which are a part of this Final but not included herein:

MINUTES OF HEARING ON DRAFT EIR
held on September 28, 1978
October 26, 1978 & November 30, 1978
DRAFT ENVIRONMENTAL IMPACT REPORT
Submitted June 29, 1978

RICHARD G. SALTER, *AIP*
The Land Use Group

Area Code (916) 441-1722

September 11, 1978

To: Each Member
Alpine County Planning Commission

Re: Bear Valley Environmental Impact Report

Action Requested: To add, modify or delete information summarized herein; Responses from project developer will lead to the preparation of the Final EIR.

A. LAND USE

At the 8-31-78 public hearing, testimony by the proponents indicated a lack of certainty on density location and housing mix. Also, the Development Plan (May 1978) was stated to be unworkable in the area south of Highway 4 (streets, lotting grades, etc).

Should the Planning Commission decide to eliminate single family dwellings, then multi-family clusters with parking plan should be a new exhibit

Because "trade-offs" are under discussion (single family for condo-mult) in areas not yet defined, overall EIR review can only be related to more definite information and plan. Special concern is high density changes north-west of the lake and over-the-snow travel problems. Also, should the density be the "same" under an alternative plan not yet developed?

B. SEWAGE

Capacity:

1. Needed is an estimate of growth of the entire sewage service area; Bear Valley, Mt. Reba and Lake Alpine (capacity and flows). Will Bear Valley pre-empt Lake Alpine and Mt. Reba's allocations?

2. Is inflow/infiltration a treatment factor?

POST OFFICE BOX 147 ☐ SACRAMENTO, CALIFORNIA 95801

Member: American Institute of Planners

B. SEWAGE

Costs:

1. Estimate the costs of improvement to the existing treatment plant, if any. Is there a sinking fund for other than maintenance?

2. Estimate the required future improvement costs of collection/treatment of effluent at build-out.

3. Estimate the financial impact on the system in servicing the south of Highway 4 development at the approximate 454 unit density.

4. Project revenues and expenditures for maintence, operation and plant improvements: present and future.

5. US FOREST LANDS: What are lease conditions and terms of lease for treatment, storage and disposal?

C. WATER

Same as for sewage: capacity and costs

D. SOLID WASTE

Costs:

1. State method (s) and costs for disposal. What will be the amount of garbage fees to be colledted? What will be Alpine County"s costs, if any?

E. PARKING

Winter Conditions

1. Should condominiums, lodge units be the alternative land use south of Highway 4?
How will they be designed and where will parking be provided?

2. Explain method of snow removal and regeme during and after snowstorms. What are the average yearly costs and sources of revenue from CSA #1?

3. In selecting a "most likely" ski lift alternative, what will:

   a. be the Forest Service responsibility (page 96) for parking facilities?

RICHARD G. SALTER, AIP

Major discussion item: An over-the snow transportation system.

E. Parking (Con't.)

b. New parking needs be south of Highway 4. Will this impact unfairly upon present Bear Valley residents?

4. Incorporate US Forest Service comments by Don Strikker on parking. What is the impact on timber from snow removal: Mitigation measures?

a. What are the impacts of snow removal--plowing, blowing and stacking?

F. ECONOMIC

1. Needed is a cost/revenue statement that expresses 1978 conditions along with a 5 and 10 year projection. Costs should include money amounts necessary to bring water, sewer, roads maintenance and on-going County administrative costs... (Sheriff, library, fire protection, etc. up to 1978 requirements: 1983 and 1988 projections... How will revenues be derived and how much?

2. Require a periodic up-dating of the EIR as a condition to subsequent Use Permits.

G. OTHER NOTES:

1. Geology: "The more seismically sensitive lands... would remain in open space. Will they?

2. Soils: "Seasonal limits should...be June 15 through October 15".. Need positive mitigating action statement

3. Drainage & Flood Control

"No living quarters should be allowed at ground level (of the dam)". This should be ensured through design and use permit approval

Note: The Division of Dam Safety (Mr. Tom Patton) reports that the dam is sound and is inspected annually.

RICHARD G. SALTER, *AIP*

4. VEGETATION: Mitigation: again, language does not imply an action by developer to mitigate through design and approval of use permits. What private action to mitigate is selected?

5. FIRE HAZARD:

Is another fire fighting facility needed?

6. WILDLIFE:

"Meadows and riparian lands <u>should</u> be avoided"..

Page 29, paragraph 3... alternatives needs to be quantified and explained

7. AIR QUALITY

What mitigating measures are available and controllable by the developer?

What public action is required to reduce emissions, if any.

Note: State Air Resources Board staff have no comments on the EIR.

8. WATER QUALITY:

What mitigating measures are proposed?

9. AESTHETICS:

What specific actions are proposed by developers? Berms-cluster development-tree removal- utilities?

10. ARCHAEOLOGY:

What are the conclusions of the report? all "findings" are in proposed areas for development. Developers intend to preserve historical site south of Highway 4.

11. TRAFFIC:

What traffic control measures will be required? Any dedications for widening of Highway 4?

Other County services: police, courts, schools, etc. need further discussion as part of economic impacts. School site "trade" status?

US Forest Service comments are enclosed for review.

Bear Valley Residents, Inc. EIR review is also enclosed.

RICHARD G. SALTER, *AIP*

RESPONSES

A. Land Use

The revised development plan following this page shows the density location and housing mix proposed by the project proponents. Overall project density is the same under this plan as originally proposed. The increase in multi-family* units over single-family units will minimize the areal extent of disturbance on the property by approximately 19%. (See derivation in response under "Wildlife".)

Additional density proposed in the northeast area of the property is a result of homeowners requests for winter parking. Also some of the units objected to by the homeowners at the east end of Bear Lake were moved to the northeast area. Higher density here will assist in making over-the-snow transportation more feasible to the northern extremities of Bear Valley to existing and proposed developments.

Prior to development in any sub-area (MF-16, etc.) a precise plan must be prepared and approved by the County.

*Multi-family units include: Apartments; condominiums; townhouses; clusters; etc.

PROJECT SUMMARY

BEAR VALLEY DEVELOPMENT PLAN

General Development Plan
North Side

Single Family Parcel	Acerage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 1	52.8	1.1	59	354	118
SF 2	200.0	1.9	389	2334	778
SF 3	6.9	1.1	8	48	16
SF 4	12.7	2.0	26	156	52
SF 6	6.2	2.1	13	78	26
Sub Total	278.6		495	2970	990

Multi Family Parcel	Acerage	Density	Units	Beds 4/Unit	Cars 1.5/Unit
MF 1	.7	22.8	16	64	24
MF 2	3.9	15.4	60	240	90
MF 3	4.1	17.6	72	288	108
MF 4	.7	28.6	20	80	30
MF 5	5.4	18.5	100	400	150
MF 6	.5	24.0	12	48	18
MF 7	---	---	---	---	---
MF 8	---	---	---	---	---
MF 9	3.5	8.6	30	120	45
MF 10	3.8	11.8	45	180	68
MF 11	2.5	4.8	12	48	18
MF 12	33.1	3.4	113	452	170
MF 13	---	---	---	---	---
Sub Total	58.2		480	1920	721

Village Center	Acerage	Density	Units	Beds 2/Unit	Cars 1/Unit
VC 1	2.5	---	62	124	62
VC 2	15.2	---	500	1000	500
Sub Total	17.7		562	1124	562

Commerical	Acerage	Density	Units	Beds 2/Unit	Cars 1/Unit
C 1	.1	---	14	28	14
C 2	.7	---	---	---	---
C 3	1.5	---	---	---	---
Sub Total	2.3		14	28	14

North Side Total	356.8		1551	6042	2287
80% Occupancy				4834	1830

Single Family Parcel	Acreage	Density	Units	Beds 6/Unit	Cars 2/Unit
SF 5	39.4	1.1	44	264	88
Sub-Total	39.4		44	264	88

Multi Family Parcel	Acreage	Density	Units	Beds 4/Unit	Cars 1.5/Unit
MF 14	4.6	7.4	34	136	51
MF 15	4.1	13.2	54	216	81
MF 16	24..	4.6	112	445	159
MF 17	25.7	7.3	187	745	289
MF 18	14.5	4.1	59	236	88
Sub-Total	73.2		446	1778	668

Southside Total	112.6		453	1900	701
80% Occupancy				1520	561
General Development Plan Total	467.9		2041	8064	3037
80% Occupancy				6451	2430

Community Services

CS1	P.G.& E. Substation	0.3 Acres
CS2	Elementary School	2.9
CS4	Sheriff & Fire Station	0.4
CS5	Pacific Telephone	0.2
CS10	Heliport	2.0
CS11	School	5.9
CS12	Sewage Treatment	127.6

Recreation

Rec1	Tennis Facility	13.0 Acres
Rec2	Stables and Arena	3.3
Rec3	Homeowner's Center	2.2
Rec4	Beach - Picnic Area	2.1

Parking Facilities

P1	Short Term Parking	0.9 Acres
P2	Off-Site Parking	5.0
P3	Transportation Center & Parking	5.0
P4	South side Off-Site Parking	5.0

B. SEWAGE

Capacity

1. The following are estimates of the ultimate future capacities from the Service Area currently in the Bear Valley Water District.

Source of Sewage	Summer Flow (gpd)	Winter Flow (gpd)
Bear Valley (Minimun Flow Fixtures for Future Development)	326,000	326,000
Mt. Reba (Minimun Flow Fixtures)	<1,000	25,000
USFS (Lake Alpine) (Contract Maximums)	40,000	<4,000
Lake Alpine Homeowners (37 Homes @ 200 gpd ea.)	7,400	7,400
TOTALS	374,400	362,400

Notes:
1. BVWD authorized its attorney to draft an ordinance requiring mimimum flow fixtures on all new development to be discussed and hold public hearings for adoption prior to end of year.
2. Maximum treatment plant capacity is currently 500,000 average daily flow.
3. Flows from Bear Valley assume all future development to be based on minimum flow per note above.

2. Infiltration-Inflow at Bear Valley has not been a treatment factor.

Costs

1. Treatment Costs have already been spent by the BVWD thru a General Obligation Bond. Mt. Reba, the USFS, the Lake Alpine

Homeowners and the future development of the South Side have or will be required to pay fees in accordance with the equivalent bond amounts paid on the North Side. Such as the average homeowner on the North Side will pay about $540 per residence and all future development will pay the same.

These additional fees will be placed in a sinking fund for expansion, if necessary, major repairs, or anything else the board can legally use the funds for.

2. Assuming treatment and disposal regulations remain the same and based on current value of money, future collection/treatment costs are as follows:

Item	Estimated Cost per Residence
Collection System	$3200 per residence
Treatment System	540 per residence
Connection Fee	300 per residence
TOTAL ESTIMATED COST	$4040 per residence

3. Financial impact on the system in serving the 454 units is as follows:

M & O COSTS	Annual Costs North Side (1598 Units)	Annual Costs South Side (454 Units)
Collection System	$ 56,500	$ 9,700
Treatment System	126,000	21,600
Pump Stations (New)	-0-	1,700
TOTALS	$182,500(1)	$33,000
Equivalent Annual Cost per residence	$ 69	$ 73
Combined Annual Cost per residence	$70	
Fees(1) Annexation Fees ($540/res.)	-	227,000
Connection Fees ($300/conn.)	290,400	136,200
TOTAL FEES TO SINKING FUND	$290,400	$363,200

(1) Based on BVWD 1977-78 budget and rules and regulations.

4. Projected revenues and expenditures for M & O and plant improvements are as follows:

Item	1977-78	5 yrs.	10 yrs.
Income (Monthly Fees) (1)	$24,050	$76,700	$119,900
(Conn.&Annex. Fees)(2)	11,060	30,000	84,000
Expenditures (3)	32,955	56,000	78,000
Plant Improvements (4)	-0-	33,000	66,300
Available for other improvements		17,700	59,600

(1) Assumes rate increase of 7% per year.

(2) Assumes 100 units added per year all on North Side until complete.

(3) M & O costs to increase 7% per year and add 1 man at end of 5 years.

(4) Spray field to be constructed in stages as needed.

(Assume every two years add 10% of spray field)
(Original cost $327,800 increased @ 15% per year)

5. No USFS lands are now being utilized.

C. WATER

Capacity

1. The following are estimates of the alternate water needs of the service area which includes the north and south side of State Highway 4 which is shown in the development plan and is under the ownership of Lake Alpine Water Company, a private water company controlled by the State of California, Public Utilities Commission (PUC).

Area of Need	Estimated Annual Flow
N/S Bear Valley	277 Ac. Ft.
S/S Bear Valley	79 Ac. Ft.
Allowance for loss & Fire Water	40 Ac. Ft.
TOTAL ANNUAL NEEDS	396 Ac. Ft.

Note: Lake Alpine Water Co. cannot expand service area to Mt. Reba or the Lake Alpine area without proving additional capacity and obtaining approval from the PUC.

2. Losses for exfiltration are adequately included in 1. above.

Costs

1. Costs of improvements to the treatment plant, if additional surface water is used, is as follows:

A. Present Treatment Plant Capacity = 200 gpm

B. Future Capacity Required from all Sources is about = 300 gpm

C. Costs to Provide Additional Treatment = $60,000 (1)

(1) Based on current 1978 prices.

It must be noted that if the springs can be developed to their ultimate capacity and one well could be developed in or about the meadow area the costs would be approximately as follows:

A.	Spring improvement	=	$5,000
B.	Well and Pump	=	9,000
C.	Chlorination	=	3,500
	TOTAL COSTS		$17,500

2. Ultimate improvement costs for distribution, storage and treatment are:

A.	Distribution system per residence	=	$1,435
B.	Storage (1,500,000 gal)	=	1,026
C.	Treatment System ($60,000)	=	130
	TOTAL COST PER RESIDENCE	=	$2,591 (1)

(1) Appears about right for area. Individual items A,B & C will vary depending upon location, density and parcel configuration.

3. Financial impact on the water system in serving the 454 units is as follows:

M & O	Annual Costs North Side (1598+Comm)	South Side (454)
Distribution	$ 46,000	$ 7,900
Treatment	184,000	31,700
TOTALS	$230,000	$39,600
Equivalent Annual Cost per residence	$ 86.88	$ 87.22

Since this system is owned and operated as a private company annexation and connection fees cannot be charged, therefore the only financial burden on the resident is the construction costs which are outlined in paragraph 2 above.

4. Projected revenues and expenditures for M & O and plant improvements are as follows:

Item	1977-78	5 yrs.	10 yrs.
Income (1)(2)	$31,660	$101,100	$210,700
Expenditures (3)(4)	30,230	96,600	128,600
Depreciation (5)	8,000	8,000	8,000
Connections (2)	348	848	1,348

(1) Assumes rate increase of 7% per year.

(2) Assumes 100 units added per year all on north side until complete.

(3) M & O costs to increase 7% per year. Full time operator required at 1000 connections.

(4) Capitol expenditures not included (See item 3 above)

(5) Depreciation is figured on current equipment installed. Future equipment installed by the developer cannot be depreciated nor can it be used as a profit base.

5. Three springs and three storage tanks are currently on USFS land by permit which expires in 1991. (See USFS letter dated September 12, 1978)

Since the facilities are located on public lands and will have been for some 25 years at the end of 1991, it is seriously doubted that a higher and better use could be justified for revoking the

permit. There is nothing more beneficial than the enjoyment by the public of having a pure source of water at the pressures necessary to sustain life as we know.

D. Solid Waste

Costs:

As stated in the Draft E.I.R., pgs. 90-91, solid waste generated by the project will be disposed of in a landfill in Calaveras County by a special agreement with the Calaveras County Department of Public Works. At present, costs to Alpine County for usage of the landfill are based upon the Department of Public Works' projections of waste generation. The proposed development is anticipated to generate up to three times the amount of waste presently generated in Bear Valley. Alpine County would therefore be charged an additional $18,756 per year (three times the '77-'78 charges), plus increases due to operating expense increases, for use of the Calaveras County landfill for solid waste disposal from the project if the current method of funding continues. However, it is suggested that fees for landfill usage be paid by users as part of the garbage collection fee rather than being imposed upon Alpine County.

Garbage collection for the proposed project will be by a private contractor. At present, fees for single family residence garbage collection are $7 per month for weekly pick-up of one 30 gallon can. Bear Valley Lodge pays $.80 per 30 gallon bag. Multi-family and commercial facilities pay a monthly rate based on estimated waste generation. Fees for garbage collection are anticipated to be approximately the same or slightly higher per unit when the project is complete.

Additional impacts and mitigations regarding solid waste disposal are as described in the Draft E.I.R. pgs. 90-91a.

E. Parking

1. The revised development plan shows multi-family units as the alternative land use for most of the area south of Highway 4. We do not believe that lodge (hotel) units would be appropriate here. Parking for multi-family units will be provided adjacent to each unit within the areas designated "Multi-family". Design layout and specifications will be subject to review during the tentative map approval process. Future development designs will be required to minimize the impacts on visual quality and vegetation disturbance. These impacts have been maximized in the E.I.R. so as not to understate them.

Approximately 600 parking spaces are proposed south of Highway 4 on property now owned by the School District (see revised plan). In addition, parking is proposed along the loop road-way serving the south side of the Highway. A total of 500 spaces would be available here in the winter under this plan. In either case parking will be provided to meet the minimum standards of the County (702 spaces required).

2. Snow removal will begin as rapidly as possible in the event of a snow storm.

Snow will be stored on the berms and in the tree fringes of the proposed parking areas. Early removal will mean blowers are moving snow instead of ice hence the impact on the abutting trees will be less.

Yearly cost for snow removal via the C.S.A. is about $49,500. Other costs and revenue sources for C.S.A. No.1 are shown on the following pages which are taken from the 1977-78 County Budget.

3.a. The Forest Service will not be responsible for providing parking facilities for Bear Valley residents and guests who will utilize the ski lift to Mt. Reba.

A subsidized over-the-snow shuttle system should be required to be developed to transport Bear Valley residents and guests to the ski lift and to and from residence areas. In addition, a day use snowmobile parking lot should be made available for Bear Valley residents and guests at the ski lift until such time as snowmobiles can be replaced with a shuttle system.

b. As shown in the revised development plan, a 5 acre site, owned by the Alpine County School District, is proposed to be utilized for south area parking. By establishing a zone 2 under C.S.A., designated as that area south of Highway 4, the impact of funding snow removal and parking facility maintenance will be contained within that area.

4. Responses to comments from the U.S. Forest Service have been included herein.

The impact on timber from snow removal is anticipated to be minimal as evidenced by healthy trees along Creekside Drive where snow removal has taken place in past years. It may be necessary to remove some trees along the roadways to allow for snow removal. However, this could be accomplished only when and where necessary, rather than throughout the project site.

State Controller
County Budget Act
1966

COUNTY OF [illegible]
STATE OF CALIFORNIA
[illegible] DISTRICT BUDGET
(Name)
BUDGET FOR THE FISCAL YEAR 19[illegible]

DISTRICT BUDGET FORM
SCHEDULE 13B
GOVERNING BOARD
Board of Supervisors [ ]
Other [ ]

SUMMARY DATA

FUND	NET ASSESSED VALUATION		ALLOWANCE FOR DELINQUENCY
[illegible]	Secured Roll: [illegible]	Unsecured Roll: 190,370	Secured: % Unsecured %
	Secured Roll:	Unsecured Roll:	Secured % Unsecured %
	Secured Roll	Unsecured Roll.	Secured % Unsecured %

FUND	LESS FUND BALANCE—UNAVAILABLE					Fund Balance Available for Financing Budget Year Requirements	Estimated Revenues (Other Than Current Property Taxes)	Total Available Financing
	Fund Balance as of June 30 19 77 Actual ☒ Est. ☐	Reserve for Encumbrances	Uncancelled General Reserves and Reserves Within ACO Funds	Other Reserves	Inter-Fund Transfers			
General	8,503	7,000				15,503	10,[illegible]	[illegible]

FUND	REQUIREMENTS			MEANS OF FINANCING				Tax Rate on Secured Roll Actual ☐ Est. ☐
				Available Financing	Amount to be Raised by Current Property Tax Levy			
	Expenditure Appropriations	Provisions for Reserves (Increases or New Reserves)	Total Requirements		Total	Unsecured	Secured	
General	37,818		37,818	25,753	12,065	1,150	10,915	.30

ANALYSIS OF REVENUES BY SOURCE
(Other than Current Property Taxes)

SOURCE—DESCRIPTION	Actual Revenues 19 75 76	Actual ☒ Estimated ☐ Revenues 19 76 77	Revenue Estimates Requested ☒ Recommended ☐ 19 77 78	Approved/Adopted by the Governing Board 19 77 78	Fund (General or Operating unless otherwise indicated)
(1)	(2)	(3)	(4)	(5)	(6)
Prior Secured Taxes	1,327.38	7,439.86	9,000	9,000	
Interest	945.77	1,189.59	1,200	1,200	
State Homeowners Exemption	249.97	405.49	700	500	
State Business Inventory Exemption	2,540.70		500	550	

EXPENDITURE DETAIL

EXPENDITURE CLASSIFICATION	Actual Expenditures 19 75 76	Actual ☒ Estimated ☐ Expenditures 19 76 77	Expenditure Estimates Requested ☒ Recommended ☐ 19 77 78	Approved/Adopted by the Governing Board 19 77 78	Fund (General or Operating unless otherwise indicated)
(7)	(8)	(9)	(10)	(11)	(12)
SALARIES AND EMPLOYEE BENEFITS					
7010 Salaries and Wages	2,000.00	6,329.36	9,876	11,304	
7020 Social Security	117.00	370.27	578	661	
7027 Public Employee's Retirement System		636.65	1,244	1,424	

State Controller
County Budget Act
1968

COUNTY OF ALPINE
STATE OF CALIFORNIA
COUNTY SERVICE AREA #1 (Name)
DISTRICT EXPENDITURE DETAIL—Continued
BUDGET FOR THE FISCAL YEAR 19[illegible]

DISTRICT BUDGET FORM
SCHEDULE 10C
GOVERNING BOARD
Board of Supervisors
Other

EXPENDITURE CLASSIFICATION (1)	Actual Expenditures 19 75, 76 (8)	Actual Estimated Expenditures 19 76, 77 (9)	Expenditure Estimates Requested Recommended 19 77, 78 (10)	Approved Adopted By the Governing Board 19 [illegible] (11)	Fund (General or Governing unless otherwise indicated) (12)
SALARIES AND EMPLOYEE BENEFITS					
7030 Group Health Insurance		225.12	48	48	
TOTAL SALARIES AND EMPLOYEE BENEFITS	2,117.00	7,561.48	12,060	12,060	
SERVICES AND SUPPLIES					
7060 Communications	62.25	8.90	200	200	
7100 Insurance	97.45	47.71	75	75	
7170 Office Expense			300	300	
7180 Professional and Specialized Services					
1. Snow Removal	25,567.66	20,480.00	20,500	20,500	
2. Snow Grooming and Packing	3,000.00	3,000.00	3,000	3,000	
3. Bear Valley Study	7,635.82				
4. Mosquito Abatement	2,000.00	1,600.00	1,800	300	
5. Bear Valley Parking Lot		4,651.23			
6. Fire Hydrants		1,500.00			
7. Other	350.00	193.00			
7190 Publications and Legal Notices	274.67		100	100	
7250 Transportation and Travel			300	300	
TOTAL SERVICES AND SUPPLIES	39,987.85	31,480.84	26,275	24,775	
FIXED ASSETS					
7370.1 Bear Valley Fire House	16,484.00				
7370.2 Snow Cat			13,243	13,243	
TOTAL FIXED ASSETS	16,484.00		13,243	13,243	

53.6% of total budget for snow removal

State Controller
County Budget Act
1968

COUNTY OF ALPINE
STATE OF CALIFORNIA
COUNTY SERVICE AREA #1 (Name)
DISTRICT EXPENDITURE DETAIL—Continued
BUDGET FOR THE FISCAL YEAR 19 77 - 78

DISTRICT BUDGET FORM
SCHEDULE 13C
GOVERNING BOARD
Board of Supervisors ☐
Other ☑

EXPENDITURE CLASSIFICATION	Actual Expenditures 19 75 - 76	Actual ☒ Estimated ☐ Expenditures 19 76 - 77	Expenditure Estimates Requested ☐ Recommended ☐ 19 77 - 78	Approved Adopted by the Governing Board 19 77 - 78	Fund (General or Operating unless otherwise indicated)
(7)	(8)	(9)	(10)	(11)	(12)
EXPENDITURE TRANSFERS AND REIMBURSEMENTS					
7390 Reimbursements					
1. Mosquito Abatement			(200)		
2. CETA				(13,805)	
TOTAL EXPENDITURE TRANSFERS AND REIMBURSEMENTS					
TOTAL COUNTY SERVICE AREA #1	58,588.85	59,042.32	51,938	37,818	

The impacts of snow removal-plowing, blowing, and stacking, are as follows:

Blowing the snow on the trunks of trees within about 30 feet from the area to be cleared breaks off tree limbs, removes bark and makes the trees more suceptible to bug infestation. This effect may be mitigated if snow is blown early in the storm before it turns to ice. An alternative which is not considered advisable from an aesthetic standpoint would be to remove all trees within 30-40 feet of areas subject to snow removal. Most lower story vegetation seems to survive the advent of snow blowing and stacking. Small trees, however, seem to become stunted as a result of this activity.

F. Economic

1. Water and Sewer costs are not anticipated County expenses. All costs associated with the water and sewer system will be paid by the developer.

County administrative costs have been set forth in the D.E.I.R. for a 20 year projection.

A 10 year projection is set forth hereunder. Basis of the projections are the same as those used in the D.E.I.R. They assume Bear Valley will be built-out in 20 years.

County Service Area #1 Revenue Summary

Revenue Source	Now (1978-79)	Alpine Co. in 10 Years Without Further Development at Bear Valley	Alpine Co. in 10 Years With Further Development at Bear Valley
Property taxes	$32,117	$39,150 (2)	$66,821 (4)
Other	$10,000 (1)	$14,802 (3)	$14,802 (3)
TOTALS	$42,117	$53,952	$81,623

(1) From County Budget, excludes carry over.
(2) Expands Bear Valley property tax revenue at 2%/yr.
(3) Expands present funds by 4.0%/yr.
(4) Total revenue at ½ buildout = $373,125., using 6.7% going to CSA #1 = $24,999 + property taxes without futher development, $41,822 = $66,821.

School Revenue Summary per Student

	Now (1978-79)	In 10 Years With Further Growth In Bear Valley and In The County. (1)
Property tax school revenue/student in Bear Valley	$1276 (2)	$1671 (4)
Property tax school revenue/student in Alpine Co.	$594 (3)	$605 (5)

(1) Figures based on an Alpine County 1990 population projection of 1500 by the State Department of Finance and ½ buildout of the proposed new Bear Valley Master Plan development.

(2) 45% of the total Countywide school revenues from property taxes is from Bear Valley. 45% x $113,420 = $51,039 40 students reside in Bear Valley.

(3) Countywide school revenues from property taxes = $113,420. Total number of students in the County is 191, source Alpine Co. Unified School District.

(4) Total appraised value of ½ buildout of proposed new Bear Valley Master Plan development = $37,312,500 as shown in the section on Police Protection in the Draft E.I.R. Total revenue would therefore be $373,125, 23.5% of which would be for schools = $87,684 + present school revenues, $51,039 = $138,723. Total student population in Bear Valley in 10 years = 83

(5) Additional school revenues from Bear Valley in 10 years = $87,684 + projected Countywide school revenues in 10 years - $113,420 x 1.61 = $182,606 (61% increase projected by State Dept. of Finance, i.e. population increase from 930 - 1500) Total = $270,290. Additional students in Bear Valley in 10 years = 43 + projected number of students in the County in 10 years (26.9% of 1500) 404 = total 447 students.

Revenue Source	Now (1978-79)	Alpine Co. in 10 Years Without Further Development at Bear Valley	Alpine Co. in 10 Years With New Bear Valley Master Plan Developed to the Half Way Point.
Property taxes	$336,548	$438,246 (1)	$698,687 (6)
Sales taxes	$35,000	$51,800 (2)	$228,960 (7)
Hotel/Motel tax	$20,000	$29,605 (3)	$111,730 (8)
Other taxes, licenses, permits, fines, forfeits, penalties, use of money and property, charges for services, etc.	$126,195	$186,800 (4)	$186,800 (4)
Aid from other agencies	$1,001,000	$1,173,197 (5)	$1,173,197 (5)
TOTALS	$1,518,743	$1,879,648	$2,399,374

(1) Expands non-Bear Valley property tax revenue ($185,101) at 3.2%/yr and Bear Valley tax revenue ($151,447) at 2%/yr., basis 75-76 assessed value ratio - $253,633 + $184,613 = $438,246.
(2) Expands present sales tax revenues by 4%/year.
(3) Expands present hotel/motel tax revenues by 4%/year.
(4) Expands present funds by 4%/year.
(5) Expands present other government aid by 1.6%/yr.
(6) Property taxes without further development = $438,246 + property taxes available to County from ½ buildout of new Bear Valley Master Plan - total appraised value of ½ buildout - $37,312,500. Total revenue = $373,125, 69.8% (from 78-79 split) of which would go to the County = $260,441 + $438,246 = $698,687.
(7) Sales tax generated at ½ buildout = 0.9% x $19,684,500 = $177,160 + sales tax predicted without further development, $51,800 = $228,960.
(8) Basis: 180 lodge units and 120 condominium units in rental pool at ½ buildout; 50% year round occupancy; $30./day average rate and 5% tax = $82,125 + hotel and motel tax predicted without further development, $29,605 = $111,730.

Estimated County Expenses For Bear Valley

	Now (1978-79)	In 10 Years With Further Development at Bear Valley (1)
Police Protection	$75,000	$112,500
Fire Protection	$50,000	$150,000
Road Maintenance	$48,750 (2)	$65,625 (3)
Snow Removal	$42,500	$71,012 (4)
Library	$ 3,000	$42,500
Public Protection Superior Court, Judicial Court, etc.	$23,333	$31,500 (5)
County Administration; Building Dept., County Clerk, Auditor, Probation Office, Treasurer, Assessor, Elections, Planning Commission	$77,119	$104,111 (5)
Health, Sanitation	$23,991	$32,388 (5)
Public Assistance, Welfare	$25,212	$34,036 (5)
TOTAL	$368,905	$643,672

(1) ½ buildout of the proposed new Bear Valley Master Plan development.
(2) Existing public road mileage = 6.5 mi.
Maintenance costs/year = $1500/mi.
Annualized replacement cost/year = $6000/mi.
6.5 x $7500 = $48,750.
(3) New public road mileage = 2.25 mi.
Maintenance costs per mile/year = $1500
Annualized replacement cost/yr = $6000/mile.
(4) New road estimated to be plowed - 1.8 miles x 20' wide x $.15/sq. ft.

(5) Based on 1.35 x increase with ½ buildout based on increase in visitor days and permanent population projections - rate - expressed in 78-79$.

F. Economics

2. We are opposed to updating of the E.I.R. with subsequent use permits for impacts covered in this E.I R. The Environmental Quality Act will determine when a new or updated E.I.R. is required.

no page 25

G. OTHER NOTES

1. Geology: It is the full intent of Bear Valley Company in this presentation to have all sensitive areas remain as open space. The general plan, as modified, will maintian the areas as open recreation lands. In addition to the above, as each unit or area is developed, a preliminary soils and geologic investigation is required and if any other areas are found they also will be placed in open recreation lands.

2. Soils: Seasonal limits for work involving earthwork shall not start before June 15 and reseeding must be completed by October 15. Earthwork which has not been reseeded or otherwise protected by October 15 shall be "winterized" by one or more of the following:

a) Cover exposed earth with straw

b) Construct basins for silt retention

c) Conduct runoff through forest litter via sheet flow

Prior to reseeding all smooth or compacted surfaces shall be scarified or roughened.

3. Drainage and Flood Control: No living quarters shall be allowed at ground level for any structure within the flood plain or as identified on the general plan as MF 10, VC 2, CS 10, MF 14, MF 15 and the following portions, below elevation 7045' MSL, of MF 16, and MF 18.

Note: Commercial establishments may be occupied at ground level so long as there are no attached living quarters.

4. Vegetation:

Mitigations which have been incorporated into the development plan to minimize the impact on vegetation are as follows:

1. Future tentative maps will be required to show all trees over 18" in diameter and an effort will be made to preserve large conifers in specific building site, parking lot and roadway design.

2. The revised development plan shows conversion of more dwelling units into multi-family, reducing the number of single-family units proposed and limiting the extent of disturbance.

Other proposed mitigations, as stated in the Draft E.I.R. pgs. 18-20, will be required as conditions of approval of tentative maps where deemed necessary by the Alpine County Planning Commission.

5. Fire Hazard: It was suggested by the Fire Chief, Mr. Ted Merry, that two (2) additional one-man fire houses be established at or near REC-3 and SF 7 for winter protection. (See Pages 78 & 79 of DEIR) It was also felt by Mr. Merry that the additional taxes paid by the future homeowners in these areas could support the costs involved.

6. Wildlife:

The revised development plan shows a conversion of more dwelling units into multi-family, reducing the number of detached single-family units proposed and limiting the extent of disturbance.

Former development area SF-8 has been reduced so that more of the meadow is preserved in its natural state. Elimination of cattle will provide additional habitat and feed for wildlife. Protection of the prime archaeologic zone in the north portion of SF-8 will result in the prohibition of development and trespass in this area.

The revisions mentioned have been incorporated into the development plan as shown on the revised map. The substitution of multi-family for single-family detached housing while retaining the overall yield at the site, is anticipated to reduce the areal extent of human impact by approximately 19%*.

* Basis:

Multi-family units - Average disturbance-

building	-	1000 sq. ft.
parking	-	450 sq. ft.
patio	-	750 sq. ft.
on site road-		300 sq. ft.
TOTAL	-	2500 sq. ft./unit

Single-family units - Average disturbance-

building	-	2000 sq. ft.
parking, driveway	-	800 sq. ft.
patio	-	900 sq. ft.
garage	-	500 sq. ft.
on site road-		1800 sq. ft.
TOTAL	-	6000 sq. ft./unit

Original development plan-

231 single-family dwelling units x 6000 sq. ft./unit = 1,386,000 sq. ft.

649 multi-family dwelling units x 2500 sq. ft./unit = 1,622,500 sq. ft.

TOTAL DISTURBANCE = 3,008,500 sq. ft. = 69 acres

(Continued next page)

Revised development plan-

79 single-family dwelling units x 6000 sq. ft./unit = 474,000 sq. ft.

791 multi-family dwelling units x 2500 sq. ft./unit = 1,977,500 sq. ft.

TOTAL DISTURBANCE = 2,451,500 sq. ft. = 56 acres

13 acres less disturbed with revised plan

69 acres disturbed with original plan

= 19% reduction in disturbance

7. Air Quality

Mitigating measures which are available and controllable by the developer are as follows:

1. Use of water trucks in construction sites for dust suppression.

2. Implementation of a bikeway plan throughout the project as a strategy to reduce automobile emissions by reducing the number of trips by private automobiles.

3. Implementation of a shuttlebus system providing transportation to the village center and recreational areas when it becomes economically feasible.

4. Installation of efficient wood burning stoves by building contractors to minimize emissions from burning.

Public action which is required to reduce emissions includes:

1. Utilization of mitigation measures which may be provided by the developer such as bikeways and shuttlebus.

2. Minimizing emissions by minimizing trips by private automobiles or snowmobiles.

All of the foregoing may be unnecessary though because predicted air quality at full development (see D.E.I.R.) will not present any problems.

8. Water Quality: Mitigation measures proposed are as follows:

A. Construction activities involving disturbance of soil will use water as a dust palative and maintain moisture in the ground to minimize blowing dust.

B. Following construction all disturbed areas will be planted with native grasses and drainage facilities installed.

C. Roofs shall be constructed using natural woods and painted metals eliminating contact between weather and oil or tarred roofing products. Either drains shall be used, to eliminate ground splatter and erosion or concrete or native rock energy dissipators shall be used along all drip lines to minimize erosion.

D. Sand traps and leaching beds shall be constructed to accept runoff from each parking area. Sand traps shall be able to accept and store 20 cubic feet of sand without overflowing into leach fields. Fields shall be a minimum of 25 feet long, 2 feet wide and 2 feet deep below leach lines.

9. Aesthetics

The developer intends to minimize the impact on visual quality in the following ways:

1. A vegetated berm will be constructed along Highway 4 as proposed in the Draft E.I.R., page 56.

2. Clustering development in multi-family units will minimize the extent of development and allow for preservation of more of the meadow south of Highway 4 and vegetation throughout the site, generally.

3. An effort will be made to preserve conifers over 12" in diameter in specific building site selection throughout the property.

10. Archaeology

The conclusions of the archaeological report revealed that a total of seven prehistoric sites and one possible historic site exist in the area planned for development. One site, described as a "village" site, consists of a massive flake scatter of approximately 10,000 square meters in surface area. In addition, this site contains 5 bedrock mortar complexes as well as a probable midden development. The archaeologist who conducted the survey believes that this site would qualify for inclusion in the National Register of Historic Places, and that this is the only site of such great significance that preservation should be required. The revised development plan includes modifications to avoid disturbance of this sensitive archaeological site. Appropriate mitigation for this site is "avoidance". Appropriate mitigation for the other archaeological sites is

"preservation". The historical site is less than 50 years old, off the property and no mitigation is therefore proposed.

11. Traffic

There are insufficient warrants to support a grade separated intersection at Highway 4 and the proposed new road into the Village Area. There may be a warrant for installation of a signal at this intersection in the winter but not in the summer. Therefore an intersection at grade without signals is all that is proposed. No dedications for additional rights of way are required. Additional paving for turn movements and for support of snow plows which will be required to shave the snow back for visibility at the intersection will be required.